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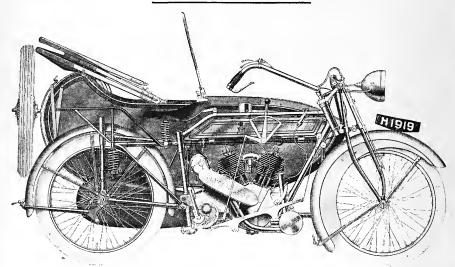




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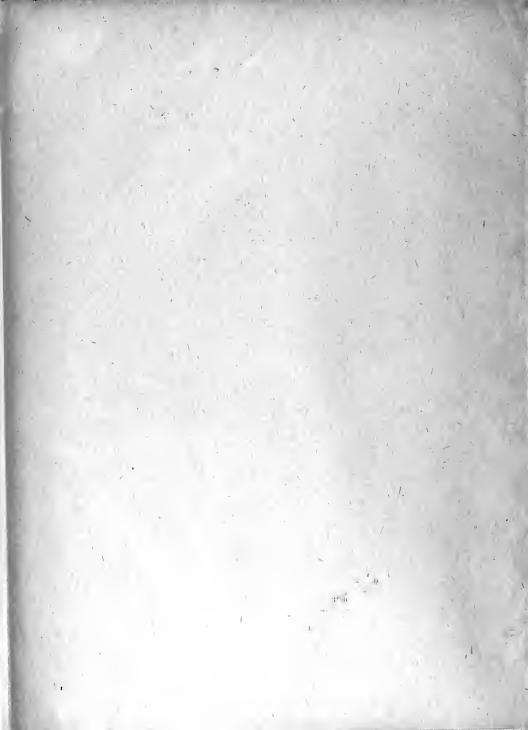
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Story of events—Governal News (seev.), ftd.

The Old Year and the New.

HE old year has passed, but not into oblivion. Many important events will keep 1919 fresh in our memories during the years to come. Gradually we have passed from war to peace, and we are emerging from the turmoil considerably changed. Many of our old-time customs have passed away never to return. Many innovations have come to stay. Motor cycles remain, and their future appears rosier than ever. During the war, the movement was greatly strengthened by the number of people who were brought into immediate touch with things mechanical, and by the re-distribution of wealth which has brought the motor cycle within reach of thousands who could not afford to buy before the war.

The demand for motor cycles is immense and is steadily increasing, and it will be a long time before supply will catch up demand. Gradually the motor cycle factories of this country have been returning to their pre-war occupation and their ranks have been strengthened by several notable newcomers. Here and there are firms which have been producing motor cycles throughout the war. Such firms have the advantage of existing plant and machinery and the added experience gained from the gruelling test to which their products were subjected. So far novelties are few and far between, and most of them have originated from new firms, but novelties stand a better chance than ever before.

e material have Labour troubles and lack delayed both deliveries and orks reorganisation, so at the present time there is a distinct shortage of motor cycles. What of the future? Delivery is not likely to be accelerated for some months to come; the moulders' strike has delayed matters to such an extent that there can be no considerable deliveries till some weeks after the return of the men, but, granted an early settlement and a quiescent state of labour, the prospects for the summer are excellent; new factories will be getting into their stride and

new designs will have passed the "trying out' stage, competition work will have settled down in earnest, and the revival of the classic Tourist Trophy event will add an extra fillip to both trade and public. The new class for lightweights, the winner of which will carry off the cup presented by The Motor Cycle, will help along a type of motor cycle in which an enormous section of the public is interested.

Altogether, the year promises to be one which will mark important developments in the motor cycle movement, and to all connected with itriders and makers—we offer our best wishes for a happy and prosperous New Year.

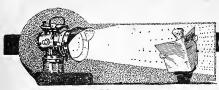
An Opportunity for Manufacturers.

E recently drew attention to the significance of a very noticeable movement in France towards the wider adoption of the sidecar machine for trade purposes, and we feel that no apology is needed for again reverting to the subject.

It will be remembered that a Parisian firm is running a fleet of sidecars, and hiring these out to tradespeople for delivery purposes. The propaganda value of such a project is apparent, although it was conceived primarily for the profit of those concerned.

Had the scheme been organised by the actual makers of the motor cycles used, it would have been still more valuable. Such an arrangement would at least demonstrate unflinching faith in · their own products, and, incidentally, would provide an admirable test under real working conditions, besides bringing them into actual touch with prospective clients.

We think such a scheme might easily and profitably be inaugurated by some of our-own manufacturers. The opportunity of thus demonstrating the performance and reliability of machines which are second to none in the motor cycle world is one that is too good to be neglected.



casional Commen

(By Ixion' -

Noise.

S our old readers know, I am an unrepentant heretic on the subject of silent machines, and as such am boycotted by the rest of our editorial staff. My chief excuse is that I am a country mouse, and whenever possible reside away from roads which are designed with a straight-edge and infested by trams. On my way home recently, for example, I negotiated no fewer than eleven absolutely blind corners. On roads of such a character noise is the only valid insurance. It is good for me to make as much noise as I can, and if I meet another fellow near any of these corners, I prefer his machine to be as noisy as possible. The same applies to cars, only in that case the noise is created by a fusillade of toots from a Klaxon or some other raucous road clearer. If anybody retorts that reducing speed to a crawl is a better way, I reply that people will not do it. Put any brand of motorist to live in a district which abounds in curly lanes; he will drive as a young mother out with her first baby pushes the new pram-for one week. Before long, immunity from accident will have made him audacious, or accident will have removed him to the cemetery or a hospital. Similar reasoning applies to certain traffic conditions. Not to Coventry, where the crush is so great that pace is impossible. But to the suburban outlets of many cities, where either hooting or an audible mechanical whirr or a reasonable exhaust note is desirable in the interests of motorist and pedestrian alike.

The Ideal.

HAVE not the least wish to side a noisy machine where noise is useless. My own ideal is three-fold. I should wish my buses to be:

 Genuinely noisy when noise is, in my discretion, a safeguard.

2. Absolutely silent, where silence in my opinion is safe as well as pleasant.

Free from mechanical noises at all times.

My present mount makes a moderate noise at all times; and 50% of its noise is mechanical noise. Wherefore from my standpoint it is just about as bad as a machine can be. One of my neighbours has an Indian which on small throttle openings creates no sound beyond the mild swish of well-lubricated chains. I often wish the fellow's silencer would fall off. He is a daring cornerist, and has little use for a hooter. If he does not die or move presently, I shall. Anyhow, if and when the powers that be compel us all to ride machines which are dead silent I shall emigrate.

The Light Four-wheeler.

S our article on pages 746-749 in The Motor Cycle for December 11th showed, there are signs of a new boom in light, cheap four-wheelers of the type which users-in defiance of A.C.U. and R.A.C. terminology—continue to describe as cycle

cars. Simultaneously the hardy little G.N. puts up a 400 mile engine non-stop under official observation, and is promoted to the honour of a full technical description in The Autocar. Moreover, one hears rumours that at least one four-wheeled cycle car is going into mass production, and that its price is coming down plunk to a figure which may make the average sidecar blench with panic. We have had booms in light four-wheelers before, and I am far too canny to jump at conclusions. But the prospects are quite rosy. The G.N. has proved itself long since. Some of the new four-wheelers look very clean jobs. What, for example, could be more taking to the eye than the-Barnard and Black Prince, as illustrated in the article above-mentioned? My trained eye notes that both pictures are washdrawings, not road photographs from life: wherefore I judge there will be a waiting period. But, perchance, the three-wheeled runabouts will enjoy less of a walkover in 1921 than some of them anticipate.

Kick Starters.

R. DUNSTON and other correspondents do me an injustice, or else my paragraph was unwit-tingly so phrased that it evidently failed to convey my point about kick starters. That the average kick starter will start its engine is undeniable. It is equally true that many kick starters would stand a great deal of improvement. Anybody who keeps his eyes open will daily see men with kick starter machines utilising the push start, even on the level. I myself am neither fat, old, short-legged, inexperienced, nor weak. But even when my engine is hot, I always push off my present mount unless the road is uphill. Its kick starter is an inconvenient and exhausting method of starting, which I reserve for emergencies. I admit there are kick starters to which these criticisms do not apply. My point was that the average kick starter does not furnish such an easy and certain start as many of our less capable riders desire, whilst the superiority of certain patterns indicates that other designs require attention.

A Narrow Escape.

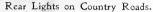
THE other day both a companion and I had somewhat narrow escapes from accidents of a distinctly unusual kind. In the early days of motoring, motor car and motor cycle owners travelled in a state of uneasiness about their brakes. Car brakes were small, and lined with friction materials which charred on long hills. Motor cycles were uniformly equipped with the Bowden rim brake or push-cycle type. It was not at all a bad brake when properly fitted and maintained; but mechanics took the wire round sharp corners or failed to solder the nipples properly: vibration shook the shoes out; buckled rims upset the shoe contact; and careless owners neglected the adjustment devices. Then the belt rim shoe came along, and our worries vanished. Now that the chain

Occasional Comments.-

is ousting the belt, ancient difficulties and dangers tend to return. On the occasion cited, I was riding a chaln-driver with an external band brake operated by a stranded wire, not of Bowden manufacture, but approximating to the fencing type of wire. By a kindly miracle, this wire pulled out of its nipple when I was stopping on a level road to light a pipe, so that I suffered no injury. The companion referred to suffered his brake failure with another make of chain driver whilst descending a bad hill; and his new machine was wrecked so thoroughly that he could not tell why the brakes failed. Incidentally, a third member of the party was afflicted by a belt rim brake with a shoe made of some substitute material which grew in wet weather, so that

IN AND AROUND OXFORD.
((Left) By All Souls College, Oxford.
(Right) A Matchless outfit in the quaint old market town of Witney.

after a few miles in the rain the brake was permanently on. These experiences suggest that



AS I follow the correspondence on the merits of universal rear lights, I notice that most of the controversialists plainly consider no conditions other than broad, straight highways like the Portsmouth Road. Their arguments imply that you can see half a mile ahead, and can easily swing a yard or two out to your right if your head lamp suddenly reveals a cart or a cyclist a few yards in front. Quite half my own riding is done in country lanes, and a good percentage of my annual mileage is accomplished along lanes which are alike narrow, rutsome, and twisty. Under such conditions, you can seldom see more than a short distance ahead, whether by night or



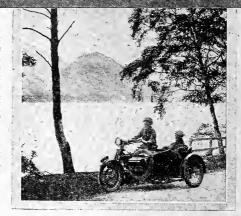
day. It is often a physical impossibility to pass a cart or sidecar for hundreds of yards together. When the surfaces are greasy, it is a matter of some delicacy on a motor bicycle to pass a push bicycle. The lane is perhaps only 6ft, wide, and the crown between the central ruts is possibly the only strip of the road on which either of you can feel really comfortable about maintaining the perpendicular. If you overtake a cyclist who has no

rear lamp, you may come upon him rather suddenly. Either he will sideslip in his anxiety to take the edge, or you may skid in your hasty effort to swing wide of him. A tail lamp is an invaluable safeguard under such riding conditions, even though the motor cyclist is riding under an automatic speed limit, just as on French pavé. The proof of the pudding is in the eating. In such districts there is often only one policeman to twenty square niles or 'so, and the locals always know where he is, so that they are under no real compulsion to light their tail lamps. The carters often travel through such districts with neither head nor tail lamps, but the cyclists never. They know that a good tail lamp is a great safeguard to them.

additional care is requisite in designing brakes, now that the industry as a whole is departing from the well-tried patterns of the last ten years. Modern machines are so fast and often so heavy that a powerful and absolutely reliable brake is essential. Considering the uselessness and even danger of many front wheel brakes, it is desirable on heavy machines to fit two rear wheel brakes. One good brake is sufficient for emergencies, and the second brake would be available if the first failed. Front brakes are necessarily adjusted so that they cannot stop a machine rapidly when the rear brake fails. As practised riders know, the proper expedient in the event of a brake failure is to change down to bottom gear and shut the throttle.

With a Lady Pilot over Lakeland Heights

RECORD season in the Lake District has prevented one from joining in many a merry onslaught on famous hills during the past glorious summer. Numerous invitations have had to be refused, and parties of enthusiasts have been watched with envy, as, with all the keenness, bustle, and uproar of prewar days, they have set forth for the happy hillhunting grounds. Certainly a few of the "old hands" have been missing, and on some of the famous hills the attack has frequently had the worst of the argu-



A peep through the birches by Bassenthwaite Water

Rugged old Honister from the Buttermere side has handled many a would-be conqueror roughly, and recent spring frame devotees have had keen disappointments. From the writer's observations, it is more difficult to climb the famous hill on one of these machines, and quite recently an expert trade rider failed on very ordinary Lakeland mountain roads.

Exploring New Hills.

Thus, when Mary Riley, the noted Enfield enthusiast, smilingly suggested a half-day on the hills, the absence of spring frame on her handsome new Enfield mount was no excuse for refusing the invitation. Moreover, pleasant memories of former excursions, notably the first lady's drive over Wrynose and Hardknott Passes, added force to the suggestion. The idea was to explore some new hills, and, with this purpose in view, we set out from Keswick on a perfect afternoon with sunny Skiddaw all draped in full splendour of heather and golden bracken. Whinlatter Pass is familiar to North Country motorists and other touring parties, but the old packhorse road which ascends directly from near Thornthwaite is practically unknown, and this was the object of our search. There was just time on the levels to appreciate the pleasant running of the new model 8 h.p. machine, which, despite the heavy load of three human beings and a camera, was to carry us up hill and down dale on the standard two-speed gear of 1 in 5 and 1 in 8.7. Too soon there came a quick turn to the left from the main road, and we were bumping up the narrow old-world lane past a pretty

By GEORGE D. ABR \HAM,

Awhor of"The Complete Mountaineer,"
"Motor Ways in Lakeland,"
"On Alpine Heights and British Crags," etc., etc.

Cumbrian farmhouse, where chickens with suicidal tendencies curbed the upward dash.

The actual hill came with startling suddenness round the grey cornery of a weathered barn, and there was just time to change to the lower gear before the first "hairpin" was encountered. A "mere man" had driven thus fat, so it was no surprise to find the machine making a thrilling swerve on the grassy bend

and finally floundering painfully to a halt on the steepest section. Then the lady driver showed us "how to do it," and, after a new start from the bottom of the hill with two aboard, it was a pleasure to watch from terra firma the non-stop ascent! Ladies know all about "hairpins" and the treacherous sample now engaging attention was negotiated most skilfully. Up and up the sturdy machine came, bumping and swerving as the driver keenly felt for firm grip on the steep, rugged gradient. At one point an unusual obstacle, in the shape of a drooping branch from an oak tree, had to be dodged cleverly below the toughest struggle, but this was passed, and ere long the writer was left to walk upwards with only. the song of a pretty mountain stream stirring the soft silences of the gorge. Soon the others were rejoined. and with the three aboard the upper part was tackled speedily. The writer was unable to hear of any motor previously making the climb, and doubtless this was the first ascent of a sidecar outfit. The hill will be a useful discovery for some of the forthcoming trials.

The Shores of Bassenthwaite Water.

Through sweet-smelling larches and bush, bracken slopes, we came finally out to the new road in the upper reaches of the pass. The strange sight of a sidecar, and one driven by a lady withal, rushing upwards apparently on a roadless mountain front, roused the astonishment of a motoring party of "Fordites." They stopped, and at first treated us as victims of an accident, whose sole aim in life was to regain the main road, and even after careful

With a Lady Pilot over Lakeland Heights .-

explanations they seemed to doubt our knowledge of our whereabouts. However, time was too precious to argue the point, and, bidding a lively farewell to the astonished party, we slid swiftly down the curving highway to Braithwaite, and thence, turning to the left, the way lay along the beautifully wooded shores of Bassenthwaite Water.

The sweet, silent running of the Enfield was here evident. Now in the soft shades of the woods and anon, flashing out into the silvery sunlight with Skiddaw's pink and purple frontage mirrored in the still waters, the run was altogether delightful. The

sudden approach to a stately heron preening itself by the shoreline recalled the fact that the famous old heronry close by has been saved by the ending of the war. The wholesale felling of the delightful woods of Wythop has been stopped, and one of the prettiest woodland runs in Northern Lakeland has been preserved.

At the Pheasant Inn-one of the most deservedly popular halting places in the road on the left which swerves up along the heights of Wythop was followed. Onwards and upwards we sped swiftly and steadily with a wonderful seaward prospect revealed. The quaint little mountain church perched on the lofty hillside far above human habitation was passed without a halt, and a capital road ledalong the hillside to the quaint old world village of

Not even a Wheelbarrow.

The sight of the pretty little village nestling in the depths of the tree-draped gorge suggested a halt, and enquiries were made for the mountain road over to



MOTOR (YCLE

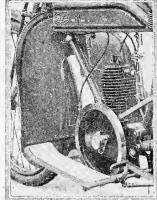
Wythop Mill.

(Left) The 8 h.p. Enfield on the rough gradient of Wythop Fell. (Right) Climbing Pack-horse Hill to Whinlatter Pass—a peep at distant Skiddaw

A Review of Mechanical Progress. -

is not a difficult matter to enclose all the normally exposed valve parts, provided that suitable provision is made in the original design, and by the use of a little ingenuity this can be done without rendering the tappets unduly inaccessible, and at the same time the springs can be made more readily removable. Certain American motor cycles have had enclosed valve gear for some time past. The exhibits at the Paris Salon showed the same laudable tendency, and at last there are signs of the idea being taken up by British manufacturers. While on this subject, it may be as well to mention that each spring and tappet should be entirely enclosed in a separate tube. The sheet metal attachments over the front of the springs are useless, and probably worse than nothing, for they act as dust traps and keep a

certain amount of draught away from the cylinders. A James model still in its experimental stage has a neat fitting on the right lines.



A neat design of leg shield fitted on the Ixion lightweight.

concerned, a great improvement is noticeable. Mechanical horns are often offenders in this way, and their designers might well give the matter a thought.

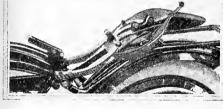
Cleanliness.

There is no object in trying to make a motor cycle as clean to ride as a car: it cannot be done, and any efforts in this direction, beyond a certain point, are only likely to spoil the motor cycle. These remarks apply especially to solo machines. At the same time much can be done to render motor cycling comparatively clean, which a few years ago it certainly was not. It is wonderful what a carefully designed underscreen and low leg shields will do towards protecting both machine and rider from mud. The Lea-Francis has always been good in this respect, and there are many firms who are now adopting

these fittings. A word of warning is necessary at this point, for if the material and methods of attachment are not carefully considered rattles will be the result. No owner can be proud of an engine that flings oil about and is in a constant state of mess. Here much improvement has taken place, and quite a number of makes may be considered blameless in this respect. The secrets of success are spigoted joints, good release valves, and, of course, . good workmanship.

Comfort.

This heading not only includes luxurious springing and seating accommodation, but with it are intimately bound up such questions as silence, cleanliness, and

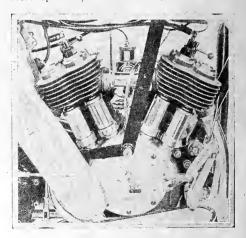


Novel saddle suspension employed on the Zenith mounts

Careful piston design will go far towards eliminating piston slap, but we are not likely to get a really silent engine until large plain bearings and forced lubrication come into fashion, and there are as vet no signs of this, though plain bearings and mechanical lubrication (as opposed to forced lubrication) are both becoming increasingly common. It may be worth while mentioning that a well-known designer and rider remarked on the great improvement as regards silence obtained by reverting to plain bearings throughout.

Transmission.

Most of the transmission noise emanates from the high speed primary chain and the gear box. The former problem has been tackled satisfactorily in two ways-by thoroughly enclosing the chain and running it in oil, as in the case of the all-chain Triumph and Sunbeam, and by utilising a silent chain for the primary drive as exemplified by Matchless and Rover machines. Modern gear boxes are wonderfully satisfactory as regards noise, and little improvement is likely to be made in this respect. Rattles, usually caused by mudguards, tanks, stands, and accessories, are abominations, but, as far as the manufacturer is



On the new experimental James 5-6 h.p. twin the valve springs are totally enclosed as shown

A Review of Mechanical Progress,-

freedom from such small matters as may be classed under the generic term of "tap twiddling."

Here perhaps we find the greatest evidences of advance during the past few years. Spring frames are becoming more and more common, saddles give increased comfort and are more scientifically designed (the new Barnes saddle being a great stride in the right direction), and new spring forks based upon correct principles appear almost weekly.

For some time past the writer has been inclined to scoff at spring frames as the requirements of an effete and luxurious generation, but since riding a modern solo mount fitted with a most efficient rear suspension he has changed his mind on the subject. Perhaps this is the effect of increasing years, but more probably

it is not.

There are many things that have to be tried before they can be fully appreciated, and amongst these is a simple system of mechanical lubrication. When one is accustomed to injecting a charge of oil every few miles it appears but little trouble, but once try a machine in which an occasional glance at an indicator is enough to ensure that all is well and hand lubrication becomes a Herculean and uncertain task. Similarly the automatic carburetter is a boon to all but the enthusiast, who, after all, is (and certainly will be) in the minority. Never before have there been so many machines fitted with these two devices, and their numbers are constantly increasing.

Attention.

All mechanism requires a certain amount of attention, and the motor cycle is no exception. Protection from mud and dust and proper mechanical lubrication are the best safeguards against wear and constant tinkering, but even the most perfectly protected motor cycle will need occasional decarbonisation and adjustment. Under these circumstances the best course is to make all parts that require inspection readily accessible.

Detachable, heads, which are again coming into fashion, go a long way to help decarbonisation, and gear units which carry their change speed levers in such a way that the adjustment is not upset when the box is shifted will do much to ensure that the tension of the primary chain is kept properly adjusted.

• In this connection a great many people seem to have missed one of the many good points of the new Raleigh. On this machine the gear box is fixed, but the engine is slidably mounted for purposes of chain adjustment, thus avoiding the necessity of adjusting both chains when only the primary drive needs attention.

Grease cups are generally taking the place of small cycle lubricators, but undoubtedly the easiest method of ensuring proper lubrication of cycle parts is that adopted by the Clyno. Here a grease gun with a screwed nozzle is employed, and each part requiring occasional lubrication is fitted with an adapter thread to suit the nozzle. This is a great labour-saving device, and at the same time ensures more thorough distribution of the lubricant.

The Future.

He would be rash indeed who would prophesy what the future will reveal, but certain hints may be gathered from experimental machines already on paper or even on the road. "Hot stuff" engines are reported to be doing marvels, and some of the designs show a real appreciation of essentials. For the first time in many years there are a considerable number of really "designed" engines, as opposed to modifications of 1903 practice, and the 1920 T.T. is likely to bring to light a very much larger amount of originality than the 1919 Motor Cycle Show. It is now certain that the 500 c.c. class will be retained in that event, and riders will have their work cut out to handle some of the new machines, and some of the more staid and conservative firms will have to look to their laurels if they are to retain their lead in speed events. Just one point favours the more conservative firms-they have the organisation; they know the type of bicycle to use, and the T.T. is not likely to be won by an engine, however good, unless the rest of the motor cycle is properly designed and manufactured. Young firms too often fail to recognise the vital importance of organisation on such occasions.

Perhaps the point which shows least improvement in the general run of motor cycles is in frame design, and, with a very few exceptions, there are little signs of progress in the immediate future. Here design seems to have got into a groove, but it is to be hoped that the groove will soon come to an end. Unque.

NORTHERN CRITICS ON SHOW DESIGN.

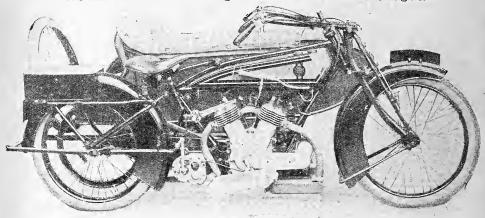
A T a meeting of the Newcastle and District Motor Club, Mr. James Cooper recently contributed an interesting paper on "Motor Cycles at the Show." The competition secretary declared that aeroplane design had not materially influenced the development of the motor cycle, and that many noted machines were practically 1914 models, slightly improved. He made caustic comments as to the appearance of many of the novelties whilst admitting that, although inartistic in aspect, their efficiency might conceivably justify their claims to careful consideration.

In discussion, Mr. Rex Morris contended that aeroplanes had influenced motor car design in such a way that the available horse-power in relation to weight had been considerably increased. Shortly, he said, there would be many light cars of, perhaps, 10 cwt. weight, and ten nominal horse-power, on the roads. These would be capable of very high speed, and, because of their real power and their light weight, it would be difficult to hold them to the road. But, unless they were carefully handled, this type of vehicle would be a source of potential danger to other road

Mr. Q. A. Nicol, O.B.E., Auto-Cycle Union Consul for the North-East, outlined the programme for the coming season, and said that a proposal was under consideration to conclude the Six Days Trial in 1920 with a run from London to Brooklands, for a final round on the track. The trial might, therefore, be increased to eight days duration, and such a test as the one in prospect, coming on the top of the ordinary Six Days Trial, would find out the inherent weak points of every machine.

A New Twin with an Old Name.

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The twin Rex sidecar outfit, which was entered for the London-Exeter Christmas Trial

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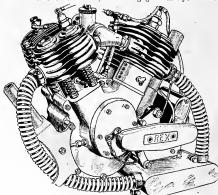
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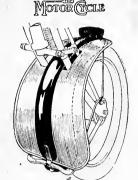
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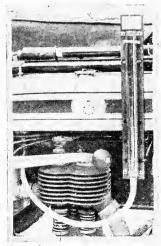
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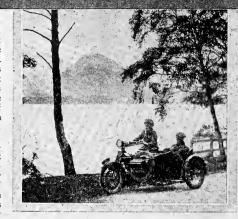
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A successful year is thus closed, and the members are keenly anticipating the holding of one of the limited number of open trials of 1920, the club having been provisionally granted a permit by the A.C.U.

With a Lady Pilot over Lakeland Heights

RECORD season in the Lake District has prevented one from joining in many a merry onslaught on famous hills during the past glorious summer. Numerous invitations have had to be refused, and parties of enthusiasts have been watched with envy, as, with all the keenness, bustle, and uproar of prewar days, they have set forth for the happy hillhunting grounds. Certainly a few of the "old hands" have been missing, and on some of the famous hills the attack has frequently had the worst of the argument.



A peep through the birches by Bassenthwaite Water

Rugged old Honister from the Buttermere side has handled many a would-be conqueror roughly, and recent spring frame devotees have had keen disappointments. From the writer's observations, it is more difficult to climb the famous hill on one of these machines, and quite recently an expert trade rider failed on very ordinary Lakeland mountain roads.

Exploring New Hills.

Thus, when Mary Riley, the noted Enfield enthusiast, smilingly suggested a half-day on the hills, the absence of spring frame on her handsome new Enfield mount was no excuse for refusing the invitation. Moreover, pleasant memories of former excursions, notably the first lady's drive over Wrynose and Hardknott Passes, added force to the suggestion. The idea was to explore some new hills, and, with this purpose in view, we set out from Keswick on a perfect afternoon with sunny Skiddaw all draped in full splendour of heather and golden bracken. Whinlatter Pass is familiar to North Country motorists and other touring parties, but the old packhorse road which ascends directly from near Thornthwaite is practically unknown, and this was the object of our search. There was just time on the levels to appreciate the pleasant running of the new model 8 h.p. machine, which, despite the heavy load of three human beings and a camera, was to carry us up hill and down dale on the standard two-speed gear of 1 in 5 and 1 in 8.7. Too soon there came a quick turn to the left from the main road, and we were bumping up the narrow old-world lane past a pretty

By GEORGE D. ABR \HAM.

Awhor of—
"The Complete Mountaineer,"
"Motor Ways in Lakeland,"
"On Alpine Heights and Eritish Crags," etc., etc.

Cumbrian farmhouse, where chickens with suicidal tendencies curbed the upward dash.

The actual hill came with startling suddenness round the grey corner of a weathered barn, and there was just time to change to the lower gear before the first "hairpin" was encountered. A "mere man" had driven thus far, so it was no surprise to find the machine making a thrilling swerve on the grassy bend painfully to a halt on the steepest section. Then the lady driver showed us

steepest section. Then the lady driver showed us "how to do it," and, after a new start from the bottom of the hill with two aboard, it was a pleasure to watch from terra firma the non-stop ascent. Ladies know all about "hairpins" and the treacherous sample now engaging attention was negotiated most skilfully. Up and up the sturdy machine came. bumping and swerving as the driver keenly felt for firm grip on the steep, rugged gradient. At one point an unusual obstacle, in the shape of a drooping branch from an oak tree, had to be dodged cleverly below the toughest struggle, but this was passed, and ere long the writer was left to walk upwards with only the song of a pretty mountain stream, stirring the soft silences of the gorge. Soon the others were rejoined. and with the three aboard the upper part was tackled speedily. The writer was unable to hear of any motor previously making the climb, and doubtless this was the first ascent of a sidecar outfit. The hill will be a useful discovery for some of the forthcoming trials.

The Shores of Bassenthwaite Water.

Through sweet-smelling larches and bush, bracken slopes, we came finally out to the new road in the upper reaches of the pass. The strange sight of a sidecar, and one driven by a lady-withal, rushing upwards apparently on a roadless mountain front, roused the astonishment of a motoring party of "-Fordites." They stopped, and at first treated us as victims of an accident, whose sole aim in life was to regain the main road, and even after careful



With a Lady Pilot over Lakeland Heights .-

explanations they seemed to doubt our knowledge of our whereabouts. However, time was too precious to argue the point, and, bidding a lively farewell to the astonished party, we slid swiftly down the curving highway to Braithwaite, and thence, turning to the left, the way lay along the beautifully wooded shores of Bassenthwaite Water.

The sweet, silent running of the Enfield was here evident. Now in the soft shades of the woods and anon, flashing out into the silvery sunlight with Skiddaw's pink and purple frontage mirrored in the still waters, the run was altogether delightful. The

sudden approach to a stately heron preening itself by the shoreline recalled the fact that the famous old heronry close by has been saved by the ending of the war. The wholesale felling of the delightful woods of Wythop has been stopped, and one of the prettiest woodland runs in Northern Lakeland has been preserved.

At the Pheasant Inn-one of the most deservedly popular halting places in the North of England-the side

road on the left which swerves up along the heights of Wythop was followed. Onwards and upwards we sped swiftly and steadily with a wonderful scaward prospect revealed. The quaint little mountain church perched on the lofty hillside far above human habitation was passed without a balt, and a capital road led along the hillside to the quaint old world village of Wythop Mill.

Not even a Wheelbarrow.

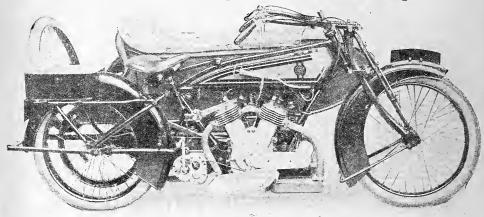
The sight of the pretty little village nestling in the depths of the tree-draped gorge suggested a halt, and enquiries were made for the mountain road over to



(Top) Rounding Hause Point above Crummock Wa'er.
(Left) The 8 h.p. Enfield on the rough gradient of Wythop Fell. (Right) Climbing Pack-horse Hill to Whinlatter Pass—a peep at distant Skiddaw

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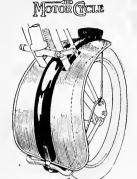
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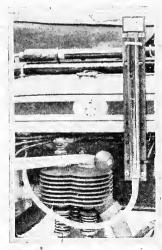
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10,000 MILES ON BENZOLE.

In this Article the Author gives his Experience with Benzole, including 3,300 Miles covered while he was driving the Tender accompanying the A.A. Benzole Test Machine.

N January 2nd, 1919, I took delivery of my 4 h.p. countershaft Triumph sidecar, and at once set to work to tune her for speed work on benzole. After trying various size jets I found that a fairly large one was necessary, but this did not mean heavy consumption, as, when the correct size was found, I could get 85 m.p.g. for ordinary touring, or for speed work on long journeys, such as Yarmouth - Coventry (165 miles in five hours, average 33 m.p.h.), 55 m.p.g. These results were obtained with adult and juvenile passengers in the sidecar as well as luggage.

I have found that a long extension tube on the carburetter air-intake is most useful. At no time has

it been necessary to touch the air-lever; therefore, the carburetter is practically automatic, the air-lever being used for starting only. More oil must be used when using benzole, also single-point plugs (such as K.L.G., or by breaking off two of the three on a Lodge). There is no injury to any part of the engine or tank. The engine gets slightly hotter than when using No. 1 petrol, but I did not find that this was at all detrimental; as I have stated before, I used more oil. I was invited to pilot the tender machine through the 5,000 miles National Benzole Test. Starting from Coventry on September 11th, with the carburetters set as above, we reached Fanum House, London—the Headquarters of the A.A.—with benzole consumption at 105 m.p.g., oil consumption at 300 m.p.qt.

Glasgow was left on Monday, September 15th, by a route through Edinburgh, via Shott's Kirk and Mid Calder, Linlithgow, Falkirk, then north through Stirling and Duiblane to Perth: a good five days' work with a total mileage of 673. The next day we took the road along the Carse o'Gourie to Dundee, and then through Montrose, Stonehaven, to Aberdeen, followed by a run along the Dee Valley to Braemar Mirc, where very bad weather was experienced, including strong head winds, rain, and some snow. On Thursday, September 19th (the ninth day of the test), a run was taken to Largs and Ayr, where the first 1,000 miles were ticked off.

From Braemar we went on to Perth, along the Spital at Glenshee, over the summit, and down Devil's Elbow, with its gradient of τ in 3/2. Next day we journeyed on to Glessow. an uneverthely are

on to Glasgow: an uneventful run.
Glasgow to Sedburgh, 191 miles. Back in dear old England again, I felt nearer home now. This



Mr C. R. Little, the writer of the accompanying article, on his 4 h.p. Triumph, which acted as tender for over 3,000 miles of the A.A. Benzole Test.

was one of the most thrilling rides I ever experienced. It was a T.T. race from the time we started (9 a.m.) until Sedburgh was reached at 10.30 p.m.: 191 miles in 13½ hours' hard riding, averaging over 82 m.p.g. The day following we had eighteen miles over the next pass to Shap, and this in the dark, with narrow mountain roads, straying cattle, and steep pimples: so steep that when one reached the top the head light was piercing the heavens, showing nothing of the road one wished to traverse. On these roads, there are small white railings to prevent one from falling umpteen hundred feet in the blackness.

On Sunday, September 21st, we arrived at Leeds, our centre for three days,

whence we made *détairs* to Scarborough, Bridlington, Manchester, Preston, etc. This completed the first half of the journey—2,500 miles in eighteen days: some ride!

When the engines were taken down and decarbonised by Mr. R. S. Fox, A.M.I.A.E., M.J.I.E., the carbon deposit was just enough to fill a dessert spoon.

Few Troubles.

I believe there were three or four slightly burnt valves during the whole trip. This was due chiefly to the very strong head winds. On one occasion, the observer for the day estimated the head wind at 45 m.p.h. This was one of the worst days we experienced, as, passing between the mountains, the wind was so strong that second gear had to be engaged for downhill work. The M-L magnetos behaved splendidly, only once giving trouble. This was on the test machine, but was due to over caution, as Mr. Harold Finch, who drove this machine, to make sure that water would not run down the high-tension wire, bound insulation tape round the base. Instead of having the desired effect, water was caught by this tape, from which it reached the interior of the magneto. Both machines ran the whole trip without any adjustment. The Easting windscreens were a boon to the observers, and, incidentally, to the machines, as when adjusted correctly they act as wind-cutters.

In summarising the results of this test, and the total running of 10,000 miles, I am convinced that, when the carburetter is tuned correctly, one cannot ride on anything better than N.B.A. benzole, and we should do all we can to encourage its production.

CHARLES R. LITTLE.

CURRENT CHAT REEL



Special Features. CHRISTMAS EVENTS, WITH A LADY PILOT OVER LAKELAND HEIGHTS. A REVIEW OF MECHANICAL PROGRESS.

GREENWICH TIME.

Jan.	1st	 	4.29	p.n
,,	3rd	 	4.30	٠,,
**	5th		4.32	,,
,, ~	-7th	 	4.35	

A Club for Bedford and District.

A proposal is on foot to form a motor cycle and cycle car club in Bedford and district for 1920. Riders interested are invited to send their names to Mr. H. H. Berrie, Goldington, Beds.

Disabled Ex-service Men.

Under the Ministry of Labour national scheme for the employment of disabled ex-Service men, firms in connection with the tyre manufacturing industry have undertaken to include in their personnel 5% of such men based on their total establishment.

100,000 Visitors.

The actual numbers of paid-tor admissions to the Cycle and Motor Cycle Show at Olympia were:

Monday, November 24th		** *	11,779	
Tuesday, November 25th			17,043	
Wednesday, November 26th			22,537 18,349	
- Thursday, November 27th		·	18,349	
Friday, November 28th			13,861	
Saturday, November 29th			19,871	
Total				
Total	***		103,440	

A Well-earned Award.

When J. E. Walker was formally presented at Ikkey recently with the cup for the best amateur performance in the 1919 Scott Trial, he mentioned that he covered the arduous mountainous course, and surmounted almost impossible obstacles on a Scott with standard gear ratios of 4.2 and 7.5. — In view of the fact that the rider himself weighs thirteen stone, the performance was indeed creditable to both man and machine.

Pity the Poor Editor.

On several occasions recently we have been asked by readers to trace the date of manufacture of a motor cycle by the engine number. While our knowledge of motor cycles is abso-

Intely unrivalled, we regret we have to state that we have no records of every engine of every make which has ever been turned out. It is useless, therefore, to address these requests otherwise than to the actual makers, who, in response to a reply paid telegram will, in most cases, supply the necessary information with all promptitude. In fact, this is a procedure we recommend our readers to adopt before purchasing any second-hand machine about the date of which they are in doubt.

Capt. Sir John Alcock, K.B.E., D.S.C.— Motor Cyclist—Airman.

After living but six months to enjoy honours earned by his great Atlantic flight, Sir John Alcock, D.S.C., passed away on the 19th ult., through severe injuries received in a crash in France. Sir John Alcock was only twenty-seven years of age—sufficiently old to have been an enthusiastic motor cyclist before the war, sufficiently young to have that spirit and courage which an Atlantic flight demanded.

We were with him but a day or so before he left England on his last flight, and the topic of conversation was mainly motor cycles and cars. He was a keen rider of Douglas machines, and was the first to ride an overhead valve Douglas at Brookhards. Flying was his profession—the self-propelled road vehicles his hobby. The day he was knighted he

journeyed straight to Bristol, which city was entertaining the A.C.U. Committee. Despite the fact that the visit was unexpected by the municipal authorities, Bristol would have lionised him, but he would have none of it, and so modest was he that, when the crowd at Ashton Court Park pressed about him to congratulate him, his embarrassment was positively painful to see. He had not known that hundreds were waiting to see him—he had gone to Bristol to escape a civic reception, and had anticipated a quiet weekend with his friend, Mr. S. L. Bailey, of Douglas Motors. Of his great achievement he would say nothing—there was nothing to say, he would reiterate, and few, indeed, were his friends who learned details of his flight from U.S.A. to Clifden (Ireland) in 16h. 12m. It was for this pioneer achievement that he and his companion, Lt. A. Whitten Brown, were knighted.

During the war Sir John served in the

During the war Sir John served in the R.N.A.S., became chief instructor of the Aeronautic Squadron, and served on the Turkish Front. In 1917, while on a bombing raid, he was forced down, and remained a prisoner until Christmas, 1918. He received the D.S.C. for his services.

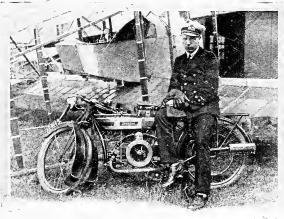
When he crashed, he was flying to an aircraft exhibition at Paris. He encountered fog, and on this account flew low, fooling a tree near Cootévrard, thirty miles from Rouen. He was taken to a military hospital,

where it was found that he had sustained a fractured skull,

With his death passes one more British motor cyclist who has added emphasis to the fact that the motor cycle breeds courage and that the characterises the modern young Englishman. That the majority of youths of to-day are in the motor cycle movement augurs well for the future.



Those of our readers (if any) who did not perceive that the decimal point placed in the oil consumption figure of 1,166 was a printer's error m nst have thought that the oil consumption was unduly high. The value of a comma is well illustrated.



The late Capt. Sir John Alcock, D.S.C., who was killed whilst flying to the Paris Aero Show. He, with Lt. Sir A. Whitten Brown, made the first direct flight across the Atlantic. When photographed with his overhead valve Douglas he was in the R.N.A.S.

MOTOR (YCLE

Brussels Show.

The Brussels Show of cycles and motor cycles will be held in the Palais d'Egmont, the opening day being February 16th.

Motor Cycle Competitions.

We are informed that the list of pro-We are informed that the list of proposed competitions recently issued by the Auto-Cycle Union has been slightly altered. The Birmingham M.C.C. reliability trial will take place on April 24th, and the Midland C. and A.C. trial on July 10th. The Sutton Coldfield event has been definitely fixed for Saturday, February 28th.

The Club Champions' "At-home."

The Club Champions' "At-home."

Now that the Coventry and Warwick-shire Motor Club has "taken delivery" of The Motor Cycle Challenge Cup, won in the M.C.C inter-team trial of 1919, the winning team, consisting of S. Wright (captain), R. B. Ewens, W. Brandish, H. Finch, B. Ryceroft, and F. G. Edmond, are to be entertained at a little function at Coleshill on the 3rd inst. Mr. John V. Pugh, J.P., a past president of the Coventry and Warwickshire Motor Club, has kindly presented the club with a cabinet to accommodate the trophy, which inciaccommodate the trophy, which incidentally has attained considerably enhanced value on account of the record price of silver at the present time.

Scheme to Help Bart's.

Coulson's excellent example

In connection with the great efforts, being made to provide St. Bartholomew's Hospital with funds, Mr. F. Aslett Coulson—the maker of Coulson motor cycles—is organising a scheme to obtain the gift of a number of new motor cycles from manufacturers, which will be put up for auction by Mr. George Robey, the well-known comedian, and now almost as well known for his activities in charitable well known for his activities in charitable schemes. Mr. Coulson, so far, has one machine—his own—but by the time our next issue is printed we hope he will have others. The motor cycle industry has always shown generosity where charity is concerned, and we have no doubt that Mr.

Thanks

The Motor Cycle wishes to thank the many readers who sent Christmas cards and kind wishes,

Greetings.

A Happy New Year to all motor cyclists, past, present, and future. May your mounts go well, and may we meet and enjoy many competitions together during 1920.

Another Anglo-American Car.

Last week The Autocar made the exclusive announcement of the coming of a British Overland car. An impending amalgamation of Anglo-American car inamaigamation of Angio-American car in-terests is imminent, the new company to be known as the Willys Overland Crossley Co., which million pound con-cern will take over the huge works at Heaton Chapel, Manchester, for the pro-duction of the Overland car in this country.

N.E.A.A. Motor Cycle Board.

A meeting of the Motor Cycle Board of the North Eastern Antomobile Association was held at Newcastle on December 23rd. Mr. Q. A. Nicol, O.B.E., occupied the chair, and there was a representative attendance.

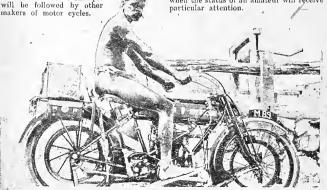
It was decided to support the proposed "Olympia" meet at Richmond on Good Friday. The Chairman said that manufacturers would be invited to send examples of their latest machines for exhibition to the meet, and the Grimshawe shield—an award for a competition suspended since 1915—will again be offered for competition by affiliated clubs, the proportion of mem-bers present and the mileage covered to

be the basis of the award.

Messrs. Nichol, Raper, Walton, and
Turvey were appointed as a sub-committee to prepare a dozen routes for the approval of the Auto Cycle Union Committee for the 1920 Six Days Trial in July next, when Newcastle will be the centre. An average of about 150 miles for each

day's run was suggested.

Messrs. Nicol, Raper, Broadway, and
Eorster were appointed to go into the
question of rules and competition rules, when the status of an amateur will receive



NOT IN THE LONDON-EXETER! This Australian native's riding attire, in contrast with the entrants of the trial, has the great advantage of simplicity. His mount is a B.S.A.

Future Taxation.

The Autocar says: "We do not think we are disclosing any secrets when we say that the system most favoured by the Motor Legislation Committee is to place the whole burden of taxation on the motor spirit consumed.

the motor spirit consumed."

The question of motor taxation is under consideration by the Government. Several alternatives to the present system are mooted Rumour says that Mr. Bonar Law strongly objects to the continuation of the petrol tax in its present or any other form, on account of the abuse to which it is subject, and the expense of administering the tax.

International Motor Cyclists' Conference.

A meeting of the Fédération Inter-nationale des Clubs Motocyclists has been arranged for Thursday, January 22nd, at the Royal Antomobile Club, Pall Mall, London. S.W.I. This meet-ing will be attended by representatives of the national motor cycling clubs of France. Belgium. Holland. Denmark. France, Belgium, Holland, Denmark, Switzerland, Italy, Great Britain, and the United States. Among the import-ant business to be dealt with at this meeting is that of confirming the altera-tion of the 1920 International Trial at Grenoble, from July 29th to August 1st; and to decide upon the country in which the 1921 Trial will be held. The regulations regarding International records will also come up for consideration, and will also come up for consideration, and there will be the required annual election and re-election of officers of the Federation. Mr. T. W. Longhborough, A.M. I.A.E., the secretary of the A.C.U., is secretary of the International body, and would be glad to give any further information about the conference to those interested, on application to him at A.C.U. Headquarters, 83, Pall Mall, London, S.W.1.

Paris-Nice Trial.

It has been decided that the Paris-Nice run, which commences on February 10th, shall be in in four stages as follows:

Paris to Dijon ... 193 miles Dijon to Lyons ... 124 ,, Lyons to Marseilles ... 193 ,, Marseilles to Nice ... 140

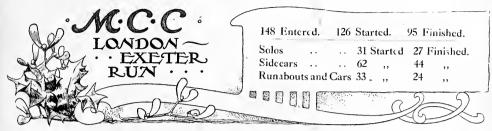
Total ... * ... 650 miles

The average speed to be maintained is 183 m.p.h. with a tolerance of ten minutes each way and fifteen minutes for 250 c.c. solo and 350 c.c. sidecar machines. Beyond these tolerances later or earlier arrivals will be penalised one point per minute.

In addition to the open controls, there probably will be one or more secret controls an each stage of the journey, when penalties of one point per minute will be inflicted on those who are five minutes ahead or ten minutes behind their official time.

Copies of the rules and entry forms for this competition may be obtained from the Editor, The Motor Cyrle, 20, Tudor Street, London, E.C.4, English motor cyclists who wish to enter should note that entries at ordinary

fees close on January 15th, and on January 30th at double fees. Butries should be sent to M. G. Sweerts, Morcogolisme, 1, Cité Paradis (Xe), Paris.



ADVERSE CONDITIONS FOR THE CLASSIC CHRISTMAS RUN.

A LTHOUGH the weather conditions on the morning of the fifth winter club run from London to Exeter and back, organised by the Motor Cycling Club, inspired great hopes of a pleasant run amongst the 148 riders competing in the trial, the gods favoured none. A slow sweeping drizzle set in at about 2,30 p.m., to remain throughout the night of the 26-27th December, and create what was probably one of the most severe tests of both machine and rider yet experienced by the club.

As is always the rule, prior to a severe trial of this kind, the word weather trembled on the lips of all, and sometimes, perhaps, with the more experienced sportsmen, preceded by an adjective suitable to the prevailing conditions, combined with the difficulties of effecting the minute final adjustments in the blinding rain.

Many hours before the scheduled start at 8 p.m., active preparations for the might's run were in progress. At short intervals, a blaze of light could be seen approaching the wet and steaming throng bending over the glistening machines,

and as the latest comer brought his mount to a standstill, amid the roar of exhausts and clouds of blue smoke, it was impossible to recognise the "oil-skinned" and "son'-westered" driver who proceeded to haul from within the closely-hooded and screened "sidecar numerous coats, wraps, and oilsheets in the endeavour to locate his more fortunate passenger, who, by his appearance, might well be described as a mummy grotesquely emerging from its case.

In Many and Various Garments.

Regardless of the miserable conditions under which the 'plucky riders carried out the final preparations in readiness for their self-imposed task, the noise of the many machines was drowned in peal after peal of hoarse laughter from the throats of the dripping riders as each newcomer who joined the happy throng revealed an even more grotesque, yet amusing, figure by his method of defying the wind and storm.

Amusing variations in riding kit were also to be witnessed at the Bridge Hotel. One giant who, equipped in com-

plete flying kit, entered with his passenger to partake of a final meal, commenced to perform numerous Houdini stunts in the endeavour to remove his six seanless coverings, and, after tying himself in a complete knot, had to be assisted by his passenger, who, to the intense surprise of the spectators of this currious cult, removed an oilskin helmet, from which coils of hair fell around two femiline



Two powerful outfits—a Matchless-and an Indian—near Salisbury.

shoulders. The number of lady passengers, however, who braved the ordeal emphasised the wonderful enthusiasm displayed by the fair sex.

Lighting Troubles.

Returning again to the cluster of machines which had now filled the sheltered garage and occupied the large square adjoined thereto, which, brilliantly illuminated by a friendly petrol supply lorry, was a scene of great activity.

A rider of a Coulson B, whose amusing headgear much resembled the familiar head dress of the Chinese labour corps, was at a loss to know why six hands are required to dissect a carburetter, clean a lamp jet, and stir up a D.A. cylinder, which operations had to be completed in three minutes.

Electrical equipment such as could be seen on the larger sidecar outfits was, of course, the envy of the less fortunate competitors, whose acetylene generators and other sources of illumination sometimes refused to function at the last moment.

A quarter of an hour from the start no signs of an abatement in the weather seemed possible. Quite a large crowd, however, had assembled along the line of machines now drawn up in readiness for



A scene in the hotel yard at Salisbury A rider of a Douglas outfit about to take the road.

Light cars are in evidence.



A James outfit near Salisbury. Leg guards were fully appreciated on what proved a wet and muddy journey

the start from the Bridge Hotel to give the plucky riders a final cheer as they sped on their 154 mile journey through the blinding storm to Exeter.

126 of the entrants got away well, comparatively little misunderstanding with the timekeeper being observed.

Considerable excitement was displayed as the two 3 h.p. A.B.C. machines sped out of sight with a humming roar; the second of these, piloted by J. Emerson, hauling a sidecar. Following this machine was entered a Whippet scooter. The excited crowd, however, were to be disappointed, as the enterprising entrant of this little machine, when signalled to start, was luxuriously seated in a Chapman car.

The 310 mile route from Staines lay through Basingstoke, at which town petrol and oil could be purchased, to Salisbury, the first check. Leaving the White Hart Hotel, Salisbury, the road lay through Yeovil, where much appreciated refreshment for both rider and machine could be obtained, and on through Chard, the commencement of the non-stop test, ascending to Chard Hill two, where the successful competitors were required to sign the checking sheet.

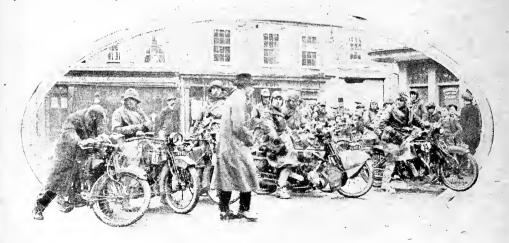
Still ascending through Yarcombe, the route lay straight through Honiton to-Exeter. The return journey from the Bude Hotel, Exeter, led through Sidford, the return non-stop test, up Trow Hill top, where the checkers' sheet had again to be signed, and-following through to Salisbury, the return route, through Basingstoke and Bagshot, terminated at the starting nost at Staines.

Of the 126 starters, 95 tired and mudbespattered heroes returned, some less mudguards and other equipment, petrol tanks bleached by the foaming acetylene of the previous hight's struggle; others so exhausted that many willing hands pushed the mud-clogged machine away. The trial had been a severe one, in the opinion of most of the competitors. Only one serious mishap, however, was reported, and the unfortunate riders were Mr. W. E. Line and his passenger.



E. H. Newnham (8 New Imperial), wearing a warm woolly helmet, going well on the outskirts of Salisbury.

The organisation of the trial was excellent, and in view of the adverse conditions under which it was conducted, the officiating members of the M.C.C. are to be congratulated.



At Blandford the scene was animated. Here is seen a group of competitors ready to take the long road again.

MOTOR (TCLE

A COMPETITOR (J. A. MASTERS) DESCRIBES THE RUN AS A STRENUOUS WINTER JOY-RIDE.

Sing hey! for the West,
The land of the free,
We've run down to breakfast,
We'll be home to tea.

MY own sentiments were quite in accord with my passenger's when in a hearty voice he submitted the above gem for my approval as we rolled quietly out of Exeter on the return stage of our Christmas joy-ride. And certainly



Fell-Smith and his Harley-Davidson outfit near Pentridge.

we were in a more cheerful frame of mind than we were when we let in the clutch at 8.26 p.m. at Staines on the previous day.

Staines at its best has never charmed me, but Staines on Boxing Night was the last word in discomfort. Torrents



Triumph riders on the Dorchester road. Note the improvised leg guards

of rain—the stendy, good-for-the-crops variety—crowds of dripping riders, no food at the hotel—and three hours to wait! 'And yet, in spite of all, the prevalent note was one of cheerful optimism which Jupiter Pluvius entirely failed to efface.

The opinions of the onlookers were, as usual, very amusing. Whilst half of them thought that we deserved the V.C., the other half wondered, quite audibly, why some 250 apparently sane individuals should leave their, presumably, happy Christmas firesides for a mad ride of over 300 miles through the pouring rain. My passenger, who is associated with the Metropolitan Asylums Board, solemnly assured me that he knew of men who had been "certified" for actions far less suspicious than ours!

Getting well away at 8.26 p.m.; we kept a steady pace through Bagshot, Basingstoke, and Andover, arriving at the

last-mentioned town with ten minutes in hand. A halt for refreshments enabled us to note the lighting equipment of the steady stream of riders who passed us meanwhile. The outstanding feature in this respect was the poer service given by the ordinary acetylene generator lamp set. Time after time we passed riders in trouble with their lighting arrangements, whilst the illumination with which some of them rode through says volumes for their ability to see in the dark. Electrically equipped sidecar combinations were greatly in evidence and appeared to give no trouble whatever.

Over Salisbury Plain.

A fairly strong wind, a good road, and a temporary cessation of the rain, made the ride across the plain to Salisbury quite enjoyable. The majority appeared to be well on time here with nething eventful to relate. Beyond Salisbury the road began to get heavy, whilst nearing



A scene at the Salisbury check. A moment when Sunbeams-machines, of course !- were much in evidence.

M.C.C. London-Exeter Run.-

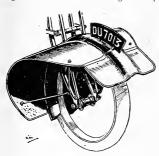
Sherborne a length of about 200 yards was entirely submerged.

From Yeo'il to Honiton must have been a nightmare for the solo riders, judging from the desperate way in which they clung to the crown of the road. It was certainly bad enough steering a heavy sidecar outfit.

Chard Hill was in very fair condition and did not appear to give much trouble. A halt for a smoke and a stretch at the top of Yarcombe gave us an excuse for a little fast diving right into Exeter, where we arrived seven minutes early.

minutes early.

Apart from tyre troubles and lighting failures, very little was heard of mishaps on the outward journey, although at Yeevil we certainly saw one rider of a big twin sidecar outfit listening carefully



An extremely wide mudguard is fitted to the front wheel of the 1920 6-8 h.p. Rex.

to the running of his engine, which was emitting a musical jingle consistent with the theory that one expert put forth, that it had a bunch of keys on top of the piston!

The Secret Check on the Return Trip.

A somewhat depressing dawn began to break as we neared Trow Hill. Having taken the precaution of getting past everyone in sight, we had a clear run. Down into second gear, and then quietly into first as the first corner was reached, we had slithered round both corners and were signing the checkers' sheet at the top of the hill before we quite realised that it was certainly a tough proposition for any but a powerful mount.

With a following wind and a bright sky, the run along the South Devon coast was quite enjoyable, and after negotiating the hilly road to Dorchester it was somewhat of a problem to keep within the fifteen minutes' early regulation. Indeed, three miles before Blandford a secret check which Mr. Robert Head was operating must have jeopardised a number of gold medals.

A quick sum in mental arithmetic enabled us to prove to our own satisfaction that we were exactly twelve minutes early, so, breathing freely once more, we proceeded at a sober pace across the plain to Satisbury, the last cight miles being covered in a dreuching rain.

The ride from Salisbury to the finish was the most monotonous part of the journey. Naturally a little weary, the





V. Olsson (New Imperial), a competitor who performed well in the big pre-war trials.

knowledge that we had to take 3½ hours for a distance that we usually do under 2½ hours was not comforting. However, Staines was reached at last, two minutes early—we really hadn't the patience to dawdle away those 120 seconds and swank in dead on time! An absolutely no trouble run without touching spanner or pump, and the Harley running better than ever at the finish. Yes, after all, it certainly was a joy-ride for such as did not suffer from punctures or lamp troubles.

REX MUNDY, WHO HAS COMPETED IN ALL LONDON-EXETER TRIALS, DESCRIBES THE RUN.

THIS year's run was my fith London-Exeter, and I left Staines at 8.56 p.m. with F. W. Carryer, a welf-known trials competitor. As protection against the rain I put on a leather flying cap, two mufflers, and a leather coat. The combination effectively kept me dry. The rain stopped at Salisbury.

Soon after the start many combinations were passed on the roadside apparently in trouble. C. A. H. Mason on a Morris-Cowley was giving a miniature firework

display from his exhaust pipe, emitting showers of red-hot carbon. Before reaching Basingstoke my head lights went right down, but by switching off lights and following another competitor I was able to recharge my accumulator from the dynamo, so that I could obtain a light for passing through villages, etc. In this way we crossed Salisbury Plain, driving entirely by W. Cooper's head lights. This competitor was driving a new Morris-Cowley fitted with a sporting body, the engine of which appeared to be remarkably flexible and possessing a good turn of speed.

Driving Without Lights.

After leaving Salisbury, where the catering arrangements at the White Hart Hotel were excellent, we missed the left-hand turn about 3½ miles out, as did many others. After about five miles I decided to turn round, and soon after doing so we met Clifford Finch on his G.N. I called upon him to stop, and we returned together on to the correct route. We soon caught up a bunch of route. We soon caught up a bunch of cars, when my lamps again went down, and my passenger discovered that the dynamo was not charging. I did not know what to do. Should we continue by means of other people's lights or stop and investigate the cause of the trouble? If we stopped it meant probably being left alone, and by continuing we might lose our dynamo belt if it had broken and dropped into the undershield. I decided, however, to stop, when I found that the belt had badly stretched. After taking out half a link we pushed on and caught up J. Hoult on a Matchless combination, whom we again had to follow with our lamps switched off. At Yeovil, after filling up with National benzole, I managed to obtain a pocket flash lamp from P. W. Moffat. It was now necessary for me to save my lights for Chard Hill, which had to be climbed non-stop. Entering Chard, we passed the Eric-Campbell, but did not sec this car again during the trial. The ascent of Chard was child's play and I signed the checking sheet well within time limits.



Competitors snugly ensconced in the runabouts were envied when the heavy downpour of rain occurred. This little four-wheeler is a G.N. passing through Middle Wallop.

MOTOR CYCLE

M.C.C. London-Exeter Run.

We continued on to Yarcombe Hill, where an eight-cylinder Talbot-Darracq car passed us climbing well. Stead on the IO h.p. A.C. also made an excellent ascent. The arrangements at the Excter control were not too good, two or three marshals getting quite annoyed because we did not put our car exactly where instructed to do so, but as they all wanted the car in a different position it was quite impossible to please them all. Poor "Billy" Cooper here wanted to remove his sparking plugs, but as this could not be done without a box spanner he was in sore distress, not having the requisite size. I gave him a hand, and eventually discovered that the rocking arm of his Magdyno had stuck owing to a swollen fibre hush. Having put him right, we discovered that only twenty minutes were left for breakfast, so we all adjourned, with speed, to the Bude Hotel, where, thanks to their very excellent service, no time was lost in securing something to eat and drink. In leaving the official garage we lost valuable time in being stopped by other people who were not due to leave. We, however, after much horn blowing, managed to get going, and made an excellent run to the foot of Trow Hill, where the second non-stop section commenced. The hill itself presented no difficulty to my Wilton, which I took up steadily without using full throttle. Just round the left-hand corner we passed C. A. H. Mason, who had come to rest on his Morris-Cowley. Ernest Herring, pie war seeretary of the Bournemonth and District M.C.C., checked us at the top of this hill well on time. We made a good run through Lyme Regis to within about twenty miles of Salisbury, where rain commenced to fall in torrents, so we put up the hood, but only for a few miles, as the rain ceased

Homeward Bound

An uneventful run now brought us through Andover and Whitchurch. For some distance we were accompanied by J. A. Ncwman on his 3½ Sunbeam. He had been marshalling at the Salisbury check. Just before reaching

Basingstoke, Newman suggested that we should stop at a small country inn. It was either after or before hours, so I decided to treat my radiator to some water, which I obtained from the inn. The run this 'year was undoubtedly

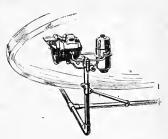
The run this year was undoubtedly stiff, particularly so for the solo people, the roads being so very rutty. Well, it is all over, and, although hard work, I look forward to the next, in which I hope to compete. In conclusion, I would like to congratultee B, Alan Hill on the very excellent way in which the event was organised.

"WEATHER AND ROAD CONDITIONS BAD," SAYS R. CREAK DAVIS

SUPPOSE the chief topic of comment in connection with this year's London to Exeter Run is the weather, It is a subject upon which much might be written and more said (in words not suitable for so respectable a journal as The Motor Cycle), but for my part I say it might have been worse, and upon occasions it has been worse. Certainly, in the words of Mr. Mantalini, it was demd moist and unpleasant. to the weather the condition of the roads was the most heart-burning subject. Vile is the only word that fits. I gave up trying to steer clear of pot-holes in the hope that in this way I might miss more than I would by deliberate steering, and as nothing shook loose or broke perhaps I was justified in that hope. What was the matter with the surface between Wilton and Yeovil I cannot say, but I never had a sidecar skid about so in all my long experience, and to find that so many solo riders had got through to Exeter was nothing less than marvellous. I heard that on this stretch the official car had more than one escape from finishing in the ditch. Rumours at the start of extensive and deep water splashes no doubt gave some of the new hands food for thought, but fortunately rumour was once more a lying jade, or almost, as no water deeper than a couple of inches was met with. Very different from 1913, when the water was up over my footboards, and the solo machines with belt drive had to be pushed through.



Le Vack (flat twin Harley-Davidson) and another competitor leaving Salisbury



Complete lamp and generator set mounted on handle-bar type fittings and a tubular support at the side of the sidecar body on H. A. Reyre's James and sidecar

The arrowing of the course was most excellent, and the hearty thanks of all of us are due to Messrs. Head and Wells, who were responsible. Perhaps an arrow at the fork for Sidmonth and Sidford would have saved even the Trials Hon. Sec. from trying the delights of Sidmonth. The catering at Salisbury both ways at the White Hart was excellent, and the M.C.C. is to be congratulated upon this, but as to that at Exeter, the less said the better. Considering the large entry, mechanical trouble was almost non-existent. During the night lamps and generators were the most frequent cause of a stop, but if only competitors would fit a gasbag to each lamp and run all lamps off one large generator, I can promise them that lamp trouble will disappear. My own Lucas Magdyno set gave me no trouble at all, and I had all the illumination any reasonable person could want.

AN OBSERVER'S IMPRESSIONS ON TROW HILL.

The majority of the machines climbed very well, but a great deal has to be said for the riders themselves—some were good, and others were not! It required real skill to put up a star performance round the second hairpin after the surface had been well churned up, and more than one failure was attributable to poor driving.

The new 23 h.p. Zenith made a very good climb, and it goes without saying that P. Pike, on his Levis, was one of the star turns. Another excellent climb was that of the 4 h.p. horizontal Harley-Davidson.

B. Alan Hill, with the 3\frac{3}{2} h.p. Scott, had an exciting moment. He started to run backwards, and when be put on the brake the whole outfit reared upon the back wheel, and looked like turning a complete somersault.

The Matchless machines did very well, and came up one after the other in splendid style. The same applies to the 7-9 h.p. Harleys with their large and rather heavy looking sidecars; two of these outfit had disc wheels, and a very smart appearance.



A Morgan de Luxe on the road near Basingstoke.

LIST OF COMPETITORS WHO COMPLETED THE COURSE.

W. C. Hemy (2½ Metro-Tyler),
Vira Olsson (8 New Imperial),
Vira Olsson (8 New Imperial),
Vira Olsson (8 New Imperial),
Tudor Thompson (2½ Douglas),
Lt W. S. Jameson (3½ Rudge Multi),
P. T. C. Body (5½ Sunbeam),
P. Tie (2½, Levis),
J. Sunbeam),
A. Wooding (4 Sunbeam),
A. Wooding (4 Sunbeam),
B. N. Sims (2½, Radco),
V. G. Scale (3½ Scalen),
V. G. Scale (3½ Scalen),
N. J. White (4 Triumph),
P. F. Salter (2½ Zenith),
W. Ford (2½ Coulson B),
T. C. Control (3 A BC.),
C. R. Chinnen (1 A BC.),
C. R. Chinnen (1 A BC.),
K. S. Chidley (2½, Wooler),
J. F. Holl (2½ Wooler),
J. F. Holl (2½ Wooler),
J. F. Holl (2½ Wooler),
R. R. Coes (4 Indian Scout),
R. R. Coes (4 Indian Scout),
R. R. Coes (4 Indian Scout),
MOTOR CYCLES WITH SIDECARS. MOTOR CYCLES ..

H Le Vack (4 Harley-Davidson).

F. S. Sponse (24, Verus).

R. R. Coes (4 Indian Scout).

MOTOR CVCLES WITH SIDECARS.

G. Richardson (44, James sc.).

B. Alan Hill (54, Sootle sc.)..

D. H. Noble (7 Indian sc.).

D. H. W. H. H. Sootle (8 Matchless sc.).

J. A. Hilger (34, Rover sc.).

J. A. Hilger (34, Sootle sc.).

J. A. Wisters (8 Matchless sc.).

J. A. Wasters (8 Matchless sc.).

J. A. Wasters (7 49 Harley-Davidson sc.).

J. A. Wasters (7-9 Harley-Davidson sc.).

J. A. Masters (7-9 Harley-Davidson sc.).

C. A. McKeand (7-9 Harley-Davidson sc.).

C. A. McKeand (7-9 Harley-Davidson sc.).

C. J. J. Wasters (8 Matchless sc.).

E. J. Pittock (5-6 James sc.).

E. J. Pittock (5-6 James sc.).

B. J. Markers (8 Matchless sc.).

J. B. Blackenarch (4 Traumph sc.).

J. B. Blackenarch (4 Traumph sc.).

J. J. Wasters (8 Noval Ruby sc.).

L. A. Apsey (8 Roval Ruby sc.).

J. J. Wasters (9 Wilkin sc.).

J. J. Wasters (19, Wilkin sc.).

J. J. Wasters (8 Wilkin sc.).

J. J. Wasters (8 Watchless sc.).

J. J. Lillis (6 Matchless sc.).

J. A. Lillis (8 Matchless sc.).

J. J. Lillis (8 Matchless sc.).

J. J. Hallis (8 Matchless sc.).

J. J. Simpson (8 Revs sc.).

J. J. Simpson (8 Revs sc.).

W. A. Jarobs (6 Revs sc.).

W. A. Jarobs (6 Revs sc.).

E. F. Childle (34, P. and M. sc.).

W. A. Jarobs (6 Revs sc.).

E. F. Childle (18 Matchless sc.).

E. F. Childle (18 Matchless sc.).

H. E. F. Childle (18 Matchless sc.).

E. E. Longe (18 Watchles

CYCLE CARS, LIGHT CARS, AND CARS.

CYCLE CARS, LIGHT CARS, AND C
W. H. Wells (25 Overland).
I. W. Couper (11.9 Morris-Oxford).
I. W. Couper (11.9 Morris-Oxford).
Rex. Mundy (11.9 Wilton).
Rex. Mundy (11.9 Wilton).
Rex. Mundy (11.9 Wilton).
Rex. Mundy (11.9 Wilton).
C. C. Stend (10 A.C.).
C. Finch (10 G. N).
C. C. Stead (10 A.C.).
S. C. Westal (12 A.C.).
W. G. Brownsort (12 A.C.).
W. G. Brownsort (12 A.C.).
A. E. de Lacey (15 Straker-Squire).
Y. Pattison (8 Mogran).
A. E. de Lacey (15 Straker-Squire).
Y. Pattison (8 Mogran).
C. Pressland (10 Crouch).
W. Waterson (20 Ford).
C. Pressland (10 Crouch).
Capt. A. W. Brittain (10 Calihorpe).
Capt. A. W. Brittain (10 Calihorpe).
Capt. A. W. Brittain (10 Calihorpe).
Capt. Mogran).
R. Don (10 A.C.).
Roi (10 R. M.).
R. Don (10 A.C.).
R. Don (10 A.C.).
R. Don (10 A.C.).
R. The following failed to complete

The following failed to complete the

Tun.

Notion Cycles — J. Harrison (2½, New Impraial)

W. J. Fleetwood (2½, Donglas), L. W. G. Gotley
(2½, Omega), and D. W. Bonham-Carter (2½,
Coulson B.).

MOTOR CYCLES WITH SIDECARS.—J. Emerson
(5 A.B.C. sc.). G. W. M. Henderson (7-9 American
sc.). C. D. Wright (7-9 Harler-Davidson sc.), W. P.
Tippett (4 Rex sc.). T. H. Willey (6-7 Abingdon
sc.). L. Arnold (8 Chater-Lea sc.). C. Willenson
(4 Douglas sc.). G. Packman (8 Marchless sc.).

K. British Excelsior sc.), N. Haydon Robinson (5-6
Jacnes sc.). W. E. Line (10 Reading Standard sc.).

B. K. de Smart (8 Zenith sc.). Capt R. Hay-Wills

B. K. de Smart (8 Zenith sc.). Capt R. Hay-Wills

B. A. Ss. C. T. H. Dewson (8 Monarch sc.), and

CYCLE CARS, LIGHT CARS, AND CARS.—E. Leverett
(Chajman), B. E. Lewis (5-6 A.V. Monocarl,
Dan Bradbury (10 G.N.), W. J. Brunell (11, 2)

Son (10 Eric-Campbell) (C. F. Mebes (10 Crouch), and C. J. Mebes
(10 Crouch).

INCIDENTALLY.

It is reported that some of the competitors who signed on at the finish had not completed the course. Such cases will be dealt with by the committee at a later date.

About 20% of the competitors failed on Trow Hill. This high figure is pro-bably accounted for by the heavy roads and adverse conditions.

The official car discovered many riders ahead of time, and had a secret check been instituted at Egham quite a bunch would have been penalised.

The percentage of solo riders who finished was greater than in the car class.

The interest in the run was very noticeable as one neared London; from Bagshot to the finish at about half-mile intervals little groups of motor cyclists had assembled to watch the men go by.

The Indian Scout model was much admired at Salisbury, and was extremely well handled by R. R. Coes.

There seemed to be a minimum of tyre trouble. Only three sufferers were observed between Dorchester and Staines. It is one thing we have to thank the wet for; it does keep the punctures down.

One was struck by the number of new faces among the competitors. The riding of some of the newcomers is open to a little improvement. A London-Exeter or two will soon have the desired effect.

"Blinding" was very prevalent, some men being as much as half-an-hour ahead of time. We understand the secret check between Dorchester and Blandford found a good number.

The popularity of the leather flying cap was very marked. Quite 75% of competitors and passengers were wearing these caps. Flying suits wer also worn. Two men caused much amusement in Salisbury, being adorned in overall flying suits having four huge pockets, two of which were on the knees.

Capt. R. Charlesworth (Zenith) was equipped with a new idea of F. W. Barnes, of the Zenith Co., an extra fitting for the front mudguards of two pieces of waterproof cloth fixed to the waydward stays by backs and area; their mudguard stays by hooks and eyes; their efficiency was proved by the cleanliness of Charlesworth's tank. Considering the run it had been through, one might describe it as spotless.

Of the cycle cars and light cars, the best performance was put up by the G.N.'s, which appeared to roar up Trow Hill as easily as anything. One had the bad luck to be baulked on the second turn, but their whole show was one of the best. The Tamplin nearly failed about one-third of the way up, the engine missing badly, but it picked up again and went up in great style.



Wide valances fitted to the rear mudguard of the 1920 6-8 h.p. Rex.

THE J.E.S. LIGHTWEIGHT.

A Real Miniature with Mechanical Lubrication and Automatic Floatless Carburetter.

DIFFICULTIES in connection with obtaining houses within walking distance of works or office have, added immensely to the already large demand for a genuine lightweight motor cycle. Many, especially those who are past the prime of life, are apt to turn from the obvious solution of the difficulty (the motor cycle) on account of the fact that motor cycles require special mechanical knowledge and are too heavy to move into the available storage space. It must be admitted that this argument has not



The cylinder of the J.E.S., showing air space between valve pocket and body of cylinder.

been without justification in past years, but the objections are being steadily removed by the present influx of light machines and cycle attachments.

machines and cycle attachments.

Perhaps the lightest complete motor cycle at the present moment is the 1½ h.p.

J.E.S., which weighs no more than 76 lb., and is designed throughout with the idea of producing a machine which is simple to handle and free from mechanical troubles.

Throughout the engine the most up-todate practice is employed, and the workmanship is exceptionally fine. There are several very interesting features in the design with which we propose to deal in some detail, as many of them deserve the cousideration of all those interested in motor cycles, whether lightweight or otherwise.

To begin with, the cylinder is a clean easting having a single valve pocket for both inlet and exhaust with a good air space between the pocket and cylinder walls. The inlet valve which is dis-

posed above the exhaust is enclosed with its rocker in an aluminium casting forming part of the inlet pipe, and this unit is readily detachable by unscrewing a ring nut.

With regard to the volume swept by the piston, the engine has a bore and stroke of 55.56 × 60.5 mm. (2\\delta_c \times 2\dag{\tilde{a}}\)in.) giving a piston displacement of 146 c.c. A hollow gudgeon pin is fixed to the H section connecting rod and floats in chilled phosphor-bronze bushes carried in bosses in the light aluminium piston, and

a very ingenious system of lubricating this important part is employed.

When the piston nears the bottom of its travel (i.e., when the crank case pressure is at its highest value) the hollow gudgeon pin uncovers ports in the cylinder walls. One of these ports is in constant communication with the trank case and the other with the timing case, and thence with the atmosphere. Consequently, crank case pressure release takes place through the gudgeon pin, and cool air and oil mist pass through at the bottom of every stroke.

An open-ended crank case houses the

An open-ended crank case houses the crankshaft, the end being closed by a cover plate carrying the crankshaft and outside flywheels. This plate is well registered in the casting, and is secured by screws. It should be mentioned that below are deilled in the flywheels.

holes are drilled in the flywheel so that these screws are easy of access, and, in fact the end plate and crankshaft can be removed in three minutes.

From the above it will be gathered that the crank is of the single bearing overhung type, but a spigot on the end of the crank pin registers in a hole in a fly crank disc, which, in turn, drives the timing gear.

Combined with the crank case casting is an oil sump with a detachable cover plate, and an oil filler in a convenient position. In this sump lies a gear type oil pump, driven by a worm gear from the periphery of the fly crank disc.

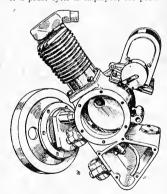


The J E.S. lightweight motor cycle is on pedal cycle lines, but fitted with the motor attachment and spring forks.

The pump forces oil to a constant level trough in the crank case, and thence the working parts are oiled by splash feed. This system is very simple, and cannot get out of order, so that once the sump has been filled the rider is entirely relieved of lubrication worries until it becomes necessary to refill the sump.

Two special lugs on the crank case are used to clip the engine to the down tube of the frame, and a third lug is counceted to the saddle tube by means of links, thus giving both engine and frame an extra point of support.

A special frame somewhat on the lines of a pedal cycle is employed, the pedal-



Power unit with crank case cover removed Observe the disc wheel, rotated by the crank pin, which operates the timing gear and oil pump

ling gear fitted to the bottom bracket in the usual manner. Final transmission from the engine is by Whittle belt. The frame is fitted with Druid type lightweight forks.

A most important feature which must not be forgotten is the floatless automatic carburetter. This is a most simple and ingenious piece of mechanism, and from our own observation, we can say that it functions admirably. This carburetter, though difficult to explain, is very simple in construction, and consists of the following parts.



J.E.S. auxiliary motor set for attachment to existing pedal cycles.

MOTOR CCL

The J.E.S. Lightweight .--

A body is connected to the inlet pipe petrol pipe having a small bole drilled from the petrol union to an inner conical seat. On this seat rests the correspondingly coned face of an inner barrel. This barrel is capable of rotation but not of vertical motion, and in the coned seat is a jet hole with a tapering groove, which registers with the hole already mentioned in the main body. The inner barrel also carries a suffitive valve in the lower part

registers with the hole already mentioned in the main body. The inner barrel also carries a snifting valve in the lower part. Inside again lies a barrel throttle moving vertically and controlled by a Bowden cable. The throttle barrel, which is prevented from rotation by a fixing screw on the outside of the body, is con-

nected to the inner barrel by means of a boss moving in an inclined slot, thus when the throttle is raised so as to give more gas the barrel is slightly rotated and the groove controlling the petrol flow is enlarged, and at the same time increasing engine suction raises the suifting valve and allows more air to pass.

and allows more air to pass.

Mr. Smith gave us an extraordinary demonstration of a standard carburetter on test, and proved that even after a long run at dead slow speed the engine would respond instantly to throttle preping.

on test, and proved that even after a long run at dead slow speed the engine would respond instantly to throttle opening. The J.E.S. engine set can be supplied for the conversion of a pedal cycle at twenty-three guineas, but it must be understood that slight structural alterations to the frame will be necessary; the complete mount, with 26×13 in tyres, costs thirty-eight guineas.

Perhaps our one criticism of this practical little vehicle is that it follows cycle lines rather too closely from the point of view of appearance, and this may be answered by the fact that the extra weight and cost which would be necessary to replace the pedalling gear by a gear box or larger engine would spoil the proposition.

In conclusion, our readers should remember that the J.E.S. has ten years' experience to back it, and that the latest model is further advanced as regards power units than many larger machines.

56 lb. SCOOTER

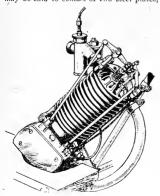
55 × 60 mm, Four-stroke Engine with Overhead Valves and Detachable Head.

I'may be recalled that in our issue for June 5th, 1919, we illustrated and described the scooter built privately by Capt. Smith Clarke, of Kenilworth. The design of this machine has been adopted by Messrs. Booth Bros., of Bishop Street, Coventry, who will enter the scooter market immediately with the Kenilworth scooter.

Most of the features of the Smith Clarke have been retained, the modifications being merely the fitting of a four-stroke engine with mechanically-operated inlet valve in place of the old Clement engine used by Capt. Smith Clarke, and the adoption of smaller wheels.

Frame Construction.

Probably the frame design and construction is the simplest of any type of two-wheeled vehicle. There are very few brazed joints, and these are confined to the head and fronk fork. The frame may be said to consist of two steel plates,



An overhead valve engine is fitted to the Kenilworth scooter.



The Kenilworth scooter on the road.

six detachable tubes, and steering head. The last mentioned is a long tube having a lug at each end, which closely resembles the seat-pillar lug of a lady's pedal cycle. To these are fixed, by boths, the six tubes connecting the head with the two steel plates forming the "chassis." These latter are connected by long bolts having tubular distance pieces.

The fork consists of two long tubes curved at the lower end, carried right-up to the handle-bar and connected to the steering column by a long bolt.

The Transmission.

On the outside of the right side plate of the frame the engine is attached by means of bolts, the flywheel being between the two plates and the magneto on the outside of the left plate. The flywheel carries a V pulley, from which the primary drive is taken to a countershaft by means of a jin. Whittle belt. This countershaft takes the form of a hub which is carried in slots in the plates for the purpose of chain and belt adjustment. From the countershaft tak the drive is by chain to the rear wheel

The engine is a neat little unit having a detachable head to its cast iron cylinder and an aluminium crank case. The push rods operating the overhead valves are

set at an angle, and are actuated by a single half-time wheel having two cams.

18 x 2in, wheels, 4in, mudguards amply valanced, single lever carburetter, Runbaken magneto and two brakes are included in the specification and the machine finished in all black. The price is forty-two guineas.



No brazed joints are used except on the steering column.



The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Heriford Street, Coventry, and must be accompanied by the writer's name and address.

SILENCERS-A WARNING.

Sir,—I would like to give a word of warning to the motor cycling public in general through the medium of your

paper (subject to your approval).

While riding a standard machine, as issued from Messrs. Douglas Bros., in March, 1919, untouched in any way, I was stopped while passing through Bromley (Kent) on the grounds of not having an efficient silencer. As a result of which my purse is the lighter by 10s., in spite of the kind help the A.A. and M.U. gave me by defending me.

The week previously my friend, while trying a new machine, was also storned for passing a cuttout being nursuar that

was also stopped for having a cut-out, being unaware that

one was fitted.

Is not the Donglas silencer, consisting of expansion chamber and extension pipe, usually considered efficient?

Motor cyclists would be well advised to skirt Bromley, not only for the above reason, but on account of bad roads in that district.

F. R. G. SPIKINS.

REPAIR OF ROADS.

Sir,-I should like to call attention to the methods of road repair employed in Scotland.

I was recently returning from a trip to Inverness, and, as I was overtaken by darkness, was forced to light my lamps at Killiecrankie. Just before entering Dunkeld, and after coming round a sharp corner. I ran full on a patch of loose road metal about a foot deep, and laid right across broad I think it would have been impossible, even in broad daylight, to have avoided crossing this rough patch, as it stretched from one side of the road to the other. The same thing was experienced just before reaching Perth. I should like to know what our motoring associations are doing to prevent this sort of thing. It is extremely dangerous, and I was very nearly thrown from my machine each time. An older man might have had a bad fall.

Can nothing be done to stop this absolutely dangerous method of road repairing?

Glasgow.

A CRITICISM.

Sir,-When so much is written and so much praise bestowed on the general excellence of the modern motor recycle by its manufacturer, a few words of complaint are not out of place by one of the riding public. I have been an owner of motor cycles and small cars since 1909, and at present own an 8 h.p. motor cycle and sidecar of well-known make, which takes me to and from my duty four times daily. I have no fault to find with the various parts which go to make the modern machine. Engine, theirs magneto carburatter gar how wheels and tyres parts which go to make the modern machine. Engine, chains, magneto, carburetter, gear box, wheels, and tyres, etc., are individually well made and give splendid service. It is in the assembling of all these parts to make the complete machine that the fault lies. The parts have improved, but the design of the complete machine differs very little from that sold to the public ten years ago. When such a large percentage of motor cycles have sidecars attached, surely it is apparent that the transmission must be on the off side of the machine, where it can be accessible. Both the magneto and carburetter should, and can, be so placed that adjustments can be made without the present difficulty. Mudguarding is a disgrace-it is impossible to go out on a modern machine over a wet road without receiving a mud bath from the knees downward. The front brake is a relic of the push-bicycle, and ought to have been

abolished with push-bicycle mudguards years ago. Cables and abolished with push-dicycle mugginitas years ago. Cames ano nuts still stick out from all corners as they did years ago, and the latter are usually inaccessible to a spanner. And so on ad lib! There is a vast public waiting to boy and use, largely for business purposes, a motor cycle as soon as a really modern machine is produced. At present there is not such a thing.

Lulworth.

BEWARE OF MOTOR THIEVES:

Sir,-A few days ago a man called to buy my Douglas, as it had been advertised for sale in The Motor Cycle. He

as it had been advertised for sale in The Motor Cycle. The earnestly requested me to deliver it to a given address at 8.30 p.m., where his father would pay me the cash. Somehow, I could not trust that man, so I consulted my two friends, who had kindly volunteered to deliver my machine in the evening. About fifty yards before my friends reached the address they were greeted by that same man, who told them that his father would presently come back from the club, and, furthermore, he would like to try my machine. He was surprised to see one of my two friends escorting my machine with his Humber, and the fellow kept asking which was the faster machine of the two. My friend kept his eyes on the suspected man, and followed him all the time with his Humber while the trial took place. Eventually the man knew the game was up, and made an excuse that he was going to call his father home to pay us the cash, and then he disappeared.

My friends called at once at the address, but found out by the landlady that there was no such man living there. Even the postman passed by, and told us that he had not known such name in that road. ALMOST A VICTIM.

Sir,—In almost every issue of your paper I see articles or letters extolling the virtues of the simple single-speed machine of the type that was in current practice ten or twelve years ago, and more or less running down the modern three-speeder de luxe.

At the risk of calling down on my head the scorn of the "Old Brigade," may I be permitted to ask why? We are told that variable gears tend to decrease the efficiency of the engine and camouflage its defects, that the modern engine depends on revs. and not pulling power to do its work, and so on. Surely, the main object of a motor cycle is to carry one or more people anywhere, with the minimum trouble and anxiety, and without any unnecessary taptwiddling. I can see no reason why one should be under twidning. I can see no reason why one should be under the necessity of carefully choosing one's route, so as to avoid any hill that may be beyond the power of one's machine, or why one should have to look dubiously at a hill, and pray that one may be able to get to the top with-out shedding the passenger, when the remedy provided by multi-gears is at hand. Can anything do the myement multi-gears is at hand. Can anything do the movement more harm than the sight, common enough in the old days, and which ought to be extinct by now, of a perspiring man pushing his machine up a hill which it cannot take under its own power?

No, by all means, let us have our gears, and take the steepest hill, or go through the thickest traffic, without a qualm, for we are not all experts, but wish to get the most out of our mounts with the minimum of trouble and anxiety.

Wimbledon

REQUIREMENTS OF A BUSINESS MAN.

Sir,—In choosing a passenger motor cycle combination one is faced by difficulties. The man who drives a machine every day of the year on business, whatever the weather may be, wants certain items included, and it seems impossible to obtain these combined in any one machine. I am open to wager none of your readers can name a machine that has all the following essentials, none of which are luxuries, but just the following essentials, near the bare necessities:

(L.) Steering head that will wear 10,000 miles without renewals of balls and constant adjustment.

(2.) Totally enclosed and self-lubricated chains.(3.) Sidecar fixings with the bolts not across the direction of strain and pressure.

(4.)

Three-speed gear.
Inlet valves enclosed.

(6.1

Efficient leg guard and undershield.
Two efficient brakes on independent wheels, one to be fixable by handle and ratchet to hold machine on gradients. Interchangeable wheels.

(9.) Hubs that will wear 10,000 miles without constant

renewals and adjustments.

Re (1.) Present push bicycle steering heads are really dangerous. I have recently seen two machines of different makes (one mine) in a garage together with the steering column cut right through by broken balls falling down from the top bearing. Two narrow escapes of probably fatal accidents.

Re (2.) Properly enclosed chains last wonderful mileages. I did 16,000 miles on my last Matchless rear chain, and the

front was never renewed. Re (3.) Bolts across the strain in sidecar fixings quickly

wear, and the holes wear oval.

Re (5.) Side by side valves means leaky inlet valve stems in a very short time. These are incurable, as valve guides always become seized and cannot be removed. Best induction system I know is the M.A.G., with its enclosed overhead

inlet valve rocker lubricated from the crank case.

Re (7.) Stirrup front brake barred. If makers had to ride heavy sidecars on our Gloucestershire bills in the winter they would soon provide a safe second brake. One wheel locked will often fail to hold a machine. [Wheels should never be locked; better braking effect is obtained with the wheel

revolving. -ED.]

Re (9.) In a number of machines I have yet to find one that has sufficiently robust hubs. I used to think it was lack of lubrication, but since I have had a turnout with a first-class system of hub lubrication by pump injection of grease, which I have strictly attended to, I realise it is the insufficient quality of hubs that is at fault.

Lastly, a real good clutch is, of course, essential. In my experience, the Matchless clutch is indestructible; but I have worn out a cork inset clutch in another make in too

short a mileage to be satisfactory.

I would very cheerfully go minus rear springing, which I regard as very probably a source of unreliability, if I could there are many others similarly situated. It is winter riding that finds out the weak spots.

D. W. GROVER.

SHAFT DRIVE.

Sir,-I have frequently of late seen various criticisms of

shaft drive in your estimable paper,

Having been the possessor of four different makes of motor cycle this year, I should like to add my testimony to the efficiency and desirability of shaft drive. It has been my unfortunate experience to have chains breaking, stretching, and also giving trouble generally.

As regards belts, these have been known to break and occasionally to slip, and certainly require attention more

or less frequently.

Coming to our shaft drive, in the writer's case this machine has travelled thousands of miles, the only attention neces-sary being to fill up the gear box with light grease. There is not the slightest doubt that this machine will continue to go thousands of miles without further attention. I should be very pleased to know how many riders of belt and chain-driven machines can say the same thing. I should further like to add that at no time was there any care taken in the driving of this machine, all sorts of odd gear changes having been carried out occasionally, which further goes to prove its indestructibility.

I have no interest in the F.N. concern other than being a very well satisfied owner of the neatest, cleanest, and the most sweet running no-trouble transmission that has been

brought out up to date. Tynemouth.

FN 1873:

DERELICT AMERICAN ARMY MOTOR CYCLES

It is stated that the American Army shipped 40,000 motor cycles into France. This photograph shows one of the big dumps on the other side of the Channel where wrecked machines are being collected. The work in connection with the salvaging of these motor cycles is performed for the most part by German prisoners



A selection of questions of general interest received from readers and our replies thereto.

All cuestions should be addressed to the Eultor, 'The Motor Cycle,'

20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents
are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters rontaining legal
questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

A First Choice.

Being a reader of your valuable paper since No. 98, might I seek your advice? I wish to buy a motor cycle and sidecar. As it is my first machine, I should be glad of a little advice as to the best motor cycle; also what h.p. I see many people advise \$\frac{1}{2}\$ or \$4\$ h.p. Do you think that sufficient?—G.R.

We can thoroughly recommend any of the well-known makes of 3½ h.p. or 4 h.p. motor cycles for all ordinary sidecar work, and would be inclined to advise you to try a big single, as you say that this is your first mount. You will realise that we cannot advise any specific make, but if you make your selection we will gladly advise you if the machine is really sound.

Starting Trouble.

Each time I start my 5½ h.p. Sunheam from cold it will now work regularly, and does not take any air for about half a mile.

After that distance it takes full air and works spendidly—all day, if necessary. Should the engine get cold again the trouble reappears for the half-mile. The carburetter is quite clean, floods well, filter from tank clean, petrol pipe clear, and everything as clean as possible. My magneto, a Splitdoff, has been in use for four years without a hitch, and, to all appearances, is in order. Can this have anything to do with it?—SENSPRAY.

The trouble with your engine is most probably due to the fact that the inlet valve is worn in its guide, thus rendering starting difficult; also notice if there is clearance between the tappets and valves when the engine is cold. Since the engine runs perfectly when warm, it seems unlikely that there is any defect in the magneto.

Partnership in a Patent.

There are two partners of a certain invention which has been patented in their joint names.
(1.) Can one of these partners (1.) Can one of these partners ommence manufacturing without consulting or obtaining the consent of the other, certain friction having arisen between them? (2.) Supposing the invention can be manufactured by one person, can the other partner claim any of the profits; or, should there be a reverse balance, would the other partner be liable for any portion of the deficiency? (5.) In the event of the manufacture of the article, is it not necessary for it to have the patent number and the joint names of the inventors or any other material facts affixed to the article? (4.) Is it possible for the partner to give a sole agency? (5.) Can a partner sell his half share to a third party-R.J.D.

(1, 2, 4, and 5.) You do not refer to any written agreement between the parties, so we presume that there is none. If there is, then this reply is subject to anything which any such agreement may contain. The joint ownership of a patent does not necessarily create a partnership. is a partnership between the parties, then, during its continuance, the patent would belong to them as partners and could only be worked or dealt with by the partners jointly as such. If, however, it is merely a case of co-ownership, then one may use the patent without the consent of the other, and is not bound to account to the other for any profits made, nor is the other party liable for any loss. The power of a co-owner to grant a licence without the consent of the other depends on the words of the patent. It would seem that any profit made by a co-owner by granting a licence must be accounted for. A co-owner could sell his half-share to another party, but a partner could only have the partnership wound up and a sale of the assets in such winding up. (3.) There is no obligation to impress on the article itself either the patent number or the names of the inventors, or any other facts, but one is not entitled to recover any damages in respect of any infringement of a patent unless the article manufactured is impressed with the word "Patent" or some other word implying that a patent has been obtained, together with the year and number of the patent. Otherwise, it would be open to the defendant to show tbat at the date of the infringement he was not aware, or had no reasonable means of making himself aware, of the existence of the patent. You will notice that we use the word "damages" only; but even if the article is not impressed as above mentioned, the patentee can still obtain an injunction against the defendant to prevent further infringement. It will therefore be seen that it is incumbent upon a patentee to see that the patent is properly marked if he wishes to preserve his right to damages.

Benzole.

Can you please tell me if there is any benzole sold yet which does not remove all signs of enamel from one's tank? I got a brand new motor cycle recently, and had the tank filled with benzole, as I had previously used it on my last machine. You can imagine how pleased I was when, getting off for a stretch by the roadside, I noticed the paint peeling off the tank where the benzole had leaked out through the filler cap.—C.E.N.

Our own experience of benzole does not point to the fact that its use seriously damages the enamel of the tank, unless the latter is finished with extremely poor materials. Of course, a certain amount of care should be exercised in filling, and it is better not to fill the tank so full that the benzole is split when the machine is running.

MOTOR CICLE

Handle-bar Shapes,



Will you give me your opinion of the comforts or discomforts of T.T., semi-T.T., and raised touring handle-bars?—P.W.

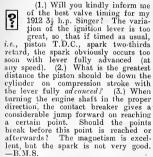
Of the three types of handle-bars you mention we think that you would find the semi-T.T. the most satisfactory for solo riding. Extreme T.T. bars are apt to be uncomfortable, as the whole of the rider's weight is thrown on the wrists, whereas raised touring bars do not give very sensitive control of the steering.

A Magneto Defect.



get a spark now and again. I should be very pleased if you could give me an idea what might be wrong.—J.B.C. Probably the armature spindle bearings of your magneto are worn, thus allowing the armature to come in contact with the magnet pole shoes owing to the tension of the chain pulling it sideways. This will not happen when the magnet is off the machine and you are revolving it by hand. We should advise you to submit it to the makers.

Timing Questions.



(1.) Time your valves as follows: Rotate the engine until the piston reaches the top dead centre, and in this position insert the cam wheels so that the exhanst valve is just about to close and the inlet just commencing to open. (2.) Connect the magneto drive when the piston is \(\frac{3}{2} \) in. from the top of compression stroke, and the contact breaker points are just separating, having the ignition control fully advanced, separation of the contact breaker points should be coincident with the tendency of the armature to jump forward.

READERS' REPLIES.

The Zenith Gradua.

I see in The Motor Cycle for December 4th that "R.S." (Oxford) is wanting a few hints about a 5-6 h.p. Zenith-Gradua-Jap (clutch model). As I have ridden one of these machines for some time, I will venture to air my opinion. (1.) Riding solo, I can do about seventy miles per gallon on No, I. I rode from Burton to Newcastle-on-Tyne (about 168 miles),

and used about two and a quarter gallons, which is pretty good. (2.) My 'bus had a hand start, and I generally had to prime one cylinder before starting up. Personally, if riding solo, I think it is much better to run and jump on. as it saves priming and time. (3.) My bicycle pulls a big coachbuilt Millford sidecar with three adults on with ease; I can get up anywhere with it. A short time ago, without a sidecar, I and a friend (he is 12 stone, myself 10) went up a hill which was I in 5, with a very sharp bend near the top. We got up on all throttle with no air, without changing down on the Gradua gear; but with a mixture I had to wind down one turn to get up. These are points to remember: (a.) Do not run slowly with gear wound up high. (b.) Do not mess about with the gears when the 'bus is stationary. (c.) Use No. 1 petrol and B.B. Vacuum oil. (d.) See that your belt does not get too slack, or your engine will race. I have previously ridden a 7-9 h.p. Indian and also a N.U.T., but, in my opinion, a Zenith is the finest mount on the road. With a J.A.P. engine and Gradua gear you can laugh at the hills.—J.S.W. (Burton).

Blacking Cylinders.

Regarding the question of blacking cylinders, the following instructions may be useful. I have used the preparation for the last eight years with splendid effect and results. Purchase two small packets of carbon black or lampblack, mix this into about half a pint of methylated spirits, and well shake together. Then add about two tablespoonfuls of shellac varnish. The varnish causes the black to adhere firmly to the cylinders, and it will not rub off. Care must be taken not to put too much varnish into the black, otherwise, instead of having a nice dead black, it will be glossy and peel off.—A.E.C.

Several formulæ for blacking cylinders have recently appeared in The Motor Cycle, but I venture to suggest another: About one teaspoonful of any quick drying black enamel—such as is used for "touching up"—with four times the quantity of engine oil, in about half a pint of petrol. The great thing, of course, is really to clean the metal before applying blacking of any sort or make, but this stuff seems to wash down as well as blacken, and when dry does not rub off.—S.A.B.

RECOMMENDED ROUTES.

OAKHAM TO LONDON .- W. E.B.

Oakham, Uppingham, Holkingham, Kettering, Higham Ferrers, Rushden, Bedford, Shefford, Hitchin, Welwyn, Hatfield, Chipping Barnet, Finchley, Highgate, London. Approximately 100 miles.

NEWCASTLE TO PORTSMOUTH, -G.E.H.

Newcastle, Nevilles Cross, Darlington, Northallerton, Boroughbridge, Wetherby, Aberford, Doncaster, Tickhill, Worksop, Mansfield, Nottingham, Long Eaton, Cole Orton, Ibstock, Hinckley, Coventry, Banbury, Deddington, Oxford, Abingdon, Newbury, Whitchurch, Winchester, Bishop's Waltham, Wickham, Fareham, Gosport, by ferry to Portsmouth.



Removal of Premises.

A. H. Hunt, of 115, Cannon Street, London, E.C.4, removed his offices and works to H.A.H. Works, Tunstall Road, Croydon, Surrey, on December 22nd.

C.A.V. Magnetos.

At the recent Motor Cycle Show at Olympia 148 machines were fitted with C.A.V. magnetos, this number being almost one-third of the total number of motor cycles exhibited.

Empire Sidecars.

Lowe's Empire Motor and Sidecar Co., Ltd., inform us that they have moved into new premises in Princip Street, Birmingham, where they have built and equipped new works on quite modern lines.

Enfield Repairs

Having now arranged increased accommodation, the Enfield Cycle Co., Ltd., of Redditch, are again in a position to undertake the repair and renovation of Royal Enfield motor cycles, and to give almost immediate attention to this class of work.

Amac Carburetters.

The makers of the popular Amac motor cycle carburetters, formerly known as the Aston Motor Accessories Co., Ltd., wish us to announce the fact that the style of the firm is now Amac, Ltd., the address being Aston Cross, Birmingham.

A Correction.

In our review of sidecar designs exhibited at Olympia, which appeared in the issue of The Motor Cycle dated December 4th, a slight error crept in when we described the A.J.S. sidecar as having a folding luggage grid. This is not correct, as the luggage platform on this machine is a rigid structure attached to the body and sprung with it.

A New Liverpool Showroom.

Messrs. J. Blake and Co., of Liverpool, Manchester, and Birkenhead, opened their recently acquired showrooms at 110-112, Bold Street, Liverpool, on Saturday, December 18th, the occasion being marked by a press view. In addition to Messrs. Blake's well-known activities in the motor car and body-building world, last year they entered the motor cycle business, and many interesting models are being shown in their new premises.

The A.C.U. Touring Guide.

We have received the official touring guide of the Auto Cycle Union, 1919-20, containing full information concerning the Auto Cycle Union and its working, a list of local consuls, who are of great value to A.C.U. members, a list of hotels and repairers appointed by the Union, also a distance table, enabling the reader to reckon the distance between the principal towns in the United Kingdom.

The BEST RESOLUTION OF ALL



And the easiest to carry out.

During this week of many and varied New Year resolutions the one which stands out as the most practical-and, incidentally, the most advantageous is the good resolve to join the Automobile

Association without further delay.

The procrastinating motor cyclist can find no better way of "turning over a new leaf" than by becoming a member of the A.A., nor can he ob'ain a better return for the modest outlay which membership of the Association entails.

The annual subscriptions, which run for twelve months from date of joining, are for

Cycle Car and Motor Cycle owners 10/6 Light car owners £1 1 0

Motor Car owners £2 2 0

In return the A.A. provides an efficient. complete, and up-tethe-minute Road Service which functions seven days a week throughout the year and is equally accessible to members living at Land's End or Johno'-Groats.

This service includes benefits which could not be obtained by non-members

many times the cost of the subscription, and they are only made possible by the "mass" membership of the Association and its progressive policy of providing better service each succeeding year.

The following are the "Always at your Service" benefits now enjoyed by every member of the

Automobile Association:

Free Service of A.A. Patrols. The patrol service extends over thousands of miles of main road, so that the khaki-clad A.A. patrol is one of the best known figures on British highways.

Free use of Roadside Telephones, which are installed in patrols' sentry boxes all over the country. This service has been extended so that it is available

both day and night.

Free Assistance by "Mechanical" First-Aid Motor Cycles. These outfits (driven by A.A. khaki-clad mechanics) carry a complete equipment, enabling light repairs to be done "on the road," so that a member can continue his journey after a breakdown and avoid being towed home.

Free Legal Defence in any police court in the United Kingdom to answer charges under the Motor

Car Act.

Free Legal Advice on any matter connected with

Free Touring Information, including routes showing the best roads to any part of the United Kingdom.

Free Touring Assistance to members going abroad

with car or cycle, including the privilege of taking a motor cycle into a 70% tariff country on a banker's indemnity alone, and without depositing hundreds of pounds in respect of customs dues.

Other privileges include Engineering Assistance. Special Insurance Facilities, Officially Appointed Agents and Repairers, A.A. Hotels,

Full particulars of all benefits are contained in the booklet, "The Key to the Open Road," a copy of which can be obtained, post free, from the Secretary. The Automobile Association, 21, Fanum House, Whitcomb Street, London, W.C.2. Send a postcard to day.

Motor cyclists in London are invited to call at Headquarters, where a staff of experts is always in attendance to give information on any question relating to Motors and Motoring.

REPORT ON NATIONAL BENZOLE ROAD TEST.

This report has now been completed, and can be obtained by members from the Fuel Department. It is published in two editions: paper covers at 3/6 post free, and cloth binding, making it a permanent book of reference, at 5/- post free.

MISCELLANEOUS ADVERTISEMENTS.

ADVERTISEMENTS in these columns First 12 words 2/6, and 2d. for every additional word. Paragraphs of under 8 words are charged double rate. i.e., 5/-. Each are charged double rate, i.e., 5/-. Each paragraph is charged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and he addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19. Heriford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should 1216 quote the number which is printed at the end of 1220 each advertisement, and the date of the issue 1219 in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken 1227 to avoid mistakes.

to avoid mistakes.

NUMBERED ADDRESSES.

For the coovenlence of advertisers, letters may be addressed to oumbers at "The Motor Cycle" Office. Total the control of the advertisers on registration and to cover postage on replies must be added 11762 to the advertisement loange, which must include 112356 to the advertisement loange, which must include 112356 to the advertisement loange, which must include 112356 to the advertisement. All replies should be control of the advertisement. All replies should be called advertisement. All replies should be control of the district ments containing remittances should be sent by registeria post, but in all used cases it is advisable to make use of the Deposit System. [12276] to the advertisement and the control of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who besitate to seed money to unknown persons may deal to perfect safety by availing themselves of our persons with the perfect safety by availing themselves of our persons who have the perfect safety by availing themselves of our persons with the perfect safety by availing themselves of our persons with the perfect safety by availing themselves of the persons with the

SPECIAL NOTE.

Readers who reply to advertisaments and receive no answer to their enquires are requested to recard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

A.B.C.—Deliveries commencing after the Show. Have you ordered?—Prompt deliveries from Victor Hovman, Ltd., 7, Mount Pleasant, Lverpool. [0021]
A.B.C.—Book early and prevent disappointment Specification and full patteclus; will be sent on application.—The Spaiding Metor Cu., Ltd. Spaiding distributing agents for Lincolnshire.

9. Shoe Pape. Fleet Street. London &C4

For square. deals and Values

Our Stock includes the following Machines. NEW. Machine. Year.

7	AUTOPED MOTOR SCOOTERS 1920	£42
	7-9 HARLEY-DAVIDSON 1920	£160
	7 9 HARLEY-DAVIDSON Comb 1920	£195 1
4.	21 CLYNO 1920	£70
3-	2½ CLYNO	£135
1.	8 NEW IMPERIAL and Sidecar . 1919	~_
9.	42 QUADRANT Combination 1920	£122 1
2.		£95
7.	2 DOUGLAS 1919	£80
	23 DOUGLAS, 2-speed 1920	£90
	23 DOUGLAS, 3-speed 1920 4 DOUGLAS Combination 1920	£145
	SECOND-HAND SOLO MACHINES.	
7.	at I.O.M. RUDGE-MULTI TOTO	£105
4.	31 SUNBEAM 1916	£105
2.	4 BRADBURY 1911	£40
4.	6 ZENITH, Gradua gear 1914	£84
ġ.	8 MATCHLESS, single gear 1913	£72 1
2.	3 CORAH-J.A.P 1912	£48
3.	4 DOUGLAS	
2.	21 RUDGE TOT2	£4S
6.	3½ RUDGE	£75
9.	24 TRIUMPH JUNIOR 1914	£52 1
9.	3 N.S.U	£22 1
9,	SECOND-HAND COMBINATIONS.	
6.	7-9 INDIAN Combination 1914	£95
5.	8 ROYAL RUBY and Sidecar 1919	£150 .
3∙	41 JAMES Combination 1916 8 ROYAL ENFIELD Combination 1919	±125
b.		£16/ 1
٥.	7-9 JAMES-HOWARTH Comb 1914	£125
Э.	31 KERRY-ABINGDON Comb 1914	£72 1
2.	5-6 INDIAN Combination 1913	£125 £85
٥.	7-9 INDIAN Combination 1913 6 ROYAL ENFIELD Combination 1917	
4.	6 ROYAL ENFIELD Combination 1917	£155
6.		£125
ι.		£130 £110
		£87 1
9.	5-6 RUDGE-MULTI and Sidecar 1914 4 (twin) ZENITH and Sidecar 1919	£145
4-		£150
4. S.		£87 1
		£120
9. 6.	4 DOUGLAS Combination 1919 3½ RUDGE MULTI 1916	£130
٥.	7-0 INDIAN Combination 1913	£77 1
В.,	6 ROYAL ENFIELD Combination 1913	£82 1
3∙	5-6 INDIAN and Sidecar 1914	283
4.	6 ROYAL ENFIELD and Sidecar 1918	£165
3.		w (00
	SECOND-HAND CARS	
5	- CARDENA Cycle Car, 7-9 b.p. Har-	
	8 DUO Car, J.A.P. engine	£145
).		£150 ·
	SIDECARS	

Cancelet Minor Cancelet D4. Cancelet K4. Cancelet K3. Douglas.

1210

S.
Royat Ruby.
"Wanchope's" No. 1.
"Wanchope's" No. 2. Williamsons. Triumph.

The Latest 1919
6 h.p. J.A.P. TWIN-CYLINDER ENGINES.
From Stock. Trade supplied. Terms on application:
these include extras. 50 engines, for immediate delivery, these include extras. 50 engines, for £37 10s. each.

A NY Offers for ortion on A B.C. cycle? Delivery promised February.—Box 8, clo The Motor Cively.

JONES' Garage, special agents for A.B.C. Brondway, Muswell Hill, N.10, and Woodside Plands.
North Finchley.

A B.C. Disconting the Machinest stare in Part Agency.

6 h.p. J.A.P. Pisions, with tings and gadgood pins the condition of the price allowed. Maker's guarantée.

600c

600c

WAUCHOPE'S, 9. SHOE LANE, E.C.4.

Phone: Holborn 5777 Grams, Opisicer, Fleet, London,

MOTOR CYCLES FOR SALE.

Abingdon. A BINGDON King Dick, 3½h.p., new Palmer cords and tubes; first £28 secures.—Cheverton, Broadway, Totland, Isle of Wight.

A BINGDON, N.S.U. 6h.p. engine, T.T. bars, in good running order, enamelled red; £38.—262, Blackhorse Laue, Walthamstow.

21b.p. Abingdon King Diek, hrand new T.T. shard Siener Steiner Steiner

A.J.S. Snecialists and Agents: The Walsall Garage, Walsall. Tel.: 444. [9574 JACK HEALY, Cork, official A.J.S. agent.—Rotational delivery. No premiums accepted. [6485

CROW Bros., High St., GnildIord, A.J.S. agents since 1912, accept no premiums.

A.J.S. Combination, latest model, just delivered: 200 gns.—Thipp, Sherston, Malmesbury, Wilts. [6624 A.J.S. Brand New 6h.p. Combination, screen, spare wheel, tyre.—Parker's, Bradshawgate, Bolton.

A.J.S. 5-6h.p. and coachbuilt sidecar, good condition, all accessories; offers over £65.—St. Agaes, Lyme Regis. Regis.

A.J.S. 6h.p. Combination, lomps, speedometer, etc.; £130.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [6240

WAUCHOPE'S, 9, Shoe Lane, London; 1915 A.J.S.
4 5h.p. mrchine, 3-speed and chitch and kick
starter, with coachbnit sidecar; £130. [6618

A.J.S.—Exeter Motor Cycle and Light Car Co., Ltd., Bath Rd., Exeter, and 28, Tavistock Rd., Ply-moutt¹ Sole agents. New booking for earliest de-liveries. [0061]

19 19 A.J.S. Combination, delivered Aug., as new, spare wheel complete, Lucia lighting set; highest cheque over £180 secures.—Write, Beverley H. Lyon, Cuttens, East Grinstead.

Cuttens, East Grinstead. [6209]

10 16 A.J.S. 23(h.p., 3-speed, kick start, hand clutch, lamp, horn, spares, new back tyre, stored during awr, first-inte condition, just overhauled; £62(10.-Ap. jly, 178 Hurst Grove, Bedford.

10 14 23(h.p. A.J.S., 3-speed counterskaft, new gears, hand clutch, kick start, enclosed chaird drive, speedometer, hamps, horn; £60: atter 7.30.-87, Margheld Av., West Ealing, W.15.

13. Spares: engine and gear box repairs; prompts delivery.—Gyril Williams, Chapel Ash Depok, Wolverhampton T.A.; Fart.

Alldays.

A LLDAYS Allon; earliest possible delivery.—Book now at 129, Brockley-Rice, S.E.23. [6374

JONES Garage, sperial agents for Alidays Allon, Broadsay, Muswell Hill, N.10, and Woodside Parade, North Furcher. [0027]
ALDAYS Allon, 1917, 2-stroke, Lucia lamps, me-chanical horn, excellent condition; ride away: £50, or near.—31, Wrexham Rd., Whitchurch, Salop, [X1730]

A LiDAYS Allon, 2-stroke, 1915 model, 2-speed, A lamps, etc., tyres in perfect condition, Sensiny, architecter, price 257.-Seen at 8, Petersham Mews, Jusen's Gate Place, S.W.7. Phone: Kens, 4362. K.M.6.

CROW Bros., High St., Guildford, Ariel agents, supply at makers' prices. [X7944]

ARIEL, brand new, 31/2h.c., 3-speed countershaft model, in stock.—Moss, Wem. [X1795]

CYRIL WILLIAMS, for early delivery of Ariels.— Chapel Ash Depot, Wolverhampton. [X8625]

Chapel Ash Derot, Wolverhampton. [X8625]
JONES (Garne, special agents for Anels, Broadway, Minwell Hil, N.10, and Woodside Furnds, North Finchley.

ARIEL 1920 34h.p. Combination, Milliord sidecar in stock; £130.—Edwards, 7, Exhibition Rd., South Kensington. [5737]
BRAND New 1920 Model 6-7h.p. Ariel Combination, Milliord Ld., Chelmistod.

Djust delivered; list price £155.—Cleule and Hadler, Ld., Chelmistod.

ARIEL, 3/5h.p. and 6h.p.; early deliveres; all spare parts stocked.—F. Speakma, Ariel Expert, 7, Rochdale Rd., Harpurher, Mouchester. [4020]

10 9 Ariel Combination, 3/4,n., counterslant 3speed, kick starter, discs, splendid condition;
best over £95 secures.—King, 30, Avenue Rd., Sonthampton. [640]

Auto-Wheels

A UTO-WHEEL for sale, in perfect order: £9.-Brook, Burnham, Somerset, [4688]

BIG All letters relating to advectisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE. Auto-Wheels.

1919 Anto-wheel, B.S.A. de Luxe, shock absorber perfect running order, hardly used; 18 gns., no offers.—Bluo House, Pitsen, Essex. [6365]

Bat.

BAT.—Sole Birmirgham agents, The Premier Motor Control Co., Astor Rd., Birmingham, Phone: Central [5553] 4310. 1914 Bat-Jap, rnn 3,000 miles only, perfect condition; £90; tried here any time.—Dr. Wilson, Ketton, [X1781]

Stamford.

BAT-J.A.P. 6h.p., 2-specd, kick starter, top-hole condition; £50, or offers.—Atkins, Crowborough

Sussex. 16528

B.A.T.—We can give earliest delivery of all models; solo in stock.—Edwards, 7, Exhibition Rd., South [5758]

BAT-J.A.P.'s.-Immediate delivery ull models. Orders accepted in rotation.-W. H. Grimes and Co., 18, Bruton Place, Bond St., W. [4648]

Blackburne.

CROW E.os. High St., Guildford, are old Blackburne agents, and invite enquiries. (17945)
STANLEY BUSSELL, Newport, sole Isle of Wight agent for Blackburne motors; early delivery, [5297]
LACKBURNE 4hp., delivered october, under 500 unles, as new; £120.—Box L6,382, clo The Motor Cucle.

ERIC WILLIAMS, the Worcester Blackburne agent.— Early delivery 4 and 8b.p. models.—12, The Foregate, Woisester, [X1494]

JONES' Garage, special agents for Bh Broadway, Muswell Hill, N.10, and Panade, North Finchley. Blackburnes, ad Woodside [0029

Plande, North Finemey.

B LACKBURNE.—New 1920 4h.p. models actually in stock; no premium required.—Chandler, Reyre and Williams, Hitchin, Herts 'Phone: 165 [1062]

BLACKBURNE 1920 4h.p., 3-speed countershoft, chain drive, not unpacked; instant delivery; bons-fler creator for selling; £117, no offers-Wood, 50-palace Gruce, Bronley, Kerl. Thome; 2098. 16890

Bradbury

BRADBURY 6h.p. Twin, 3-speed, kick starter, brand-new: £140.—Birch's Girage, Wolverhammeron, KX146 BRADBURY and Sideor, 4h.p., 2-speed, perfect ming brighton. KX152 Brighton. KX152 Brighton.

W SAUNDERS, Ltd., Colchester.—Bradbury 1920 4h.p., 3-speed countershaft, kick starter, chain drive: £117/17/6. [X1591

BRADBURY.-For the earliest possible deliveries of 1319 models.-The Walsall Garage, Wolverhamp ton St., Walsall, Tel. 444. [9575]

BRADBÜRY 4h.p. C.B. Combination, ride away: or exchange with chiffonnier, or piano, for later model.

-35. Trafford Rd., Eccles. [X156] BRADBURY 1914 4h.p., 2-speed, clutch, kick starter, coachbuilt sidecar, lamps; 55 gns.—Heatn and Wiltskire, Ltd., 42, Elms Rd., Aldershot. [6393]

BRADBURY 1919 4h.p., 3-speed, clutch, pil-chain, new last June, under 1,000 miles; £95.—Lister, 6. Gloucester Terrace, Sandgate, Kent. [6485

BRADBURY Combination, O.B., 414h.p., 3-speed, K.S., Armstrong Mark VI. Inth, in perfect condition; any trial; £55.-20, Vine St., Lincoln. [X1540]

BRADBURY, 1914, 4h.p., T.T., brand new, in stock; list price £82; special cash price £75.—Elee and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3.

BRADBURY, 1920, 4km, Speed counterhard, kiech starter, chain drive, Canoeler aideau, storm syndral area, et anker's price £147.5.—Wilkins, Simpson and Ca., oppealte Olympin, London, 6216

4 ha. Brudbury. Sepsed wunts elips for top hard 4 ha. Brudbury. Silman-Bosch, new pitchor, riuse, hushes, main beartury. cank rin, good tyres, Miller siln, lamp, necessories, in Uthoroughly good order except gor (art pre-sent fixed engine); 238, or offer; must sell.—Durell, 6/6 Gibblins, Frinris Walk, Lewes.

Brough.

BROUGH.-Sole Birmingham agents, The Motor Co., Aston Rd., Birmingham. The Premier SOUTH Lancashire, North Chashire, and Isle of Man only.—Brough enquiries.—J. Blake and Cn., Official Dealers, Liverpool and Manchester. [6588]

B.S.A.

19²⁰ B.S.A. Combination, hood, wind screen, just arrived.—Clifford Motories, Eastwood, Notts. B.S.A. Sole District Agents; book now.—The Walsall Garace, Wolverhampton St., Walsall, Tel.: 444. B.S.A., 414b.p., W.D. model, wants slight attention; £65.—Collier's Motories, Union St. South, Halifax.

ON the first day of the New Year—the day for New Resolutions-we look back to the early days of Godfreys in 1910, and recall the first resolution of the firm: that, succeed or fail, we would run the business on straightforward lines.

In 1911 the late O. C. Godfrey won the Senior Tourist Trophy Race on an Indian.

In 1912 Mr. F. A. Applebee, emulating the example of his partner, won the Senior Tourist Trophy Race on a Scott.

It was a good start for a young firm, as it gave the public confidence-it was evidence that the business was run by men who knew something about motor cycles.

Since those early days we have had no cause to complain of lack of encouragement, and we have done our utmost to deserve the goodwill of motor cyclists throughout the Kingdom.

It is our resolution on this, the first day of 1920, to continue on exactly the same lines. To give complete satisfaction to every customer irrespective of the amount of his purchase, and afterwards by service and attention, to secure his friendship and recommendation.

It is thus that-

Our sales increase our friends,

Our friends increase our sales. We are at all times pleased to show prospective customers our representative stock of new machines, and having placed large contracts can, in the majority of cases, give early deliveries.

GODFREY'S Ltd. 208, Gt. Portland St.,

LONDON, W.1. 'Phone: 7091 Mayfair



MOTOR CYCLES FOR SALE. B.S.A.

19¹³ B.S.A., belt drive, Dunlop tyres, horn, lamp, sound condition; £48.—Pyner, Godinton Rd., Ash-(X1551 ford

B.S.A. 1919, all-chain drive, 41/h.p., act used, just delivered, Dunnelow, Grocer, Branstone, near Eur-

BRAND New B.S.A. 4½h.p. Model K., 3 speeds, ehtch, horn, etc.; £100.—Venty, Longfield House, natfield, Herts. (X1552

JONES' Garago, special agents for B.S.A., Broad way, Muswell Hill, N.10, and Woodside Paradinosth Fiachley.

B.S.A. Combination, new September, danc 300, 3 lamps, Klaxon, and spaces; first offer £138 burst-bargain.—Lambert, Conlyille, Leicestershire. (X1619

BRAND New B.S.A. 41/4h.p. Model K., 3 speeds, horn, etc., £100; new sidecar to match if wanted, £33.—Verity, Longfield House, Hatfield, Herts. [X1769]

1919 B.S.A. Chain-cum-belt Combination, with tools, lights, speedometer, sidecar Burbury with carner at back.—Apply, Eyles and Eyles, St. Aldates, Oxford. B.S.A. 4h.p., carefully used, as new, 1915, 2-speed, chitch, not used since May, 1916, hupp, hear; bargain, £60,—Mrs. Bannard, 7, Bridge St., Banhary,

19 19 41/hp. B.S.A. Ceachbuilt Combination. 3 countershaft, all chain drive, lamps, horn, as any trial; £117/10.—30, Crystal Palace Park Sydenham.

B.S.A. Specialists.—All replacements in stock; B.S.A. sidecars in stock,—The County Cycle and Motor Co., Broad St., Birmingham. Tel.: Midland 733. T.A.: Comocyco, Birmingham.

Comey'roo, Biffiningami.

B.S.A., Iste model, 4/th.p., mig., 3-speed countershaft, chain drive, overhauled, newly enamelled, plated mey; 35 gas.—Wands worth Motor Exchange, Eline 58t, Wandsworth (Town Station).

10 17 (September) B.S.A., 4/th.p., 3-speed, Katalyon and H. Indups; 2110.—Lyon, Grange, Elineton, Newport Pagnell, Bucks. (D)

Calthorpe.

CALTHORPE 1917 2-stroke, 2-speed, free engine, tyres and condition perfect; £43.-58, lelville Rd.. Fazakerley, Liverpool.

Rd. Fazakelley, Liverpool.

19 is Galhorp-Jap. 25hp., Enfeld gear, lample for the property of the property of

and Co., opposite Olympia, London. [6218]
CALTHORPE-JA.P., 2½h.p., Enfeld 2-speed, brand. new, at makers' price; £55/2.—Wilkins, Simpson and Co., opposite Olympia, London. [7]
10 16 Culthorpe 2½h.p. J.A.P., Enfeld 2-speed and belief, lamps, horn, sparse, tools, condition as new; 49 gns.—Linley, 100, Addey St., Sheffield, [X1559]

19 6 Calthorne-Jap, 25th p., Enfield 2-speed, new Goodycars, all lamps, mechanical born, ride 50 milies; 40 gns.—A. H. Adams, Shipston-on-Stout, (X1632 Campion.

W SAUNDERS, Ltd., Colchester.—Campion 2-stroke, 1920, in stock; price £60. [X1589]

[X159]

1 20 8 8h., Caupino-Tap, 3-speed Sturmer-Medium gent, 700×80 tyres, just delivered, unused, with unders guarantee; owner unable to accept deliver from agent; also special Dunhill sideon for same; will separately or together; what effers?—Papwothi, 87; tiladstone St., Scarborough.

CEDOS.—The first 2-stroke ever produced; ladies or gentlemen's; order now for spring delivery.—J. Blake and Co., Lancashire's leading motor cycle dealers, Liverpool and Manchester. [6576

Chater-Lea

CHATER LEA Enquiries Invited by J. Blake and Co., leading motor cycle experts, Liverpool and Manchester. [6577

CHATERLEA 1912 Sh.p. Combination, 5 speeds, bandle start, chain drive, extra wide coachhuilt sidear, hood, screen, arron, engine just overhanled; £120, or nearest offer.—Sheffield, East Kull Farm, Feltwell, Narfolk. Clyno.

CLYNO, brand new. 2-stroke, 2-speed model, in [X1796

CLYNO New 1920 2-stroke; £63; in stock.— C-Edwards, 7, Exhibition Rd., South Kensington. CLYNO Lightweights for immediate delivery.—
Maudes Motor Mart, 100, Paris St., Exeter.
[6430

BROOK Bros., Burnham-on-Sea, are now booking orders for early Clyno delivery in 1920. Write for

1920 Lightweight Clyno, only done 200 miles, new condition: £60.—Abson, Veterinary Surgeon. 53. Hallgate, Doncaster. [6381

MOTOR CYCLES FOR SALE.

Clyno. WAUCHOPE'S, 9, Shee Lane, London, supply new Clyno 29hn.p. 2strobes, 2-speed and clutch, [6617] models; 270, from stock. CLYNO 6 hp. Combinations, late models, wanting strention; £59/10, £68/10.—Collier's Motories, luino 81, South, Hallitz, wanting

CLYNO.—New 1920 2-speed 2-stroke models actually in stock.—Chandler, Reyre and Williams, Hitchin.

Herts. 'Phone: 165 Hitchin. 10063

Herts. Pbone: 165 Hitchin. Stroke, 2-speed, light-weight motor crokes now in stock; list price.—Genic weight motor crokes now in stock; list price.—Genic weight motor crokes now in stock; list price.—Genic work of the stroke o

CLYNO 1920 2-stroke, 2-speed and clutch; £70; brand new; actually in stock at makers' price.—Wilkins, Simpson and Co., opposite Olympia, London. [6220 Sinpson and Co., opposite uprupa, boards.

CLYNO 6b.p., 2 speeds, Amac, Bosch, C.B. sidecar (latter as new); £68, for quick sale; owner going abroad.—15, Victoria Rd., Alexandra Fark, [6559

CLYNO 6h.p. Coachbuilt Combination, countershaft, clutch, kick, starter, hood, spare wheel complete; 285 for quick sale.—56, St., Tooting. 3-speed

CLYNO Combination, in exceptional condition; has been effered for this outfit, will sell for a Full particulars on application. Box 16,335, e/c Motor Cycle. ndition; £120 sell for £125.

CLYNO Lightweight in stock. Orders hooked in rotation. Clyno combination orders booked in rotation, delivery from March.—Rothwell and Milbourne, Cowleigh Garage, Malvern.

CLYNO, 1919, brand new, 2-stroke, 2 speeds, fitted with P. and H. large bend lamp, speedometer, horn, rear lamp, only been 200 miles; cost £77, accept £68.—Box L6,341, c/o The Moor Cycle. [6446

£68.—Box Lb.541, Co. Lb. School, Speed, clutch. A 1914 Clyno 5-6h., Combination, 3-speed, clutch. K.S., 4 detachable interchangeable wheels, over true, electric lighting, strong, comfortable sidecan, flar, and screen, very good condition, methanically sound; 212C.—Collins, 217, South Park Rd., Wimbledon, W. 10.

Connaught.

19¹⁷ Connaught 25th.p., 100 m.p.g., splendid condition, perfect running order; £36/10.—Lynton, Park Crescent, Church End, Finchley. [6594

Coulson

W. SAUNDERS, Ltd., Colchester.—Conlson B. and U. 1920 models in stock; list prices. [X1588 COULSON B 2%h.p., 2-speed model, in stock. Malvern Agents, Woodyatt, Ltd., Malvern. [3865. COULSON B.—The ideal spring frame.—Enquiries invited by J. Blake and Co., the motor cycle experts of Liverpool and Manchester. [6578]
COULSON-B., 1919, 2%h.p., little used, just over hauled by makets, splendid condition, speedometr horn, tools 30 gns.—Luwson, 2, Virginia Rd., Leeds 19 Coulson-B, only used 3 times, 24%h.p. Black-turne engine, 2 speeds, spring frame, 2½in. Palmer tyree, FRS. Immp series cost 295, will accept 235; Essex.—Box 16,345, cto The Blacker Cycle [6448]

Coventry Eagle.

COVENTRY EAGLE, 1919, Villiers, 2-speed, lamps, lorn, etc., small mileage, excellent condition.—162, Dunstable Rd, Luton.

2th.p. 1915 2-stroke Coventry Eagle, full access, carefully used, and in excellent condition; £36.—Higgins, Dunmow Hill, Fleet, Hants.

19¹⁷ 3h.p. Dahn, 2-stroke, Albion 2-speed, disc wheels, lamps, horn, spares, not done 2,000 miles: £38, near offer.—1, Sistova Rd., Balham. [6320 [6320]

Diamond.

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [X8622] W. SAUNDERS, Ltd., Colchester, can give you early deliveries of Dannond models; list prices. [X1592]

Dot.

19 20 2%h.p. Dot. immediate delivery.—Maudes' Motor Mart, 100, Paris St., Exeter. [6431

Douglas.

VIVIAN HARDIE and Lane, Ltd., Douglas Special-

1 h.p. Combination, 1920 model; £145.

3 h.p. Solo, 1920 model, clutch and kick starter; £90.

3h.p. Solo, 3-speed model W.; £86.

23h.p. 2-speed W.D. Model: #80.

WE Stock Everything you require for your Donglas.

24. Woodstock St. (off Oxford St.), Bond St., W. (001

P. J. EVANS

THE BIRMINGHAM HOUSE :: :: FOR MOTORISTS. :: ::

where you can view the Best Motor Cycles obtainable since the war, and the cream of agencies

1920

will be the Motor Cycle year, and realising this, I have placed large contracts

Soon after Xmas your thoughts will turn to the open road and the old beauty spots.

Order Now!

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> A.J.S. TRIUMPH ENFIELD NORTON JAMES INDIAN ROVER ZENITH HUMBER **EDMUND** CALTHORPE BLACKBURNE NEW IMPERIAL

COME AND SEE THE MACHINES SIDE BY SIDE-

THERE IS SURE TO BE ONE TO SUIT YOU.

P. J. EVANS,

87.91. JOHN BRIGHT ST...

'Phone: Mid. 662.

'Grams: "Lytcar, B'ham."

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 1920 4h.p. Combination, show model, in stock.—Below.

19 4h.p. Combination, lamps, Cameo, under 500 miles; £145.—Below.

19 15 2%b.p., overhauled; £50.—Edwards, 7, Exhibition Rd., South Kensington. [5766 DOUGLAS 25th.p., August, new spares, complete.-

19²⁰ 4h.p. Douglas Combination in stock; £145.— Cross, Agent, Rotherham. [6596

19¹⁷ (late) 4b.p. Douglas Combination, Klaxon, lamps; £90.-7, Gibson Sq., Islington, N.1. [6314

3b.p. Douglas, 1911, splendid condition; any trial; 226.-17, Heaton Rd., Mitcham. [6503

DOUGLAS, 1915, in fine condition; £53; apply Saturday.—45, Burton Rd., Brixton. [6273 DOUGLAS, 254h.p. 2-speed model, geouing, new condition.—Enquire Parker's, Bradshawgate, Bolton.

DOUGLAS, 2%h.p. late 1915, little used, spl condition, new tyres; £50.-248, Darkefell Brockley.

1 0 15 2%h.p. Douglas, in excellent condition: £45.— J. Dooley, 33, Killyon Rd., Wandsworth Rd. Station, S.W.4.

DOUGLAS.—Large assortment of 2½b.p. second-hand models in stock, all fully guaranteed.—Ross, 86, High Rd., Lee, S.E. [5541

DOUGLAS Solo and Combination; regular mouthly deliveries tron November.—Lloyd and Son, 29, Station St., Lewes. [9583]

DOUGLAS, 23/h.n., W.D. model, C.A.V. mag, wants attention; 259/10.—Collier's Motories, Union St. South, Halifax. [6155]

1915 23(h.p. Douglas, 2-speed, just overbauled, and tank relined, perfect order; 50 gus.—18, Hawarden Rd., Colwyn Bay. [X1606]

DOUGLAS 2%h.p. Motor Cycle, good order: seen after 7 p.m.; #20.-D. MacNish, c/o J. Casselton, 17, George St., Romford. [6400

19 Douglas 2%h.p., 2 speeds, August, perfect condition; 72 gns., bargain.—10, Grena Gardens, Richmond, Surrey. [6595

DOUGLAS 4b.p. 1918 Model, 3-speed, kick start, like new: £85; seen any time.—29. St. Leonard's St., Bromley-by-Bow. [6386

GENTLEMAN has 23th.p. 1915 Dongfas, new, beautifully tuned, lamps, horn; £54.—Woodelyffe, Chislehurst, Kent, near Station. [6327

DOUGLAS 2%h.p., 2-speed, lamps, horn: £60.—Newn-ham Motor Co., 223, Hammersmith Rd., W.6. Phone: Hammersmith 80. 1916 23th.p. Donglas, 2-speed: bargain, 256; call any time, holidays included.—Clapham (Motors), King George St., Greenwich. [6137

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— Douglas machines from stock, 1920 models, solo and sidecar combinations. [6619

DOUGLASES.-Call at Smith's for your next Douglas.-Smith's, 10-16, Haverstock Hill, oppo-site Chalk Farm Tube Station.

DOUGLAS 24h.p., 2-speed, nacrated July, absolutely perfect, fully equipped, fast machine; £62,—Dentist, 216, Portobello Rd., W.10. [X1557]

23h.p. 1915 Douglas, just overhauled and enamelled, new tyres and belt and toolbags: bargain, £60.— Particulars, A. Moyse, Kessingland. [6434

1920 Douglas Models, Now delivering 2 h.p. 3 speed, £90; 4h.p. combination, £145.—Moffat Douglas agent, Yeovil. Phone: 50.

4 h.p. Douglas, 3-speed, kick starter confibration; s any, time, holidays included; £78.—Claph (Motors), King George St., Greenwich.

SMITH'S bave in stock new W.D. 2%h.p. Douglases at 70 gns.—Smith's, 10-16, Haverstock Hill. opposite Chalk Farm Tube Station. [0083]

DOUGLAS 1918 Combination, first-class order, with lamp, toolbags, and new siderar; bargain, £115.—262, Blackhoree Lane, Walthamstow. [6418

DOUGLAS 4h.p. Combination, late 1916, 3 speeds, clutch, kick start, new heavy Dunlops, grand order; £88.-63, Solon Rd., Brixton.

4 h.p. Douglas Combination, July, 1919, all accessories, spares, aluminium discs; £145.—Esmond, 21, Whitehead's Grove, Chelsea, London. [6508]

DOUGLAS, 1915, 2%h.p., 2-speed, thoroughly over-hunled, new back wheel and belt, good running order; £55.—Woodington, Marines, Deal. [6502

DOUGLAS 1919 25th.p., W.D., discs, footboards, small mileage, excellent condition; ride away; 80 gns.—Frink, Mooitau Barracks, Tidworth. [X1553]

10¹⁴ 25th.p. Douglas, 2-speed, Lucas lamps, Klaxon, aplendid tyres, all spares, tools, overhauled, renamelled, perfect; 270.—Sherwin, Teversall, Notts. (X1596

A34 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

Douglas

19 20 Douglases.—By one who knows; delay is daagerous.—Order yours now from the Douglas Specialist, Gibb, Gloucester Phono: 852.

19¹⁹ Houghes 2³⁴n.p. W.D., nukers' colours, Miller head lamp, tad light, claim cover, excellent condition; 64 gns.—Westdene, Beeches, Carshulton, [X1568]

SMITH'S for Second-hand 1916 25 h.p. Douglases, overhauled, from 50 gns.—Smith's, 10-16, Haver stock Hill, opposite Chalk Farm Tube Station. (0092

DOUGLAS 25,h.p., 1912, 1918 cylinders, pistons, and crankshatt, single speed, tyres good; £30, or nearest.—Howes, 2, Hertroid St., Cambridge, [X1676

DOUGLAS, 284h.p., W.D., unclated November, absolutely perfect, fully equipped, splendid running order; £73/10.-5, South Terface, Sawston, Cambs.

order: 273/10.—5, South Terjace, Sausston, Cambs.

16504

D'UGLAS 4h.p. Combination, equine No. 4550

frame No. 8579, T.T. bars, body royal blue, well
upholstered; any, examination; 90 gns.—56, High 8t.
Tooting.

DOUGLAS, 1914, just re-enamelled, thoroughly over-harded, stored greater part war, lamps, horn; £50, or near offer.—White, 12, Oakhill Rd., Sinton, Surrey. [6540]

DOUGLAS 1917 25th.p., 2-speed, in splendid con-born, pump, tools, spares; £60.—67, Little Heath, Charl-ton, S.E.

DOUGLAS, 1915, W.D., enumelled Indian red, lamps, pipes, swo tyres and tubes and carburetter, long exhaust pipes, sporty mount, very fast; £50.—Bennett, Hillview, [X1475]

2 3h.p. Douglas, 1914, in excellent condition, Bosch mag., Amac carburetter, 2 lamps, speedometer, horn, spare tube, tool, kit; £65.—C.K.H., Grange, Calne, Wilts.

DOUGLAS 4h.p. Combination, only ridden about 200 miles, lamps, Cameo wind screen, perfect.—Newn and Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80.

19²⁰ Douglas, 2⁵(h.p., 3-speed, Peace model, brand new, jast delivered from makers, never been ridden; best offer above list price accepted.—Lloyd, Mount St., Shrewsbury. [X1886]

DOUGLAS, 25(h.p., single-speed, good appearance, footboards, horn, new tyres (both heavies), good going order, take 2 anywhere; £29, no offere.—Stirling, Ollerton, Withnell, Chorley.

DOUGLAS 25th.p., 1915, 2-speed, T.T., disc wheels, long exhaust, lamp, Watford speedometer, mechanical horn, fast, sporting, good order; ±58.—All Saints Vicutage, Newmarket.

A CTTALLY in Stock for immediate delivery (no premium, brand new 4h.p. Douglas combination; first cheque secures.—Edwards and Parry, 4, Blenheim St., Bond St. Mayfair 2668.

DOUGLAS Combination, only ridden once, 4h.p., 5-speed, lamps, horn, trip speedometer, took and spares, overalls, gauntlets, etc.; £146.—99, Hamphrer St., Old Trafford, Manchester. [X1627]

19 17 Douglas 4h.p. Combination, 3 speeds, and clutch enamel and plating good, also tyres, sew siderar body: accept £92/10.—Edwardes, 277. Camberwell Rd., S.E.5 (near Green).

23b.p. T.T. Dougha, 1915, 2-speed, unused 3½ years at during war, waterproof coat, and pounds' worth of sparses, valves, chain, plars, etc.; 50 gns., or nearest offer.—172, Cross Rd., 6t. Heath, Coventry, [X1651]

DOUGLAS Combination, 4h.p., 1917, kick start, 3 speeds, engine perfect, cannel and plating as new, adminion footboards; any reasonable trial; seen any time; £95.—91, Mapledene Rd., Dalston, E.S.

BRANI) New Douglas Motor Cycle, in crate, just de hiered; 88 gns.: easy terms, quarter down, 12 monthly payments: cheaper if cash down.—Wandsworth Motor Exchange, Ebner St., Wandsworth (Town Station).

DOUGLAS 25th.p., 1915, 2-speed, enamel, plating, and tyres unscratched, solendid condition through out, complete with lamps, Klaxon, tools, etc.; owner ass delivery of 1920 model.—11, Waldegrave Rd., Faling, W.5.

DOUGLAS 4h.1. Combination, 1919, thoroughly over-hauled and guaranteed, complete, and ready to drive away: 4125.—Vivian Hardie and Lane, Ltd., 24. Woodstock St. cff Oxford St., Bond St., W.1. Phone: Mayfair 6559.

19 Douglas, 254.p., W.D., nct ridden 200 miles large P.H. head lamp and generator, F.R.S. rein tight, all unsed, long exhants, koeegrips, Tan-Sad with footrests, Klaxon, privately owned: appointment by letterst 8.55.—Marshall, 5. Burton Villas, Hove, Sussex.

DUGLASES, 1920 models—The noted house in the South for early deliveries. We are specialists and stockists for Douglas machines only for over 11 years.—Sole Datrict Agents, Thompson and Co., 403, Commercial Rd., Portsmouth. Phone: 7105.

THE MOTOR CYCLE .- (SUPPLEMENT V.) ACCESSORIES. PLUGS.

Government stock of slightly used plugs. Lodge, Stan and Lodge Aero, Schinx, K.L.G., Guaranteed uy us, 2/8 each. Post free. Trade supplied.

DISCS.

A'uminium, polished, to fi`nearl' every m ke of machine, 70/- set of 2 wheels. 38/- Sidecar Mrgan-£ifs.st3 wheels. Carriage 1/8 se'. Trade supplied.

LEG SHIELDS.

Po'ished Aluminium with fittings for any machine 35 - pair. Enamelled steel, black, 17/6 pair. Carriage

HORNS.

Genuine Klaxon, 36/-. Cowey, £3. Carriage 9d. Trade supplied.

SPEEDOMETERS.

Cowey for 26in, or 28in, wheels, \$5 10s; Bonniksen, \$5 5s.; Walford, \$4 15s.—Immediate delivery. Carriage, 1s. each.

ACCUMULATORS.

C.A.V., 4 v:lt, in metal case and leather handle, 17/6, complite,

carrage paid. REAR LAMPS.

Motex, 6/-: T.W.R., 6/6 and 8/6. Carriage, 6d,

Easting Wind Screens, £4 10s. Trade supplied.

M.A.G. Engines, 1920, w.c. 8 h.p. \$65-

Sidecars. — 1920 Models Mills-Fulford, Montgomery, Cancelet; ex stock. Montgomery Sidecar for Harley-Davidson, 28in, wheel and Dunlop yre, \$28 10s.

Maudes' Motor Mart 100. Great Portland St. London W. 1. 100. Paris St. Exeter.

Telegrams:
"Abdicate, Wesdo, London. Telephone Museum 557. Telegrams: "Combustion, Exeter. Telephone: Exeter 933



MOTOR CYCLES FOR SALE,

Douglas.

Douglas.

4 h.p. Douglas Combination (not run 50 miles), cora

4 pleto with storm aprone, prices and extended payment berms on application,—Harridos Motor Showtoons,
116-13. Brompdon Rd., opposite Main Building, Lon
108-108 pt. 108-108. don, S.W.L.

IT Appears Ridiculous to Advertise when you have no stock, but we are giving deliveries to the early birds. Place your order at once, it you want de-livery.—Eli Clark, boughas Agent, 196, Cheltenham Rd., Birds)

DOUGLAS, 1920, 25th.p., brand new, just delivered, 3-speed and hand clutch, beautifully fluished, conjuped all Lucas necessories, leady to tide; what offers? Seen any time.—Leggett, 306, Fulhan Rd.

DUTGLAS 4h.p. 1919 Combination, new, latest medel, hooter, and all tools; £145, or neurost offer; exchange light ear—Owen, £2, Fontarabia Rd., near (Shubar Common, S.W.11.

193 (Jother) 44.p. Donelas Combination (1920) Calibelly, Indiagne 400, 3 lamps, tools, born, Cameron and cultuin, storm aprox, all unsystehed, born, Cameter than new; £160, nearest.—Alebia, 66, Nimrod Rd, Streubam, S.W.

1919 Douglas Combination, purchased Oct. 10th, gnn, 2 kits of tools, new tyres and aluminium disca, 3-speed, kick start; take £120.—King, Harley, Argyle Corner, West Ealing.

DOUGLAS 22hp., 1915, T.T. model, disc wheels, a picture to book at, knee-grins, pump, vols, lams, horn, new tyres, tank, forthourds, dr., £80, no offers,—Speace, 60, Chuste St., Trowbridge.

DOUGLAS 25h.p. Twin, single speed, Bosch, Druids, large silencer, replated, re-enamelled, new Duoled, new Loudon Avon front. P. and H. lighting set, horn, footboards, guaranteed the running other; accress 228 gets it.—Peorson, 110, Marston Lone, Bedworth (X1791

gets it.—Peerson, 110, Marston Lane, Bedworth, (X1791)

19 (September) 4h.p. Douglas Combinution de Luxe,
with accessories as rollows: Speedometer, dises,
mirror, Lucas head lamp, Lacas head lamp on sidecar,
rear lamp (all accetylene). Estators wide screen, Orto head,
side curtains, and cover, variable Amac jet, 26 worth
of engine spures, spare new lumilop tyre (heavy), sidecar
mot, carbide case. Tun-Sad gillion seat and fittings.
Sterling mudshields; list price of all above egnals 2197;
everything is as new, and engine absolutely service of the control o

Diamond.

JACK HEALY, Cork. official Diamond agent.-Ro-tutional delivery. No premiums accepted. [6487 ERIC WILLIAMS, the Worcester Diamond agent.—
Delivery January of these famous lightweights.—
12, The Foregate, Worcester. [X1492]

Duzmo.

Duzmo, the sporting 35\(\frac{1}{2}\) h.p. single.—All enquiries Seed, 16, John Dalton St., Manchester. [6515]

Enfield, new 1920, 2-stroke, 2-speed model, in [X1797]

3 h.p. Enfield, 2-speed; bargain, £47, or near offer.— Clapham, King George St., Greenwich. [6138

19¹⁴ Enfield Combination, sound throughout, lamps, hora; £86.—89, Spencer Place, Leeds. [6523

Enflield 3h.p. Twin, just received from makers, at retail price £75/12.—Rose's Garage, Uxbridge. 23h.p. Enfield, Bosch, Amac, 2 speeds, grand condition; £45.—11, Cleveland Park Av., Walthamstow.

JONES Garage, special agents for Enfields, I way, Muswell Hill, N.10, and Woodside P North Finchley. Broad-

19 13 Enfield Combination, lamps, horn, speedometer, good sound condition; £100.—Ridge, 75, Oakfield St., Altrincham. (X1783

Enfield, brand new, 2-stroke, 214h.p., 2-speed, at makers' price; £63.—Wilkins, Simpson and Co., opposite Olympia, London. [6219

ENFIELD 25/h.p., enamel, plating, and tyres good, head and tail lamps, horn, toolbags, etc.; £20.—352, High Rd., Willesden Green. [6312

WAUCHOPE'S, 9, Shoe Lane, London, 1919 8h.p. Royal Enfield Combination, £165; 1917 com-bination, £155; 1913 or 1914, £87/10.

ENFIELD 1916 6h.p. Combination, Lucas la Dunlops, excellent condition; £130.—Cyril liams, Chapel Ash Depot, Welverhampton.

Entriel 51.p. 1915 Combination, 2-speed, just thoroughly overhauled, new Amac carbaretter, new back tyre, lamps and horn; £65.-100, Burnt Ash Rd. Lee, S.E.12.

ENFIELD 1914 6h.p. Combination, excellent condition, 5 lamps, 5 generators, 2 korns, tools, spares, wind screen, apron, etc.; £115, no offers.—Spencer, 60. Castle St., Trowbridge.

MOTOR CYCLES FOR SALE.

Enfield.

Ennetd.

ENFIELD 1919 2-stroke, delivered in May, all accessoriles, just overhauled and decarbonised, perfect running condition; £55.—D. G. Dyne, 40, Maddon Rd., Wallington, Surrey. [6311]

ENFIELD, 1916; Sh.p., 2-speed, kick start, speedometer, electric light, horn, tools, tyres good, overhanded, enamelled, ride away; offers over £65; oppoinment.—Olifonyille, Stumpcross, Halifax. [X1787]

Bengard Controlling, Stampoross, Hannis, (AF168)

B.D. Royal Enfield Combination, March, 1915, Dunhaw hills wind acreen, Bosah mag, oversize two ren;
new hills wind acreen, Bosah mag, (XI277)

W. Bartler, Clayton West, Huddersheld, (XI277)

ENFIELD Combination, late 1916, Sh.p., complete,
with speedometer, 3 lamps (electric), 2 borns
screen, hood, tools, etc., splendid minning order; £1361,

-Forsyth, 15, Belichy Terrace, West Hardepool, EM361 ROYAL ENFIELD sh.p. Combination, 1918-19 model, bood, screen, acetylene lighting, mechanical horn, only done about 500 miles; owner going abroad; offers wanted.—Box L6,303, c/c. The Mater Cycle. [6225]

1913 8b.n. Enfield Jap and roomy ceachbuilt sidecar, suitable for commercial-gent, turnout includer langs, hern, speedometer, tools, new spare tyre and a tabes, ready for the road; £97.—Redler, Cheddon Rd. Tannton.

1919 3h.p. Enfield Twin, 2-speed, K.S., P.H. lamus, large plated Handephone, mirror, Tan-Sad, spare tube, at tools, fully insured, mileage 500, perfect appearance and condition; £85.—Barratt, 43, Aked 8t, Adwick, Manchester.

ENFIELD Combination, 6h.p., excellent condition, respectively considered the condition rings, and new Enfield 2-speed gear, H.S., B. and B. Bosch waterproof, electric lighting; £80.—Halliday, 19, The Av., Andover, Hanni

Excelsion.

EXCELSIOR New 2-stroke 2-speed in

L ANCASHIRE, Cheshire, North Wales, Isle of Man only.-American Excelsior; enquiries.-J. Blake and Co., Official Dealers, Liverpool-Manchester. [6586

A MERICAN Excelsion.—Enquiries invited from the counties of Warwicks, Wores, Staffs, Salop, Leics, Derbys, and Notts, by sole Midland distributers, The Premier Motor Co., Aston Rd., Birmingham. [5555]

THF. New 1920 American Excelsior represents the best value for money on the market. Book nor carly delivery; fitted with Swan de Luxe sidecent—Edwards and Parry, 4, Blenheim St., Bond St. Mayfair 2666.

BEITISH Excelsior.—We can give delivery from stock of the British Excelsion 2-stroke. 2-speed, kick starter, hand-controlled clutch model, £691/17/6, American Excelsion 7-9h.p. in January.—Forfield Motors. 11-13, Forfield Place, Leaunington Spn. [X1279]

11-13, Forfield Place, Learnington Spn. (ALL),
A MERICAN Excelsion 1916 Combination, 7-9-pp,
A Merican mechanical intrication, and the emergency of the method of the meth

F.N. 4-cyl., leng flat exhaust, very speedy; £33.--20, Wellington Rd., Wimbledon Park, S.W.19. [6203 F.N., 4-cyl, mag., good tyrcs; gift, 25 gns.-Waods-worth Motor Exchange, Ebner St., Wandsworth (Town Station).

Town Station,

Fun, 4-eyl, 1915, drooped frame, 2-speed and clutch,
new cyls, and pistons, good tyres, mechanically

sound; 425-Block, Tynnibie, Appin.

G495

F.N. 1920 Models, Th.p. 4-cyl and 2½b,p. 2-speed
lightweight; orders now booking, Birmingham
ealy.—The Premier Motor Co. Aston Rd., Birmingham

- Forward.

23h.p. Twin Forward, Bosch, Amac, drip feed, good order; ride away; £30, or nearest—Sheldon. Wheatley, Oxon. [X1600]

Harley-Davidson.

JACK HEALY, Cork, official Harley agent.—Re-tational delivery. No premiums accepted. [6488 WAUCHOPE'S, 9, Shoc Lane, Fleet St., London.— Harley-Davidson 1916 combination, £150, [6623

19 20 Harley-Davidsons, electric models, in stock; list price.—Jones' Garge, Woodside Parade, N. Finehley, N.12. [6303

Finelier, N.12. [6303]

BROOK Bros., Burnhaut-on-Sea, are now booking orders for early Harley-Davidsoo delivery to 1220. Write for printculars.

BROOK Bros. have flat twin Harley in stock, also Model Fy list price; immediate delivery.—Brook Bros., Burnhaut-on-Sea, are now better the sea of the

1915-16 Harley Combination, 7-9h.p., electric model, lamps, horn, etc., just decarbonised; £125; exchange,—33, Holyeake Walk, Brentham, Ealing. [6313] HARLEY-DAVIDSON, Model F, solo, in stock; list price; earliest delivery of complete combinations.—Edwards, 7, Exhibition Rd., South Kensington. [5760] RIG

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Harley-Davidson.

MOTOR CYCLES FOR SALE.

HARLEY-DAVIISON and Sidecar, 1915 model,
Lectric-lighting, horn, not used since 1917, in
perfect order; 2130,—Brook Bres, Burnhamon-Sea,
HARLEY-DAVIISON, 1916, recently converged
in member, bittle used, excellent condition, sacrifice
for quick sale \$120,—81, Clareace Place, Newport

WAUCHOFF'S, 9, Shoe Lane, Fleet St., London, E.C.a.—7-9h.p. Harley-Davidson—new 1920 models, solo and sideag combinations, from stock. Officer, really new tyres, lamps, tools, and spares, 290, cater.—long, 92, Fernitann Rd., Lambett, 1628

HARLEY-DAVIDSON, 1919, 7-9h.p., Model F. new delivery from stock of one only; 9153/16/3 solo.—Elce and Co., 15-16, Bishopsgate Av., Cambiel St., E.C.3.

B ROOK Bros., Burnham-on-Sea, are sole agents for the new Harley-Davidson models, and specialise in service to the owner; book your order now for early delivery. Write for our new cotalogue.

HARLEY-DAVIDSON, 1920 model, sports, bracher, br

HARLEY-DAVIDSON Combination, khaki magnete magnete Harley, unsoratehed, all accessories, 2100; any trial or examination—Stevens, 184, Pentonville Rd, London, N.

ARLEY DAVIDSON Khaki Combination, mag, model, electric lights-bulbous back sidecar, hood and screen, fully equipped, best cambination on the road; 175 gns.—Smith's, 10-16 Haverstock Hill, opposite Chalk Farm Tabe Station

HARLEY-DAVIDSON, 1920, Model J, brand new, not yet been on road, 7-9b.p., 3-speed, chutch kick statter, dynamu lighting, and cleetrie born; eest 2160/14/5, accept 2155; owner boucht car; Cambridgeshire—liox 16,536, der The Mater Cycle. [6432]

HARLEV-DAVIDSON Combination, 1916, 7-9h.p.
genen, Tan Sad, Klaxon, electric and acetylene lamps,
excellent condition throughout, numerous tools and
spares, tyres new; any examination and trial; plated;
140 gns.—Tovey, Tetbury, Gloucestershire. [5560]

H.B.

H.B., 25(h.p., with famous Blackburne engine, 2-speed, kick starter, in stock,—Mess, Wem. [X1798 H.B. 1920 model, brand new, fitted with 2%hp. Blackburne engine, 2 speeds, kick sturter, hard clutch, still in orate; cost £89/15, accept £85; Cambridge district.—Box L6,337, cto The Motor Cycle.

Henderson.

19¹⁴ Henderson 4-cyl., good condition, just been overhauled, sporting sideour: £90.—Filling 56, Scabburne Rd., Boscombe, Hants. [6375]

ANCASHIRE, Cheshire, North Wales, and Isle of Man.—Bruquires for Henderson 4-cyl, wasted.

J. Blake and Co., Official Dealers, Liverpool-Manchester.

HENDERSON.—Enquiries invited from the counties of Warwicks. Wores. Staffs., Salop. Leies, Derbys., and Notts. by sole Midland distributers. The Premier Motor Co. Aston Rd., Birmingham. [5556]

Prenifer Motor Co. Aston RG., Diminiguose 1990.

[1] 19-20 - 4-cyl. Henderson Combination, Grindlay super-syring sideors, bood, screen, side cuttains, Lucas lames all reund. Lucas lames de respective and 2 spares, Cowey specioncter, 2 spare new tubes, all spania coccessories and tools, clubb anything, sweetest running cutrit on road, and fautiless, tooly videon 206 miles: illness reason for selling; 2235, or very near offer. Keen, Liverpool Rd., Stoke-on-Trent.

H OBART 1919 (June) 2/2h.p., 2-speed, splendid condition, 2 lumps and generators, horn, fully equipped; £55, or near effer.—Jusper, c/o Bremley Moter Works, Masons Hill, Brouley.

Humber.

HUMBER 27/h.p. Twin, 5-speed, clutch, lamps, born, etc.; £42.-12, Market Place, Glastonbury, [6342 HUMBER Twin. 3h.p., clutch, good tyres and appearance; £45. 262, Blackherse Laue, Waltham-

HUMBER, 6h.p., water-ceeled, 3-speed, twin combination; £98,-Halifax Meter Exchange, Union 16156

HUMBER 1914 51/h.p., 3-speed, clutch, kick starter, lamps, new tyres; \$52.—Heath and Wiltshire, Ltd., 42, Elms Rd., Aldershot. [6392

3h.p. Twin Humber, 3-speed, chitch, condition per direct enly wants seeing: 240; seen by appointment—Culium, 7, Woodstock Gardens, Goodangee Hiord.

HUMBER 1918 Twin 44/h.p., Phornix coachbuilt sidecar, clain drive, countershaft, clutch, Lucas lamps, etc., complete, splendid condition; £115.-6, Barker, Walpole St. Peter, near Wiebech. [6206

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1920 Competitions.

O it better" is a commendable motto for all to adopt at the commencement of a year. Especially is this true for 1920, as practically everything is in the melting pot, and in every sphere our aim should be to emerge with decided improvements upon old methods and standards.

The A.C.U. opens the year, first, by arranging and announcing a list of competitions for the coming year, and, secondly, by limiting the number of open competitions. In the former case, clashing of dates—a deplorable feature of last year's trials and competitions-will be avoided to some extent. In limiting the number of open events to twenty, a set programme is arranged from which manufacturers may select those best suited for their purposes of exploitation, and can make arrangements accordingly. The limiting of events will have another good effect. It will set a higher value on awards, and the remaining trials will, in all probability, be better run. In several cases, clubs in certan localities will join forces for the purpose of organising their trials; in consequence, a larger number of experienced officials will be available, and, since the importance of such events will be enhanced on the score of numbers and standing, they will take their duties more seriously.

Twenty Open Events.

At first sight, the limit of twenty open events does not appear to restrict the number over previous years-over 1919, at all events-but with new clubs and revived clubs coming into existence as a result of the ever increasing numbers of motor cyclists, the number of open events probably would have been greatly in excess of this had not the A.C.U. intervened. Such a contingency was not to be desired for many Too many trials reduce the value of each individual event, both as a test for gauging reliability and as propaganda for the motor cycle movement. Probably the support of the trade entrants would become less and less on this account.

On another page will be found a complete list of 1920 competitions—a formidable list, when the many closed but classic events are taken into consideration. It may be considered that the list is still too long. To participate that the list is still too long. in all, a manufacturer will have to maintain a special staff, which will be busily engaged throughout the year. Very few makers, however, will be interested in all, as many take notice only of trials, while others give preference to speed tests. In the list are included a number of Continental events, which. again, only interest the minority. taking the year's programme as a whole, it may be said that it is one likely to give satisfaction.

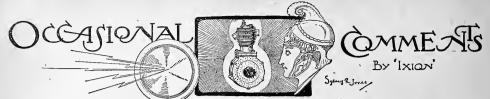
The Scottish Trials.

It will be noted that the Scottish Six Davs Trial is not mentioned, and, as this is not one of the twenty open events generally supported by the "trade." -one is constrained to wonder whether there is not a danger of some misunderstanding, such as existed last year. will be remembered that this muddle was no fault of the A.C.U., which body has no jurisdiction where the Scottish Trial is concerned, but rather that of the Manufacturers' Union, whose decision on the question of whether the trade should support the event was delayed. It should be pointed out that the twenty open events referred to are those allotted to clubs by the A.C.U.

As will be seen from the diary of forthcoming events, there is to be a revival of track racing, both the Brooklands Club and the British Motor Cycle Racing Club having several dates.

The first two events of the year will be the Colmore Cup Trial and the Paris-Nice event, both of which are to be held next month. It is to be hoped that both trade and public will support the programme, and that 1920 will prove a milestone in the matter of organisation.





Two Trips.

HAVE just dined at a friend's house. Dined very well, too. Neither are his cigars bad. But there is a fly in the ointment. In an hour or two I shall have to ride home. The month is Decem-The roads are ankle-deep in half-frozen slush. A nor'-easter is raging across the heath, with an edge on it like that described in safety razor advertisements. At intervals a mixture of hail, rain, sleet, and snow is falling. No sane man pretends that a motor bicycle is an ideal vehicle for such weathers. My, host will doubtless press me to stay the night. How I wish I could; but an early engagement to-morrow forbids. I shall throw a chest, and pretend that I enjoy such North Sea weather. Probably he will hear my teeth chattering as I go down the drive. Two miles away I shall probably puncture, in which case I shall certainly sit down and cry. My fate is all the harder because when I take my bicycle out of its garage, I shall catch sight of the snug little coupé which my host affects.

To-morrow evening a worse ordeal probably awaits me, for I must tackle a sixty-mile run, out and home. under conditions which will almost certainly be similar.

The moral of these reflections is that the monocar is worth far more attention than it has ever received. Quite a lot of monocars have appeared on the market at various periods. Some of them were original and promising. Soon after their debut various admirers suggested additions to the specification. Quite half the enquisies had reference to a second seat. Gradually the cost towered, and the equipment grew, until com-petition with the simple motor bicycle absolutely evaporated. I wonder what would happen if a firm brought out a first-class monocar of the simplest type, and absolutely refused to clutter up his specification with additions.

The G.W. Buckboard.

IKE its famous ancestor (the Orient), the G.W. Buckboard takes no stock of weather protection, It aims at providing the cheapest imaginable side-by-side transport for two persons, and it is, therefore, irrelevant to my present topic. I do not believe that all-weather riders are afraid of sideslip; and, if they were, a four-wheeled sideslip is much less controllable than a two-wheeled sideslip, though the latter is more easily provoked. I fancy that protection from cold and wet is the secret of the widespread hankering after a good monocar. Men's thoughts turn to three and four wheels in winter, because they despair of satisfactory weather protection on a two-wheeled chassis. I would not say that this despair is justified. Makers are at last giving us what a car designer would call an underscreen; and a somewhat timid and incomplete type of leg-shield is dawning as a standard

in several specifications. By degrees we may get protection as high as our waists; and then the accessory merchant may step into the breach with a detachable V fronted windscreen for mounting on the handlebars. Such a 'bus would fill the bill as well as any historic monocar, and might prove more comfortable, besides being cheaper. It might inveigle timid and elderly persons of small means into taking up winter riding, and the sideslip problem would then grow more acute, leading to an increased interest in three and four-wheeled machines with skidproof tyres. Lest I seem to be looking too far ahead, let us remember that the G.W. Buckboard may yet be fitted with an all-weather single-seater body; and in that case we should have realised a monocar, of the indicated type, selling at less than £100. I do not mean to imply that the real monocar market may not centre round something more sporting than a 31/2 h.p. four-wheeler, for the all-weather rider is usually a bit of a sportsman, and lets his machine rip when the elements permit. Still, even 3½ h.p. is capable of all the speed most men want in mid-winter, provided it is not slowed down by excessive weight and wind resistance.

Utility Motor Cycles.

O survey another fact of the same question, many authorities lay great stress on the utilitarian aspects of the motor cycle. The man who uses a motor cycle for business purposes is necessarily in a small way of business, otherwise he would use a car. A man in a small way of business can seldom afford to maintain separate forms of transport for the various seasons. If a motor bicycle is useless in winter, a motor bicycle is of limited business value. Broadly speaking, it is true that a motor bicycle is commercially useless. There are exceptions. I know men who do their journeys by motor bicycle when the weather is good, and by train when the weather is bad. I know men who use a car in bad weather, and save a few pounds annually by riding a motor bicycle on fine days. But, broadly speaking, the commercial utilityof the motor cycle is limited to the three-wheeled editions; and the grievous discomfort of a two-wheeler in really bad weather is the prime cause. Now there is a chasm between the respective economies of the motor bicycle, on the one hand, and the sidecar or three-wheeled runabout on the other; the two latter. are perhaps three times as expensive to run as a twowheeler. The economy of the two-wheeler as a business vehicle admits of tremendous exploitation if it can be adapted for use on 313 days in every year, i.e., if it can be made cosy for runs of moderate length in midwinter. If this task defies solution, the light, simple monocar is an alternative of perhaps greater promise and almost equal economy.

Occasional Comments .--

Actual Examples.

SPENT part of my holiday last year in a remote village devoid of all ordinary transport. Few denizens from the bigger world were ever seen there; the only regular links with civilisation were the doctor, the nurse, the postman, and an individual who was in the egg-and-chicken line, or something of that sort. The doctor used a car in bad weather and a Triumph two-stroke when the skies permitted. The district nurse used a ladies' model Douglas, but the managing committee lay awake at nights wondering what they would do if she got married; for they had the sense to realise that only an exceptionally plucky girl would stand such a racket through the winter; and if her successor refused to ride a motor bicycle, the alternative would be two nurses or half service. The postman carried such a heavy load that no motor bicycle could do his work; he used a horse and trap, which was regarded by the authorities as cheaper than a sidecar; but walked some six miles daily as well. The consequence of this mediæval transport was that letters arrived towards noon, and post went out at 3.30 p.m. The poultry-gentleman employed a motor bicycle in summer and a trap in winter. Of this quartette, the doctor, the nurse, and the "regrater" (as the poultry travellers are locally called) are all obviously candidates for the cheap and simple monocar, all unconscious critics of the motor bicycle as a utility mount. The postman's case is less definite. I fancy a good medium-powered sidecar would do his work more efficiently than a horse and a trap, including economy as part of efficiency. It is not certain that any monocar could interest him. This glimpse into rural life is interesting, since it shows a tiny population of 300 or so, in which three of the four people who daily travel distances too great for walking stand in urgent need of a monocar.

The Sequel.

KNOW several parts of rufal England with a fair degree of intimacy, and I have seen many such communities as I describe here pass through a regular series of phases in the petty transport which links them up to the rail and to the towns. A few years ago the ubiquitous horse and trap performed this service, and a fifteen-mile journey occupied some three hours, exclusive of stops (trap not very light, horse not very spry, roads not very flat). Presently, some youngster engaged in one form of transport or another bought a motor bieyele. In those early days it was seldom too reliable. It did not accommodate much of a load. In winter he hated it. But he noticed that he could do his fifteen miles in threequarters of an hour. His next step was almost invariably the purchase of a sidecar. This increased the maximum load, doubled the running costs, and left discomfort as you were, or more so. A long hesitation ensued. Motor transport possessed such obvious advantages. On the other hand, the motor bicycle was not poo, and the sidecar rather ditto. Finally, it dawned on him that, though a Ford would cost a lot, it would enable him to extend his business, and would be equally suitable in all weathers. So a Ford it was, if a load of half a ton had to be transported. But neither the doctor, nor the district nurse, nor the canvasser, nor the postman, nor the tallyman, nor a host of other inveterate travellers carry any load beyond a smallish handbag. For them the ideal all-the-yearround transport has yet to be produced. Will it appear as a monocar or as a motor bicycle with full weather protection? Probably the former on account of it standing on four wheels, and not being so liable to fall over and sustain damage in the hands of careless users. Where an individual or firm invests in a machine for the use of a servant, the monocar has certain advantages, as the single seat precludes joy riding.

A 16 h p. Flat Twin weighing $48\frac{1}{2}$ lb.

A French Harizontally-opposed Aero Engine, with Steel Cylinders and Overhead Valves.

THE Paris Aero Show contained several examples of small lightweight air-cooled engines of interest to the motor cyclist and the cycle car

owner. One of the most pleasing of these was the new Clerget horizontally-opposed twin. This engine has cylinders of 85 and 100 mm. bore and stroke respectively; it develops 16 h.p., and measures 28½ lb., and measures 28½ in. from tip to tip, and ir 1½ in height.

This is purely an aviation engine, built with lightness

and reliability in view, and with less consideration to cost than in the case of the ordinary motor cycle

engine. There is no doubt, however, that an engine such as this would be a most desirable power producer on a high-class cycle car. The cylinders are forged,

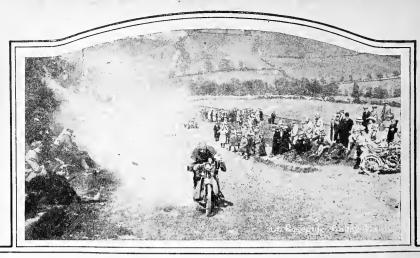
and are machined with their radiating fins; the two valves are mounted in the head, and are operated by push rods and overhead. rockers, and the pistons are of aluminium alloy. The crank case is an aluminium casting in two parts divided vertically, while the oil sump is an aluminium Î stamping. The crankshaft,

which naturally has



The 16 h.p. Clerget flat-twin engine.

two throws, is carried in roller hearings, and the big ends also have rollers. Lubrication is under pressure.



THE 1920 SIX DAYS TRIAL.

By FRED KEIR, Chairman of Newcas le and Dist. M.C.

Suggested Centres and Testing Grounds for this Year's Trial to be held in the North of England.

As announced in last week's issue of

"The Motor Cycle," the A.C.U. has

accepted the North-Eastern Automobile

Association's invitation to hold the 1920

Six Days in the North of England, and

therefore this article, by a prominent

Northern motor cyclist who is closely in

touch with the motor cycle movement in that

locality, cannot fail to interest. Mr. Keir

conveys a good impression of the topo-

graphical features of the North Country,

where undoubtedly there is material for a Six

Days course which will be as severe as any

part of the country where the classic trials

have hitherto been held.

AST year the North-Eastern Automobile Association extended an invitation to the Auto-Cycle Union to hold the 1920 Six Days Trial in the North, and the invitation has now been accepted. The Trial will probably take place next August, and the writer has been commissioned by the Editor to indicate the probable lines which will be adopted in

planning the trial, and to give some indication of the ground which may have to be covered by

the competitors.

There is a wide field for exploration, but at the outset we may profitably remember (r) that the A.C.U. Competitions Committee will probably rule out of court all routes of the sheep-track order, where the failure of any sidecar would baulk following competitors, and (2) that the overall length of each day's work must necessarily be limited to something under 200 miles, since such a mileage means a ten-hour day at legal limit, even when meal-

time stoppages are not taken into account.

Where should headquarters be arranged? Three towns were suggested—Hexham, Darlington, and Newcastle, and each has its advantages. Hexham would bring an interesting section of the Lake District into focus, and would also provide splendid ground of "lonely grandeur" description, in the direction of Slaley and Blanchland—a timbered village ten miles from a railway station.

Darlington would give a fine range of alternative routes, since the Cleveland Hills, and the sea-coast almost to Scarborough, would be within range, to say nothing of the manifold hills which abound in the County of Durham.

Newcastle—the choice of the Motor Cycle Board of the N.E.A.A. and finally of the A.C.U.—scores

heavily, because the city is so well provided with hotel accommodation that the nocturnal comfort of man and steed may be said to be assured. It is true that, at the moment of writing, Newcastle hotels are in line with other hotels all over the country in that bathrooms and dining halls are being utilised as bed chambers by needy travellers; but, six months hence, the pressure may have been relieved. The city, however, is less favourably placed than the other towns mentioned in the matter of difficult country; but is there, in the whole of the British

Isles, any stretch of public highway, of any considerable length, at which the modern motor

cycle would boggle?

Some time ago, when Mr. Hugh Mason put me astride a modern N.U.T., and said, "Now tackle some of the hills in Durham or Yorkshire, and let me know how the machine behaves," I went out like an up-to-date Christopher Columbus on a voyage of discovery, but had to return with a disappointing report. Ragpathside, Ferryhill, and even Sutton Bank, had been

The 1 20 Six Days Trial .-

so flattened out by an efficient engine that they seemed as level as a billiard table.

Probably every motor cyclist has his pet area. If I were to ask Mr. Fred Turvey, of Sunderland, where, in his view, the A.C.U. should put in its Six Days, it is almost certain he would immediately suggest the Cleveland Hills, for it is one of his hobbies to search out fine "stunting" ground in this area. Mr. Fortime, of Harrogate, on the other hand, would probably point out the virtues of the Pateley Bridge district, with its wide range of hills and its long and dreary drag up Greenhow Hill. Mr. Bowness, of Windermere (now of Newcastle), would be equally enthusiastic about the Lake District, and would talk about Towtop with its bends, its two miles of loose surface, and its gradients here and there of about 1 in 3. He would enlarge upon Hardknott and Wrynose between Langdale and Eskdale, about the Blea Tarn Pass out of Langdale, about Kirkstone, Honister and Buttermere Hause, of a stiff hill named Red Bank, near Grasmere, and altogether he would revel in fine praise of his native heath.

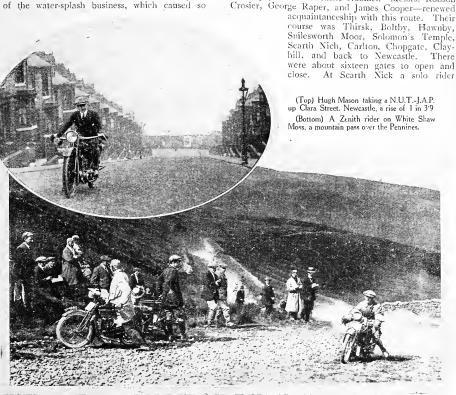
In parenthesis, may I express the hope that, if the Lake District be included, there will not be a repetition of the water-splash business, which caused so much ill-feeling when the A.C.U. visited this area in 1913. Acting on instructions, the mountaineer clubs dammed up the rivulets just before the Six Days Trial, with the result that competitors who knew the course in its normal state were compelled to splash through artificial lakes 2ft. deep, with disastrous effect upon their then vulnerable magnetos.

A Suggested Location.

Mr. James Cooper, Newcastle's competition secretary, rather ambiguously declared that Darlington was 'a good town to get away from,' whilst it had good hotel accommodation and any amount of room for machines in a one-time skating rink now converted into a garage. He suggested that, had Darlington been selected, it would have made possible (1) a day in the Lake District, (2) two days in the Pennine Range, and (3) two days among the Cleveland hills.

Of course, he has vivid recollections of the Bradford Trial in 1914. This trial was the outcome of a speech by the then president of the Bradford Club, in which a general challenge was issued to other clubs too pit themselves against Bradford. Four clubs took up the challenge, and Harrogate carried off the honours.

In 1917 three Newcastle clubmen—Messrs. Robson





The 1920 Six Days Trial .-

in front suddenly disappeared from view. There is a sudden dip, "almost like going down some steps," and at the foot of the precipice is a water-splash deep and wide. At another part is a hairpin, with the bend in the water, so that the continuation of the road can only be discerned when the machine is actually in the water. Altogether, this route abounds in surprises and the necessity for quick decisions.

There are some fine coast routes down to Scarborough, but Newcastle as the centre will rule these out as being too far away. Take, for instance, the road to Whitby, Sleights, up Blue Bank to Pickering, Helmsley, down Wass Bank into Coxwold, and up

Sutton Bank to Helmsley.

Or Saltburn to Whitby and over the moors to Scarborough, returning via Malton and Coxwold to Helmsley and home via Thirsk.

Some Objections to Newcastle.

As for headquarters, my own view is that, although we have some little "stunts" close at hand, so far as Newcastle is concerned, it will mean a twenty or thirty miles flat journey out each day before suitable ground is encountered, and either Hexham or Darlington would provide a better jumping-off stage.

Of course, we have the famous Clara Street in Newcastle: a stretch of 1,000 yards of 1 in 3.9, with a right-angle start from Scotswood Road, and no chance of a running jump. We have the ancient and horribly narrow Bottle Bank at Gateshead, but I doubt whether the police would permit this crowded bit to be included. We have Ragpathside a few miles out, in Durham County: at one time a famous test hill for motor cycles, but now an extinct volcano to a modern machine; and, further afield, we have the Rothbury Hills and the Cheviots; we have Alston, and a terrible "valley of dry bones," near Brough.

I once tried to cut out Brough on a ride from

I once tried to cut out Brough on a ride from Kirkby Stephen to Barnard Castle on a single-geared machine, but the miles I saved cost me about one hour per mile, and a tremendous outlay on "1.p.a." before

I got clear.

A Novel Suggestion for Observation.

Needless to state, the clubs in the North-east are on the alert, and a visit from the A.C.U. will certainly stimulate public interest. May I make a suggestion here calculated to enable good observation to be taken, even on the level ground, which Newcastle as a centre will provide. Why not pair the solo machines for observation purposes, sending out as partners the representatives of different makes, with instructions to report the various causes and duration of his partner's stoppages and general behaviour of the machine?

With sidecar outfits, pool the passengers, and give each passenger a form on which to report fully as above. Thus the competitors would be also given a semi-official standing, and I have enough faith in the honour of motor cyclists to think that they would provide faithful accounts of the proceedings.

I am well aware that to make use of the sidecar passengers in this way is not new, and, if I remember rightly, it caused some unpleasantness in the last trial in which it was introduced, *i.e.*, the Oxford to York

-Twenty-four Hours Trial of 1914.

The Motor Cycle Board of the N.E.A.A. has offered to provide Mr. Loughborough with a dozen alternative routes, out of which he may select five for the five days of actual riding. Those routes have not yet been drafted out, but at my request, Mr. Raper, of Newcastle, has drafted for this article-three possible routes which may be of interest, as he is our best known competition rider. Mr. Raper is one of the sub-committee appointed by the N.E.A.A.—and which also includes Messrs. Q. A. Nicol, O.B.E., and Walton—to prepare a preliminary selection of routes with Newcastle as the centre.

Day Run Route No. 1.

Newcastle to Chollerford (21 miles), a steep bank via Sewing Shields to Haydon Bridge (31), to Greenhead (43), turn right up Glenwelt Bank to Chollerford (60), up Brunton Bank to Stagshaw (6434), turn right to Corbridge and on to Hexham for lunch—a total

of 73 miles.

After lunch, via riverside to Chollerford, right angle up Brunton Bank, with no chance of a running start, to Stagshaw (10), turn left and along hilly Watling Street (the oldest road in the country, first constructed by the Roman invaders) to Elisham Bridge (29), via Otterburn to Elsdon (34), a sharp rise and long climb, very hilly, then down Billsmoor to Rothbury (45 34), up Lakeside Hill and Corby Hill to Alnwick (57 ½), and back to Newcastle for the night (91 ½). The grand total mileage for the day is 164½ miles.

Day Run Route No. 2.

Newcastle via Two Ball Lonnen or Clara Street' down Denton Burn, left to Scotswood Suspension Bridge, up Whickham Hill to Annfield Plain, via Lanchester and Satley Hill to Wolsingham (23¼), via Killhope te Alston (49½), back on the Hexham road to Whitfield (58½), turn sharp up steep hill, continue via Thornley Gate Hill to Allendale (63), and on to Hexham for lunch—a total of 73 miles.

After lunch via Slaley to Blanchland (12), down

After lunch via Slaley to Blanchland (12), down Crawley Hill to Middleton-in-Teesdale (26), Westgate (41), main road to Wolsingham (52 $\frac{1}{2}$ /2), via Ragpathside to Lanchester (64 $\frac{1}{2}$ /2), and Newcastle (76 $\frac{1}{2}$ /2). A total for the day of approximately 149 miles.

Day Run Route No. 3.

Newcastle via Durham to Stockton (34), Stokesley (44), Carlton (48) via Carlton Hill (climbs and water gulleys) to Chopgate (53), over Newgate Hill to Helmsley (65), down Wass Bank, up White Horse Hill to top of Sutton Bank, down Sutton Bank to Thirsk for lunch—a total of 81 miles.

Thirsk to Boltby, up Boltby Bank to Hawnby (10), via farmyards and many gates and water-splashes to Solomon's Temple (22). "down some steps" to Stokesley (36). via Sunderland to Newcastle, a total of 80 miles; making 161 miles for the day.

Mr. James Cooper, of Newcastle, is responsible for

the following suggested route:

Newcastle to Darlington (33½), Scotch Corner (42), Leeming Bar (53), Baldesley Gate, Ripon (56½), Pateley Bridge (79½), Grassington (90½), Aysgarth (109½), Richmond (128), via Darlington to Newcastle—a total of 177 miles. This route includes some severe climbs, as the ascents of Greenhow (from Pateley) and Cray (at Buckden) and the precipitous descent of Kidstones Pass to Aysgarth.

A Well-designed Lighting Dynamo

The Miller 6 v. Generator intended for Small Cars and Sidecar Outfis. It has a Novel Method of regulating Output.

O NE of the most practical and wellfinished small lighting sets we have yet been privileged to inspect is that manufactured by H. Miller and Co., Ltd., the well-known lamp manu-

On, thus, the well-known family manufacturers, of Birmingham.

Owing to careful design and high finish the dynamo size and weight has been cut down until it scales barely 10 lb., mid as the output is practically freed from large fluctuations at all normal speeds by a self-contained magnetic arrangement, no external or bulky mechanical or electrical regulators are required.

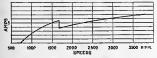
Very Small Battery Required.

Another great feature of the device is its cool running, which is again largely due to the use of the magnetic control incorporated, while, furthermore, the voltage being to all intents the same throughout the normal speed range, and a useful output for charging being obtained at very moderate engine revolutions, only an exceedingly small battery is needed; the size actually used being of 6 volts 12½ amp, hour capacity.

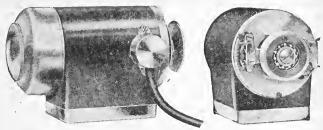
Describing, first, the mechanical arrangement of the generator; it is of normal shunt wound type, devoid of any complications in the way of extra brushes, resistances, or external regulating devices. The overall dimensions are quite small, the size of the machine being about 6in. in extreme length, and 4in. in height and breadth.

Magnetic Control.

In running at ordinary speeds the generator acts in the same manner as other dynamos of its type, but on reaching a pre-determined output the magnetic control comes into operation. and the amperage of the current is reduced. The control arrangement is not only unique, but is decidedly simple. The magnet is of the circular form associated with dynamos of this type, but the base of the casting has an annular groove, in which is located a second shunt coil in series with those which surround the poles between which the armature runs. Laid in the aluminium bottom plate of the dynamo is the regulator plate—a loose piece, of iron held away from the base of the magnet by a short and stiff compression spring.



A typical output curve. The effect of the regulator is clearly indicated at a speed between 1,600 and 1,700 r.p m.



Two views of the Miller electric generator—one showing the complete machine and the other showing the end cover removed, exposing the commutator and brush gear.

When the speed increases unduly the flow of current through the shant coils increases to such a degree that the increased power exerted by the magnet overcomes the resistance of the spring, and the plate is drawn into close contact with it. Another magnetic circuit is thus formed, and, in addition to the main flow of lines of force through the armature, a second flow passes through the regulator plate. Since two narrow parts of the magnet casting are common to

The out ble wiring lead from the dynamo, which obviates bendang the cable.

Triggers controlled by balanced springs provide a direct pressure on the commutator brushes.

both circuits, crowding of the lines of force occurs at these points, with the result that the intensity of the magnetic flux passing round the main circuit and through the armature is considerably reduced. Electrical output, of conrse, is dependent upon the number of lines cut by the armature coils, and, in consequence, the value falls the moment the subsidiary magnetic circuit is initiated.

The effect of the action of the controlling device is immediately seen on the ammeter, when the dynamo is gradually speeded up, and is clearly shown on the accompanying curve. Mechanically, the

Mechanically, the Miller generator is beautifully made, and the brush gear is both simple and substantial. It was particularly noticeable that commutation to all intents and purposes

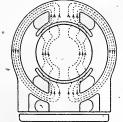
was sparkless, even at speeds corresponding to 60 m.p.h. on a machine with average gear ratios. The brushes, of which there are two, are held up to the commutator by spring triggers, which are balanced in such a way as to provide a direct axial thrust. Ball bearings of ample size are provided for the armature spindle, which is driven by belt or chain at one-and-a-half times engine speed.

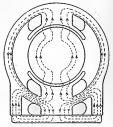
Detail Finish.

Several little detail refinements are noticed throughout the set. Thus, the lamp connections are secured in such a way that there is no strain on the terminals of the cables, which are clamped rigidly m place. A similar construction characterises the wiring lead from the dynamo itself, the cable being firmly clamped in a fibre block covered by a plated cap. It is then secured in a circumferentially slotted circular housing, in which it can be swivelled to any angle, so that no matter what the position of the dynamo, the cable may always be led away in the required direction without loose or untidy bends.

A Smaller Solo Set.

In its present state the lighting set is more suited to runabouts, small cars, and luxurious passenger outfits, but a still neater generator and fittings is being got out which will be specially suitable for solo motor cycles. The whole production scheme is not yet evolved, and meanwhile a large and up-to-date factory is being erected for the manufacture of all Miller electrical equipment.





Diagrams showing the shape of the magnet in the Miller dynamo. The magnetic flux is shown with and without the regulator plate in action.



Pleafor



Left and right show the largest twins used on British machines—the Elackburne (998 c.c.) and Rudge (998 c.c.) (Centre) The Reading Standard (1,170 c.c.), the biggest tw'n-cylinder motor cycle engine.

The Question of Efficiency and Attention

TF we look round the motor cycle manufacturers' drawing-offices to-day, shall we find a tendency creeping in to push up engine size and to lighten things considerably all round? The whole question of what types will become favoured rests to a great extent on the degree of familiarity with which riders have become accustomed to

regard various motor cycles during the long years of war, both at home and on the battlefield.

Before the war, competitions, trials, and races made us very familiar with the 3½ h.p. machine for solo work, and the larger twin for sidecars, with the result that the average man had a fast 31/2 h.p. for his solo riding, and the sidecarist was content with a 'bus

of 6 h.p. or 8 h.p.

War conditions have made it apparent that power is a very desirable feature; but power and reliability are absolutely necessary. The war-time 'bus has been so sifted and "screened" that power and reliability go together. Our engines have gone up in power: the 3½ h.p. "Trusty" has become 4 h.p., the 4 h.p. "Dugger" has become a finished and accepted fact, and the big V twin has been doing war service with great success, in spite of some adverse opinion on the subject. And last, but not least, the 1,000 c.c. limit; which had become self-imposed upon the motor cycle trade, is being regarded with suspicion. American designers have produced some very good machines with engines exceeding the 1,000 c.c. limit, both in twins and "fours," and riders of these give them a character which makes one think. How would you like to ride 13,000 miles without decarbonising? And how would you like to do this distance on an average. petrol consumption of 65 m.p.g. and an oil consumption of 750 m.p.g.? This has been done on a big American twin by the writer, who used the machine for war work in this country; and the engine has plenty of power in it yet, in spite of hard work and many months' neglect.

The Tune of Newness.

As a rule, an engine loses that velvety feel of tune and newness within the first six months of its workaday life, but this varies, of course, with different machines: I say "machices," because horse-power, gear ratio,



Do Small Engines Require Greater Care?

weight, engine control, and driving make a big difference to the life of an engine. Thus one 6 h.p. twin will run for a remarkable time before its engine and transmission begin to give little signs of the inevitable, while another machine of similar size and weight will pull all its velvet off in a very short time, simply

because its designer has not gone into the finer side of the general layout, such as a properly designed cush drive; gear ratios tried out to determine the engine's needs with regard to its revolutions and pulling powers; and, if it be a component engine, such as Messrs. J. A. Prestwich make, it brings something else to bear on the subject: for example, there are two 8 h.p. J.A.P. engines, one "square" engine and one having a short stroke, the former very suitable for long service as a heavy passenger pusher, and the latter more suitable for the road-burning person who crackles along the stretch of macadam just before he reaches the "Hut" at umpty miles an hour. Many a complaint of undue engine wear has been caused by manufacturers carelessly putting light and high-compression engines into heavy passenger outfits, andexpecting them to run satisfactorily in the hands of the public. Of course, they do so in expert hands.

Larger and Lighter Engines.

The idea in causing my readers so much brain fag on the subject of engine shell shock is to put forward my plea for larger and more lightly built engines for hard work. In the newest type of London 'bus the engine power has been increased and the whole unit lightened in order to make a faster running affair altogether; and the tyres—but my readers can sample them on the London streets. The new engine is a large one, 35 h.p., but it serves to show that for work and endurance the designers of these hard-working vehicles find themselves in need of an engine which is on top of its job. The fact of the matter is that our prewar motoring fraternity consisted to a great extent of men who understood the mechanical side of the pastime and, like all people who specialise, they wanted to get big power out of a small plant.

. The result was that manufacturers did not embark on the line of larger engines which obtains in America,

A Plea for Larger Engines .--

and we have small power units which, although they are unrivalled throughout the whole world for mechanical efficiency in power output, are, I venture to say, too small for real hard work and twelve months' neglect. As I have to work very hard for my living I may perhaps be forgiven for neglecting my machine for a year or so.

Scanty Attention.

I have only decarbonised once in two years, and when I took the valve caps out recently there was no carbon to speak of on the pistons and cylinder heads; now I do not think that a 6 h.p. twin would do the mileage (13,000 miles per annum) without needing much more frequent cleaning. In addition to this, the engine has never had any replacements in the way of bearings, piston rings, or valves, and the compression is still good, and no undue wear on the bearings is apparent, "all of widge," as Mrs. Gamp might have said, shows that a big engine is not by any means a dud proposition.

You may argue that this country is flat, and big power is not vital to a successful machine, but you cannot get away from the fact that when an engine is well over its job it is like a locomotive "running light "-it runs all the while, and would give great results to the man who wants comfort, speed, and absolute reliability; together with the greatest asset of all—satisfactory service. To test the reason of these words, use the advice of a well-known manufacturer: "Ask the man who owns one." JAY GEE.

PROTECTION FROM MUD AND RAIN.

A Light Coupe Sidecar Body on a Folding Chassis.

CIDECAR passengers are getting more exacting in their demands every year, and he is indeed a lucky motor cyclist who can thoroughly satisfy his passenger. Even with the introduction of hoods and screens, the requirements of many lady passengers

are not quite filled. If one fits a screen, then it is found that there is a slight draught on the inside, and a slight draught is worse than half a gale, so side curtains are arranged. Then before many days a hood is fitted, and, like all Cape cart hoods, it is found exceedingly difficult to exclude draughts from the side or between the gap. between screen and hood.

Mr. Atkinson, of 84, Mickleton Rd., Coventry, has tackled the passenger-comfort problem and has solved it by a coupé sidecar. He has also attacked the question of leg - guarding, and here again he has successful,

although perhaps at the price of appearance. illustration shows this motor cyclist's 6 h.p. Rex fitted up for the winter.

A Coupe Sidecar Body.

The coupé is qui one of the best looking bodies we have seen. Usually, such bodies have a very box-like appearance, which is absent here. All windows are glass, and the two side lights are made to drop into pockets. A child's seat is also provided, which was illustrated in our issue of December 4th (page 733).

One would naturally conclude that such a body would be unduly heavy, but this is not so. In fact,

Mr. Atkinson uses a folding sidecar chassis and removes the body every time he returns from a ride.

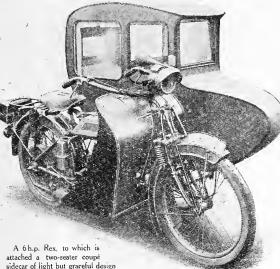
The leg-guard is built up of threeply wood and American cloth, and, while a good number of riders would not care to fit such a guard on the score of appearance, there is no doubt about its effectivenessin fact, it is perhaps surprising that some such device has not been made by enthusiastic London-Exeter competitors

 II'^{α} understand Mr. Atkinson is prepared to make a limited number of his coupé sidecar bodies should

any reader of The Motor Cycle require such a vehicle. The fact that private motor cyclists go to the trouble and expense of providing means to combat weaknesses of standard design reveals the need for greater attention on the part of designers to these questions of

comfort. We think a little experimenting will prove that a draughtless sidecar can be produced without

resorting to a coupé body.



USEFUL EQUIPMENT FOR MOTOR CYCLES.

A Selection of Useful Novelties for the Motor Cyclist's Needs.

Economical Storage.

CHARGES for the garage of a motor cycle are so high at the present time that any building, however small, which will just house a motor cycle, and may be purchased at a moderate price, is bound

to interest our readers r Messrs. D. Parker Wheeldon and Co., 126, Bishopsgate, London, E.C.2, have lately placed upon the market various sizes of motor cycle "Flexproof," a flexible glazed waterproof canvas attached to a wooden frame. The buildings are sent out complete with fastenings, and when erected are rigid and stable in any wind. Each side is hinged to the next, and the roof is hinged in two parts, so that any side or sides may be opened simul-taneously, and no matter how heavy may be the machine, it can be easily handled.

These buildings may be had with floors at a small extra charge.

The same company are also prepared to quote for full size motor cycle houses, constructed entirely of wood.

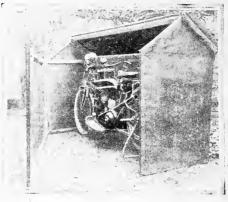
A Child's Sidecar Seat.

There are quite a large number of motor cyclists who have to provide accommodation for a child, and nuless a special two-seater sidecar is used, usually



Famous child's ceat for sidecars.

the methods applied are of the makeshift order. It is not everyone who desires a two-senter sidecar, especially if the child be, say, under five years of age. On the other hand, it is fatiguing for the passenger to "nurse" the child,



Portable motor cycle shed of waterproof canvas.

Mr. S. Banton, of 4, Windsor Street, Coventry, has overcome these difficulties by providing a detachable child's seat, which can be fitted to almost any coachbuilt sidecar without structural alterations, except the fitting of a metal socket in the floorboards. Into this is placed a tubular standard supporting the seat, a coil spring being interposed to absorb any vibration at this part of the sidecar floor. The seat itself is circular, and consists of a well-made spring cushion, at the back of which are two eyes; through these are passed the two uprights supporting back rest. The price of this seat, which is exceptionally well-made and finished, is 45s.

An Ingenious Motor Cycle Repair Bench.

All motor cyclists who repair their own machines, and who are fortunate enough to own a motor

house, know how tiring it is to work continuously at a machine in stooping position. For this reason all works are equipped with special benches, on which motor cycles are erected, but few amateurs have taken the trouble to make these benches, and when they have made them are unable to get the modern machine in position on them without assistance on account of its weight.

The patentee of the beach illustrated has overcome this difficulty, and, moreover, he has made his bench so that when out of action it may be stood up in a corner of the motor house, and will occupy very little space, as the legs fold close up against the table.

fold close np against the table.

The bench is provided with a neat little drawer, in which tools or odds and ends may be stored.

The repair bonch is at present handled by Messrs. A. E. W. Gwyn, Ltd., 5. Budge Row, London, W.C.4.

A British-made Mechanical Horn.

It is gratifying to note that the number of motor cycle mechanical horns which are being made in this country is increasing. One of the latest is that sold by Messrs. Ramsay Brothers and Co., 245, Oxford Street, London, W.1. The



A mechanical horn sold by Messrs Ramsay Bros. and Co.

mechanism is contained in a brass casting, and it is of extremely simple construction, consisting of a serrated wheel driven by a rack and pinion, the pinion being rigidly fixed on a cross-shaft. On the same shaft the serrated wheel is loosely mounted, and is provided with a pavl with which the pinion engages, allowing the wheel to be driven in one direction only, the return of the rack having no effect.



Portable erecting bench marketed by A. E. W. Gwyn, Ltd.

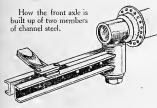
MOTOR CCLE

A Light Four-wheeler.

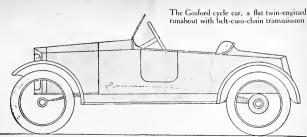
A Sidecar Alternative on Well-tried Lines.

WHEN a belt is used in the transmission of a cycle car it is usually the rule to make it the medium of the secondary drive, the primary being by chain. This was the "standard" practice of all those pseudo-designers who tilted at the cycle car problem in 1911 and 1912, but one large firm reversed the order of things, and made the belt serve as the primary drive with a chain to the axle.

At the time this system was subjected to derision on the part of those who took the motor cycle as its pattern, but it was recognised by *The Motor Cycle* that if a combination of chain and belt was to be adopted successfully for propelling light four-wheelers, then the beth should be used under more ideal conditions than those



that prevail when comparatively slow belt speeds are used. Belt drive can be made perfectly satisfactory if it is run fast. By making it the primary drive, not only is the speed high, but it is not subjected to the load as when it is the secondary transmission. Further, when a second or a third ratio between engine and road wheel is used the speed of the belt is not decreased, which is the case



when the belt is used from the countershaft to the road wheels. In the latter system the speed of the belt is lowest when the greatest efficiency is required.

when the greatest ethiciency is required.

Mr. W. E. Boyes, of the Gosford Engineering Co., Stoke Green, Coventry, in evolving his simple runabout evidently agrees with us on this point, for the transmission of his vehicle is by lin. belt from the engine to the gear box and by single chain to the live rear axle. By doing this Mr. Boyes secures one other advantage not previously referred to, viz., the removal of one of the chief objections to the use of a primary chain drive, i.e., its noise. The belt can be run quite slack, and, being under a light load, it is claimed that belt slip and broken fasteners are eliminated.

Unusual Frame Construction.

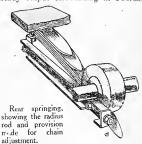
The experimental Gosford cycle car we have examined is a neat little runabout, and the "production" vehicle will be even neater. As will be observed from the illustration, it is nicely proportioned A Coventry Victor air-cooled flat twin is used as the power unit, and this is

A Coventry Victor air-cooled flat twin is used as the power unit, and this is placed with its crankshaft across the frame, driving a modified Sturmey-Archer gear box fitted with a hand-starter operated from the seat. From the gear box the drive is by a comparatively short chain to a live axle supported in large ball bearings, the mountings of which

carry quarter-elliptic springs. Radius rods of angle steel are also connected to the ball bearing bousings in a manner permitting of easy chain adjustment.

The frame is of channel steel with cross members of the same form, which is also used in the construction of the front axle. The latter is rather unique, and consists of two steering heads having flat arms on their sides which are riveted to two channel members placed back to back. Quarter-elliptic springs are used also at the front. The weight is 5 cwt.

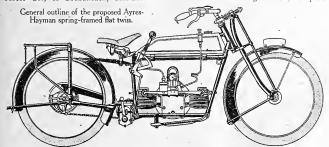
We are advised that the price with hood and screen will be £160, and that arrangements are well in hand for a small but steady output commencing in February.



A SPRING FRAME OPPOSED TWIN.

A LTHOUGH at present in very little more than "the paper stage," the Ayres-Hayman motor cycle, illustrated, will shortly be placed on the market by its designers. The Viaduct Motor Co., of Broadheath, Manchester.

Its chief feature is its spring frame. This frame is of the duplex type, carrying the Coventry Victor engine on parallel members. A single top tube is embodied, which is enclosed by the saddle tank. The engine unit, complete



with silencer and footboards, may be removed by taking out two bolts only.

Probably the most interesting point in connection with the design is the fact that the rear wheel frame is hinged in front of the gear box. This means that, while in most designs the rear chain is constantly varying in tension with the movement of the wheel frame, in this design it is the front chain that is affected. In fact, the variation would be negligible, even with the full movement of the wheel. This system, of course, increases the unsprung weight, but the gear box is located so near the spring portion of the frame that its effect should be negligible.

The specification includes Coventry

The specification includes Coventry Victor flat twin engine. 75×78 mm. (688 c.c.), T.B. magneto, Brampton Biflex forks, 28×5in. tyres, and XL'All H27 saddle. The gear box has been designed by Messrs. Ayres and Hayman, and will be described later. The price with side-

car is 148 guineas.



UR roads have latterly carried an unusually high percentage of inexperienced motor cyclists, and these notes are inspired by what the writer saw during a summer tour. We are permitted by a lazy Government to take high-powered projectiles on the public roads without any previous training or instruction; and since very few of our highways are really suited for fast traffic, it is surprising that more accidents

RIDING HINTS FOR BEGINNERS.

An Expert's Suggestions, chiefly Concerning the Art of Cornering.

BY ROAD RIDER.

Quite experienced riders are sometimes at fault in approaching a sharp or blind corner, especially if the corner turns to the left. Legally, of course, we are supposed to approach corners on the near side of the road, i.e., the left hand. But we soon find that if we hug the near side of a blind left-hand corner, we get a very poor view round it. So some men form the habit of approaching a left-hand corner rather wide, i.e., on the centre of the road, or even a little over towards the off or right-hand side, under the supposition that this approach gives the best view, and gives

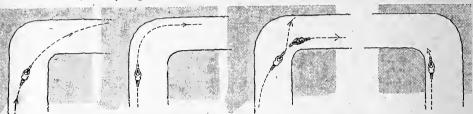


Fig. 1.—"Cutting" a corner

Fig. 2.—Correct way of taking a right-hand corner.

do not occur. These notes cover a few points which

Fig. 4.—" Hugging " a left-hand corner. Wrong, because ride gets no view till too late

plenty of freedom to act in emergencies. That is very true. It is equally true that if a flustered novice meets a rider who is approaching a left-hand corner wide, the novice may quite probably cut across to the inside of the bend. The expert will simultaneously turn in to that side, and a pretty smash will result. Under no circumstances, therefore, should a rider quit his proper side of the road in rounding a blind corner. He should not hug the near side of a left-hand bend; but he should not swing out as wide as the centre of the road, or

would form part of a licensing examination if we were better governed.

How to take Corners.

The first essential in road work is the ability to take corners properly. The commonest cause of accidents upon corners is "cutting," which may lead to a smash at a very easy bend if two fast vehicles are concerned. Fig. 1 depicts this evil but common practice, and fig. 2 shows the rider's correct course. "Cutting" is

usually due to thoughtlessness -the rider takes the shortest way without considering what will happen if he meets another machine which is keeping on its proper side; this contretem bs is indicated in fig. 3; the "cutter" is forced outwards by the correct rider, and his only safeguard depends on his being able to stop; if he is travelling at all fast, he cannot wrench his machine round far enough to negotiate the bend after swinging past the machine he has encountered.

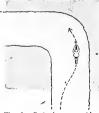
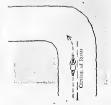


Fig. 5.—Swinging too wide round a left-hand corner. Rider is on his wrong side of the road.



trespass on the off side of it.

Fig. 3.—The " cutter " meets another machine and is forced into the hedge.

Fig. 6.—Correct way of taking a left-hand corner. Rider is swinging wide without quitting his proper side.

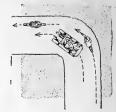


Fig. 7.—Overtaking another vehicle on a corner is unpardonably reckless.

Riding Hints for Beginners .-



Fig. 8.—When motor cycles had single gears the correct way of taking open hairpins was as in fig. 8, to avoid the steep gradient indicated by the shading.

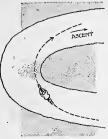


Fig. 9.—But open hairpins are often taken as in fig. 9, as horsed traffic may have cut up the outside of the

Overtaking at a Corner is Dangerous.

Another fertile source of accidents is overtaking round a corner, as shown in fig. 7. For many years all trials regulations imposed heavy penalties for this corrupt practice, though I do not recall a case of such penalties being enforced. The sketch demonstrates that if a third vehicle meets the two which are passing each other on a bend, an accident is inevitable unless two of the parties are travelling so slowly that

they can stop dead.

Broadly speaking, safety on corners is a matter of low speed. It is not an uncommon experience to meet a big vehicle driven so carelessly that an instant stoppage on the very brink of the ditch is one's only resource, even if one is driving perfectly. Beginners should remember that we can never count with certainty on sufficient fairway for even such a narrow machine as a motor cycle. Sheep or cattle or a motor char-à-bane may fully block quite a wide corner. A farm waggon or a Ford car may seal up a bend in an ordinary lane. Very slow driving, a correct course, and plenty of hooting are the best insurance policies round corners.

Open Hairpins on Hillsides.

The only exceptions to the standard rules of cornering occur on open hillsides, where the complete course of a very bad hairpin is fully exposed to view. The proper method of taking these hairpins, several of which will figure in any modern trial, has completely changed of late years. A few years ago we tackled these terrors on single gears, and our main anxiety was to prevent the combination of gradient and corner from causing our engines to konk out; the bend slowed us down to 10 m.p.h. or so, and the gradient then stalled the engine, which at low road speeds developed



Fig. 10 -Cross section of a country lane which requires care.



Fig. 11.—A triple-rutted lane which is very difficult to negotiate.

Nowadays we have bottom a minimum of power. gears of 12 to 1 or so, and we need no longer take the longest path round a hairpin in order to avoid the i in 3 grade across the elbow. Consequently our business is to change into bottom gear as soon as we approach the hairpin, and then determine the course simply and solely by the surface. Surface affects us in two ways; in the first place we desire the back tyre to grip, which it cannot do upon grease, big stones, or heavy mire. Secondly, it is not easy to steer a 3 cwt. machine at 8 m.p.h., so we must avoid the rougher bits for fear of our steering becoming uncontrollable. Generally speaking, the long way round a hairpin is usually the roughest, because descending and ascending horse traffic avoids the inside of the elbow and cuts up the wide swing.

Treacherous Roads.

The less easy types of surface are full of terrors for novices—grease, tramlines, and the like. But I devote no space to the more obvious dangers, since everybody knows that turns and variations of speed require caution on grease, and that tramlines should only be crossed at a blunt angle. Fig. 10 indicates a very dangerous type of road, which sooner or later catches most novices napping. In cross section it consists of a high, broad crown, with deepish ruts on either side, and is unusually common just now, as the stone men have not levelled up the ruts during the war. The beginner sees that the centre is fairly wide, and he travels fast. Sooner or later a big stone

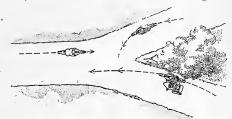


Fig. 12.—Illustrating a dangerous point where three roads meet.

or a moment's carelessness jerks him off the crown into one of the ruts, and he enters the rut with a wobble on. When he tries to correct the wobble, his front wheel hits the side of the crown at an acute angle and is more or less chocked: if the machine is travelling fast, the rider will inevitably come off. Fig. 11 illustrates an even worse type of road, made of such soft stuff that the horses feet have cut a third rut down the centre. I know of no graceful or comfortable method of tackling such a stretch: slow speed with trailing feet is about the best we can manage.

Contrary to general belief, the easiest method of tackling rough stony going, such as we meet on moor-land tracks in open trials, is to take it fast. Some courage is required at the first experiment, but it soon educates the rider. When first confronted with a patch of real A.C.U. going, the novice slows down. Each hump, stone, or pot-hole deflects his steering at the low speed, and his progress is a spectacle for gods and men. Tackle such a piece of road at double or treble the speed, and the heavy machine will plough

Hints for Beginners,-

resistlessly through with a steady helm. Of course, such work is bad for the tyres and wheel rims, and is sure to shake loose any part which is not properly_



Fig. 13.-Another dangerous road junction.

secured; wherefore it is wise to inspect the machine minutely at the end of such a section.

Road Junctions.

These notes may well conclude with a special warning about places where three roads meet. The merest pinch of road experience teaches a man to be careful where four roads meet, and broadside collisions destroy the impatient. But a three-way road junction presents more subtle problems. The special peril lies in the fact that the angles are often easy, and that two riders may meet at quite high speeds without any danger arising; but possibilities of trouble are always present if three riders reach the junction simultaneously from opposite directions, whilst a man who is coming down one arm of a Y and intends to turn back up the other arm is often in a very helpless position if anybody plays the fool. The sketches make obvious some of the more perilous possibilities which may arise at such junctions.

FRENCH NOTES.

Details and Commen's Concerning Continental Motor Cycle Events.

WELL-FILLED sporting programme has been prepared by French motor cyclists for the coming season. Starting in February with the reliability competition from Paris to Nice, there will be important events right through the season, when the Gaillon and Gometz hill-climbs will be held in the month of October.

Not only is the sporting calendar well filled, but there is every indication that competitors will be numerous and competition keen in all the leading. events.

Two Outstanding Events.

The two outstanding events of the year are the motor cycle and cycle car Grand Prix at Le Mans and the Six Day Trials in the Alps. Both of these were on the programme for 1914, but had to be abandoned owing to the war. They are of an entirely different nature, the Grand Prix being a long-distance road race over a very fast level course, and the Six Day Trials being a reliability test with hill-climbing competitions of a severity altogether unknown in England.

While all the races and competitions are under the control of the Union Motocycliste, which is the controlling body in France, the race at Le Mans and the Alpine trials have the distinction of being organised directly by the national body. In the case of the race, the Union leaves the detail organisation in the hands of the club at Le Mans, this being one of the most powerful and energetic provincial automobile clubs in France; but at the same time it interests itself in the organisation and takes an active part therein.

As an indication of the interest which is likely to be shown in the Grand Prix race at Le Mans, it may be mentioned that in 1914 considerably more than 100 entries had been received for the motor cycle and cycle car events. This number should be exceeded in 1920, for interest in motor cycling has grown enormously since the war.

French representatives of English machines undoubtedly will take part in all the leading French races and trials. It is to be hoped, however, that the home factories will see the necessity of participating directly in these trials. There is no doubt that natural conditions in France make any event in that country much more severe than a similar event at home. The run from Paris to Nice, for instance, when undertaken in the month of February, causes competitors to face odds which are uncommon on English main roads. The French roads are so straight that competitors are tempted to drive fast, and they are so rough that unless the machine is really well built it will break down under the trial.

The Grand Prix at Le Mans may be likened to a long distance race at Brooklands, with all the hazards of the road thrown in. For an English machine to win the Six Day Trials in the Alps would be the highest testimony of sound design and good construction that it would be possible to obtain. Continental firms believe they are supreme for this class of work, and they certainly have the advantage of being acquainted with the conditions and knowing the roads thoroughly. In their own interests English firms should come forth and show that they are not afraid to face the most strenuous conditions.

French Motor Cycle Events in 1920.

French Motor Cycle Events in 192

Feb. 13-16.—Paris-Nice Reliability Trial.

19.—Nice-La Turbe Hill Climb.

April 4.—Argeuteail Hill Climb (near Paris).

4.5.—Circuit de Paris Reliability Trial.

4.5.—Circuit de Paris Reliability Trial.

2.—Cote d'Azur Trials (near Nice).

2.—Paris-La Baule-Paris Reliability Trials.

3.—24-24.—Touring Competiton region of Prix Rece,

2.—Paris-La Baule-Paris Reliability Trials.

3.—24-24.—Touring Competiton region of Prix Rece,

June 6.—Paris to Trouville and Return Reliability Trials.

4.—Mile and Klimouter Records near Paris.

20.—Bordeaux Rel'ability Trials.

20.—Bordeaux Rel'ability Trials.

21.—Amotor Cycle and Cycle Car Grand Prix at Le Mans,

25 to

Aug. 1.—International Six Day Trials in the French Alex.

 1.—International Six Day Trials in the French Alps.
 8.—Marseille to Mont Ventoux: Reliability Test and Hill Climb.
 14-16.—Bretagne Reliability Trials and Championship of the Motocycle Aug.

Sept.

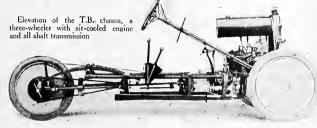
-10.—Bretagns & Chonny Irals and Championship of the Motocycle
22.—Paris to Franking Heliability Trail.
5.—Mont Verdun Hill Climb, near Lyon.
19.—Autum Reliability Trails organised by Motocycle Club o. France
3.—Gaillon Hill Climb, near Rouen.
10.—Gometz-le-Chatel Hill Climb, near Paris. Oct.

A Three-wheeler with Shaft Drive.

Details of the T.B. Runabout illustrated in our Issues of November 13th and 20th.

PROBABLY the production of a successful three-wheeler involves more careful designing than that of a four-wheeler. Especially is this the case when all shaft transmission is embodied, and more than one machine, designed as a three-wheeler, has eventually developed a fourth wheel.

Many pre-war three-wheelers were doomed to failure from the outset, because the designers had been led astray by the apparent simplicity of such machines, but one has only to glance at the chassis of the T.B. runabout to see that the usual obstacles were fully appreciated by its designers. The result is not "a simple



mately parallel members of the former, and placed at an angle to it. The front ends of these tubes connect with a second transverse member of the frame, and support the quarter-elliptic front springs. Looking at the machine from above, the structure appears to be rather complicated—an impression increased by the twin exhaust pipes—but a closer examination reveals the fact that this is more apparent than real. If the propeller-

at the front end to prevent the wheel from canting. A duplex torque rod, connected at its inner end at a point ou the centre line of the machine, is attached to the bevel gear easing. The engine adopted is the 8 h.p. J.A.P.,

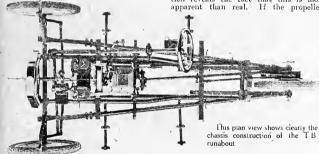
The engine adopted is the 8 h.p. J.A.P., on to which is built a two-speed and reverse gear box of conventional type. Between the two is a cone clutch and gear wheel for the handle starting mechanism, the starting shaft itself being placed between the two cylinders. At the rear end there is a gear wheel, which, when required, engages a similar wheel on the engine shaft, but when not in use is drawn out of mesh by a coil spring.

Immediately behind the gear box there are a brake drum and a large diameter fabric universal joint, which takes up the misalignment of the drive caused by the engine being on the centre line of the vehicle and the necessity for the shaft to be taken to one side of the rear wheel.

The final drive at the wheel is by

bevel gear.

Although the price quoted for this interesting machine is only £200, the equipment is very complete, and includes a spare wheel, hood, screen, horn, lamps, tools, jack, and pump. The manufacturers, Thompson Brós. (Bilston), Ltd., Bilston, Staffordshire, anticipate being in a position to commence deliveries almost immediately.



job," but one which should go a long way to eliminate rolling and rear wheel cauting.

As will be seen from the photographs, the engine and gear are built up as one unit, which is carried in a long tubular frame supporting at its fore end the dummy radiator (used as a petrol tank). At the rear end of this frame are pivoted two inverted semi-elliptic springs used as "cantilevers." The forward ends of the springs slide in a large transverse member of the frame, the rear ends being shackled on the ends of the rear wheel frame.

Outside the main frame are two tubes merging from the rear of the approxi-

shaft, torque rod, rear springs, and exhaust pipes are removed, the frame assumes a much more simple appearance. A rather long frame is used to carry the rear wheel, and it has wide bearings

The 8 h.p. air-cooled J.A.P. engine, three-speed gear box and shaft transmission. The gear wheel for starting purposes will be observed immediately behind the cylinders.

THOUGH few people know it, there is a prodigious waste of carbide among

users of this source of lighting power. Nine people out of ten fail to extract the full value from their carbide, when, as a matter of fact, it can be made to last considerably longer if carefully bandled. How many people, after using a charge once, or, maybe, twice, throw away what is left without sorting it? More often than not it will be found that this apparently exhausted residue contains lumps, which have what can only

CARBIDE ECONOMY.

be termed a dry "core." These are still a potential source of light. Here is a tip which will save the carbide user money—and carbide—over and over again. Procure an ordinary tin can of any convenient size, preferably with a lid. Punch or bore several small holes in the bottom, very little discretion being necessary to know how large the holes ought to be made. Then, instead of emptying the contents of your generator straight on to the rubbish heap, pour it into the improvised separator, which

should be well shaken a few times. The dust will soon disappear, but usually quite a useful bit of carbide, fit for further service, still remains in the box—enough to make the experiment well worth while, and undoubtedly a considerable saying to the frequent user.

Another point, too, is worth considering. Unused carbide, if exposed to damp, gives off a highly inflammable gas, which becomes a dangerous explosive when mixed with a suitable amount of air. The plan recommended avoids this danger.

COMPETITIONS IN 1920.

Provisional List of Inter-club, Open, and Other Events, to be held during the Forthcoming Year.

For the first time, competition dates for the year have been arranged by the A.C.U., in co-operation with the class concerned, with a view to avoiding the deplorable state of affairs last year, when the dates of so many comparatively important events clashed. The twenty open events which will receive permits from the A.C.U. and the support of the "'rade" are included, as are also the Brooklands meetings of the B.M.C.R.C. which were absent last very

		•	the second secon
	FEB. 13th-16th (Friday) , 28th (Saturday)	Moto Club de Nice	Paris-Nice Trial. Reliability Trial.
	MAR. 20th (Saturday) Not yet fixed	Home Counties Clubs	Reliability Trial. Hali-day Trial.
	APR 3rd (Saturday)	Motor Cycling Club Autocycle Club de France Westmorland M.C.C. Brooklands A.R.C. Birmingham M.C.C British Motor Cycle Racing Club Junior Car Club	Jarrott Cup Trial. Reliability Trial. Hill-climb. Race Mesting. Reliability Trial Racs Meeting. Reliability Trial Racs Meeting.
,	MAY 21st (Friday) 22nd (Saturday) 24th (Monday) 24th (Monday) 30th (Sunday) Not yet fixed Not yet fixed	Mator Cvenlig Club Bristol M.C C. Brooklands A.R.C. Brooklands A.R.C. Motocycle Club de France British Motor Cycle Racing Club Junior Car Club	London-Edinburgh. Speed Trial. Speed Trial or Hill-clim's. Race Meeting. Grant Prix Race for Cars Race Meeting at Brookla 1 13
	JUNE 5th (Saturday) 13th (Sunday)	likley M.C.C. Autocycle Club de France	Reliability Trial. Kilometre and Mile Attempts at Record.
	14th-19th ,, 15th-17th	Royal Scottish Automobile Club Auto-Cycle Union	Light Car Trial. TOURIST TROPHY RACES, Is.e
	Not yet fixed	British Motor Cycle Racing Club Junior Car Club	Race Meeting. Half-day Trial.
	JULY 3rd (Saturday) ,, 7th (Wednesday)	Blackburn and D.M.C.C. Union Motocyclist de France et Automobile Club de l'Ouest .	Hill-climb. Grand Prix for Motor yeles and Cycle Cars.
	, 7th-8th , 10th (Saturday) , 15th (Thursday) , 17th (Saturday) , 24th (Saturday)	Auto-Cycle Union Midland C. and A.C. Essex M.C. and Southend-on-Sea and D.M.C.C. Cumberland County M.C.C. Luton and S. Beds. A.C. [Aberdare and D. M.C.C.	ARBUTHNOT TROPHY TRIAL. Reliability Trial. Speed Trials. Reliability Trial. Speed Trial.
	31st (Saturday)	Blaenavon M.C.C. Welsh A. and A.C. Cardiff M.C.C. Tredegar Motor Club	Joint Hill-climb.
	,, 25th-Aug. 1st Not yet fixed Not yet fixed	Union Motocycliste de France British Motor Cycle Racing Club Junior Car Club	International Six Days Trial. Race Meeting. Hill-climb.
	AUG. 2nd (Monday)	Brooklands A.R.C. Sheffleld and Hallamshire M.C.C. Loughborough and D. M.C.C. N. Derbyshire M.C.C. Nottingham and D. M.C.C.	Race Meeting. Joint Speed Trial or Hill-climb.
	14th-16th	(Nottingham and D. M.C.C. Motocycle Club de France (Carmarthen and D. M.C.C. Ystalysera and Swansea Valley M.C.C.	Reliability Trial. Joint Speed Trials.
	22nd-28th Not yet fixed Not yet fixed	Ystalyfera and Swansea Valley M.C.C. Auto-Cycle Union British Motor Cycle Racing Club Junior Car Club	SIX DAYS TRIAL. Race Meeting. General Efficiency Trial.
	SEP. 1st (Wednesday) 4th (Saturday)	York and D. M.C.C. (Woolwich, Plumstead and D. M.C.C.) Streatham and D. M.C.C. Rochester, Chatham and D. M.C.C. Surrey M.C.C.	Hill-climb. Joint Reliability Trial.
	" 11th (Saturday) " 18th (Saturday)	Surrey M. C.C. Surrey M. C.C. Liverpool M.C. (Redditch and D. M. C.C. (Wolverhampton M. C.C.	Hill-climb. Reliability Trial.
	" 25th (Saturday)		Reliability Trial.
	Not yet fixed Not yet fixed Not yet fixed	Scottish Automobile Club British Motor Cycle Racing Club Junior Car Club	Hill-climb. Race Meeting. Race Meeting at Brocklands.
	OCT, 3rd (Sunday) Not yet fixed Not yet fixed	Motocycle Clubs Parisiens British Motor Cycle Racing Club Junior Car Club	Gaillon Hill-olimb. Race Meeting. Hill-climb.



Times to Light Lamps.

Jan.	8th			4.36	p.m.
,,	10th	•••	•••	4.39	٠,,
"	12th	•••	•••	4.42	,,
. ,,	14th	•••	•••	4.44	,,,

Scooter Trial.

Scooters entered for the French scooter trial, to take place next April, must be provided with serviceable mudguards and two brakes.

Too Fast at Horsham.

Complaints having been made of motorists driving at excessive speed through Horsham, on the London-Worthing road, this matter has been under the consideration of the local authorities.

Calendars.

We have received a very tasteful calendar from the D.R. Engineering Co., Dunfermline, who ask us to state that, while the stock lasts, they will be pleased to present these to any ex-D.R.'s who care to apply.

Misrepresentation.

We understand that someone representing himself to be an engineer and a traveller for the firm of Douglas Motors, Ltd., is obtaining orders and deposits for Douglas motor cycles in the Cardiff-Newport district. This gentleman bears an Irish name, and has no connection with Messrs. Douglas Motors, Ltd., who will be glad to have further information concerning him.

Police Traps.

We have received information of a police trap working on Shooters Hill Road where the road joins Blackheath Common.

A police trap is in operation on the Heaton Moor Road. Motor cyclists should go warily, as a correspondent states that be has been a victim although he was travelling at the same speed as a tramear.

French Import Duties.

French import duties have just been reduced from 70% ad valorem to 45% ad valorem. This announcement dates from December 23rd, the date of the signing of the official decree. There are indications that France would reduce her rates to 55\% ad valorem to England, Belgium, and Italy, it the United States were to make their tariff the same as the other Allies, but while the U.S. tariff remains at 45%, there is not much likelihood of the French tariff being any lower.

Wanted, Triumph or Good Make.

Under the heading of "Wanted," the following advertisement recently appeared in a provincial daily: "Triumph motor cycle or good make; 1918-19; 40-50 h.p." No doubt the Triumph Co. will appreciate the humour as muyone.

Modern Road Surfaces.

The Ministry of Transport has appointed a Select Committee to investigate the complaints which have recently been made from all quarters by horse owners of the unsatisfactory footbold afforded horses on modern smooth roads.

To Help St. Bartholomew's Hospital.

In last week's issue we referred to a scheme originated by Mr. F. Asiett Coulson, the maunifacturer of the Coulson motor bicycle, who has suggested to various makers of motor cycles that they should present one of their machines, to be sold by auction by Mr. George Robey, to help swell the depleted funds of London's most famous hospital.

The accompanying photograph shows Mi. George Robey, O.B.E., who has done much charitable work during the war, and Mr. Coulson, the originator of this happy idea. The machine is a spring frame single-gear Coulson two-stroke.

Special Features.

THE 1920 SIX DAYS.

A PLEA FOR LARGER ENGINES.

COMPETITIONS IN 1920.

No Rear Light.

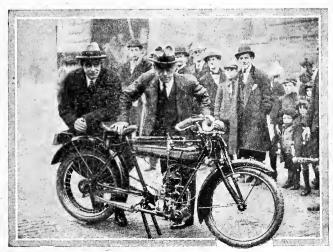
At Feltham recently the rider of a scooter was fined 10s, for not having a rear red light. This, we believe, is the first case of a motor scooter figuring in a police court.

Bad Road Censure.

At an inquest at Portsmouth on a naval officer who died from injuries caused by his motor cycle skidding, the jury considered the Tramways and Itoads Committee of the Council deserved the severest censure because of the bad state of the roads. The Portsmouth Council, however, is not the only authority deserving censure on this score.

The Institution of Automobile Engineers.

The next meeting of the London Graduates of the Institution of Automobile Engineers will be held to-day, Thursday, January 8th, at the offices of the Institution. 28, Victoria Street, London, S.W.I. at 8 p.m., when Mr. Thos. Clarkson will deliver a lecture on "Steam Vehicles."



Mr. Geo. Robey, O.B.E., and Mr. Coulson with the Coulson two-stroke that the former will offer by auction in aid of St. Bartholomew's Hospital.

MOTOR (YCLE

Scottish Motor Show.

The Scottish Show, at Kelvin Hall, Glasgow, opens on the 23rd and closes on the 31st inst.

The £100 Car.

Once more the "Car for the million" has appeared in the lay press. The poor man's car, it is called, and sells for \$2100. An illustration depicts it being carried by two men, its light weight being an advantage, it is claumed, when it breaks down. This is where it scores over a Rolls-Royce.

Patents in 1919.

In 1919 the number of applications for patents was 32,892—a record figure. 1913 the number was 30,077, and in 1915 only 18,191 were filed. Judging from the number of queries regarding patents that we are receiving from readers it would appear that 1920, too, will prove a record year for motor cycle patents.

Clubs Amalgamate.

The proposed amalgamation of Burnley and Preston Motor Cycling Clubs with the Blackburn and District Club was carried a step further at a meeting on Friday, when it was decided to change the name of the Blackburn Club to that of East Lancashire Motor Cycling Club. The area of the club's future activities will thus be considerably extended, and will embrace all East Lancashire and North-East Lancashire towns.

Cycle Car Design in France.

A French contemporary has taken a referendum on the subject of cycle car specification, and the trend of opinion is as follows: Air-cooled twin cylinder, V or horizontally opposed engine, cooling fan, four road wheels, change-speed gear of the sliding type, and final drive by enclosed chain. Most French enthusiasts expect a machine of this type to be sold at 3,200 francs (£128), which, our con-temporary rightly says, is practically impossible under present conditions.

The Paris-Nice Reliability Trial.

Already fifty-five entries have been received for the Paris-Nice motor cycle reliability trials, to be held from February 13th to 16th. British manufacturers are well represented, the makes entered for this event being Triumph, James, A.B.C., Scott, Matchless, Douglas, G.N., Dot, Sunbeam, Rover, Royal Enfield, and New Imperial. Among the new French firms which have taken to motor cycle construction since the war are Georges Lévy, Louis Clement, Motosolo, and Janoir, all of which have entered complete teams. The American makes entered are Excelsior, Harley-Davidson, and Indian.

At the last meeting of the Union Motocycliste de France some changes were made in the rules governing the Paris-Nice run. The secret controls have been abolished, and several parts which were not originally intended to be sealed must now be stamped before the start. Among these are belts, chains, belt fasteners, chain links, frames, sidecar attachments, and sidear springs. A maximum of twenty points will be given to riders not making use of any of their spare parts, and two points will be deducted for every spare part used. The cleanliness equipatition has been shalled. ness competition has been abolished.

London-Exeter.

We have received a letter from Mr. E. F. Chidley, who competed in the London-Exeter Trial on a P. and M. sidecar, who points out that through a misunderstanding on his part he was credited with having completed the course. As a matter of fact, he retired at Salisbury.

The Coventry and Warwickshire Club Dinner.

A winter run of the above club was held on Saturday, January 3rd, members gathering at the Coach and Horses Hotel, Coleshill, where a dinner was given in honour of the team who won the M.C.C. nonour of the team who won the M.C.C. Team Trial trophy. The affair was most successful, and Mr. Edward Manville, M.P., president of the club, took the chair and presented the prizes. The club's 1920 programme is to be a very energetic one, and Mr. N. Ryecroft has been appointed hon. sec.

Sreatham and District M.C.C. Dinner.

The Streatham and District M.C.C. will hold its annual dinner on January 31st at Frascati's Restaurant, London, W.

Motoring Danger Removed.

The objectionable practice of stone throwing by boys has recently again become a serious menace to motorists in various parts of the country. The Royal Automobile Club are accordingly devoting special attention to this matter, and would be glad if motorists would inform them of any habitual instances of which they may know.

Advertisement Editor Wanted?

In the advertisement columns of a contemporary we read that a satisfied owner of a car has been driving cars for about eighty years, but we have failed to get into communication with him in order to persuade him to record his impressions of the cars of 1840

LONDON-EXETER RESULTS.

OF the 148 entries, 125 started, and 93 completed the journey. Three other competitors incorrectly signed the checking sheet at the finishing point, although they had not been to Exeter.

Fifteen men were disqualified for being fifteen or-more minutes ahead of time.

The following table gives an analysis of the entries and of the awards of 54 gold and 25 silver medals:

	Entres.	Non-starters.	Non-finishers.	Gold Medals.	· Silver Medals.	Disqualified.
. lotor cycles	36	5	3	9	8	6
Motor cycles with sidecars	72	IC.	Lf .	29	15	1
Cycle cars, light cars, and cars	46	8	8	16	.3	5
Total	148	23	32	* 52	26	15

One complimentary gold medal is also awarded to Mr. R. H. Head, the judge of the competition

Awards.

GOLD MEDALS. MOTOR CYCLES.

P. Pike (21 Levis)

F. Pike (24 LeVis)
F. C. Townshend (3½ Sunbeam,
F. Notari (4 Triumph)
F. E. Salter (2½ Zeuith)
W. Ford (2½ Coulson-B.)

W. Ford (24 Coursen-B.)
R. C. Staunton (4 Triumph)
K. T. Gibson (4-5 Zenith)
C. K. Robinson (3 A.B.C.)
R. R. Coes (4 Indian-Scout)

SIDECARS AND RUNABOUTS

G. Richardson (41 James sc.) E. A. Bridgman (7 Indian sc.)

G. Richardson (4† James 8c.)
E. A. Bridgman (7 Indian 8c.)
D. H. Noble (7 Indian 8c.)
R. B. Clark (8 Mutchless 8c.)
J. A. Hilger (3† Rover 8c.)
E. S. Powell (6 A.J.S. 8c.)
H. T. Whitty (4 Triumph 8c.)
J. A. Master (9 Harley-Davidson 8c.
R. Charlesworth (5 Zenith 8c.)
R. Creal David (6 Chatter-Lea 8c.)

R. Creak Davis (8 Chater-Lea sc.)
S. Julian (8 Matchless sc.)
E. H. Newnham (8 New Imperial sc.)
F. J. Watson (3½ Ariel sc.)
L. A. Apsey (8 Royal Ruby sc.)

L. A. Apsey (8 Royal Ruby sc.)
H. Dale (8 Royal Ruby sc.)
S. E. Longman (8 Matchless sc.)
G. S. Wright (7 Indian sc.)
G. W. Wilkin (3½ Wilkin sc.)
A. Milward (4 Douglas sc.)
E. Atkins (3½ Arel sc.)
F. J. Ellis (8 Matchless sc.)
T. J. Royal (8 Matchless sc.)

F. J. Ellis (8 Matchless sc.)
T. J. Ross (8 Matchless sc.)
R. Boxer (8 Matchless sc.)
R. Boxer (8 Matchless sc.)
W. A. Jacobs (6 Rox sc.)
W. A. Jacobs (6 Rox sc.)
B. S. Allen (8 Matchless sc.)
C. E. Bennett (7-9 Harley-Davidson sc.
C. Finch (to G.N.)
W. Pattison (8 Morgan)

W. D. Hawkes (10 G.N. Kaye Don (8 Tamplin)

.W. C. Hemy (a½ Metro-Tykep) Tudor Thompson (a½ Douglas, P. 1. C. Body (a½ Sumbram) A. Wooding (a5 Sumbram) B. N. Sims (a½ Radco) N. J. Scale (a¾ Scale) J. F. Hull (a½ Wooder) F. S. Spouse (a½ Verus) J. Emerson (a¾ B.C. sc.; B. Alan Hill (a¾ Scott sc.) P. W. White (a¾ Sumbram sc., F. W. White (a¾ Sumbram sc.) H. W. Baker (a¾ Matchless sc.) .W. C. Hemy (21 Metro-Tyler) CET ČE E. C.E.T.F. C.E.T. C.E.T. C.E. C.F. C.E.T. F. W. Baker [8 Matchless sc.]
C. A. McKaud [7-9 Hardey-Davidson sc.)
Thompson Thompson (4 Douglas sc.)
L. S. Pinder (8 Zenith sc.)
T. H. Willey [6-7 Abingdon sc.)
J. B. Blakemarsh (1 Thumph sc.
A. L. Huggins [8 Zenith sc.)
J. A. Houll (8 Matchless sc.)
J. A. Houll (8 Matchless sc.)
L. E. Frost (8 Matchless sc.)
L. E. Frost (8 Matchless sc.)
L. E. Frost (8 Matchless sc.) C.E.T. E.T.F.

Note .- C.E.T.F. means that the competitor did not fulfil the regulations qualitying for a gold medal, at Chard, Exeter. Trow, and the finish respectively.

C.E.T.

FINISHED THE COURSE, BUT DISQUALIFIED

SHED THE COURSE, BUT DISQU

V. Olsson, (8 New Imperial)

W. S. Jameson (3 Rudge-Multi)

W. G. Boyer (4 Friumph)

N. J. White (4 Triumph)

F. Thorpe, (2 Douglas)

A. Fell-Smith (7-9 Harley-Davidson,
E. J. Pittock (5-6 James sc.)

H. A. Reyre (5-6 James sc.)

H. D. Vacco (4 Harley Davidson)

Too early at secret check.

Particulars of the car performances will be found in this week's issue of our sister journal, The Autocar.

A Miniature with Pressed Steel Frame.

A Scooter with its Engine Hidden below the Platform.

A LTHOUGH designed to meet anticipated demand for motor scooters the little machine illustrated is tall intents and purposes a miniature motor cycle, as the capacity of the engine is 232 c.c. and a saddle is provided.

In designing the Marseel scooter, as it

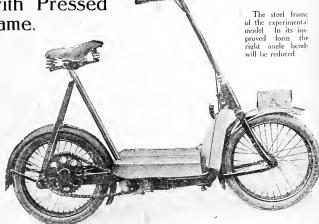
In designing the Marseel scooter, as it is named, the makers have aimed to produce a light runabout machine, comparatively cheap to buy and run, and extremely simple in operation. Bearing in mind that the potential buyers of such machines are not mechanical, the designers have endeavoured to make the mechanical elements as inconspicuous as possible. Thus when seen from the eye level of an adult the machine has the appearance of being a seat type scooter minus an engine. This is due to the fact that the power unit is located below the platform, and the tank takes the form of a shallow how acting as a front shield.

of a shallow box acting as a front shield. The experimental machine illustrated has been on the road nearly twelve months, and in the "productin" mode's, which, it is expected, will be ready next month, there will be several improvements, including a "cleaner" design frame of pressed teel.

A Simple Frame.

It will be observed that the frame is composed of two steel members, which are bolted to the east steering head and splay out to enclose the approximately triangular tank. From this point they form the supports for the platform, converging again to the crank case of the engine which acts as cross members. At the rear of the engine the steel plater form the chain stays. In the experimental frame there are an unnecessary number of right-angle bends, but in the improved model these will not appear, the two side plates being shaped in sweeping bends.

The engine—a two-stroke with roller bearings throughout—lies horizontally in



the frame with its exhaust pipe on top, a recess being made in the platform to receive it. The C.A.V. magneto is coupled directly to the crankshaft through a leather joint, and is carried on an aluminium plate supported from the crank case. Located alongside it, and also under the platform, is the carburetter—a single-lever instrument of extremely simple design.

Chains are used for the transmission, the main drive being from the crankshaft to a small countershaft running on a bronze bearing contained in a quadrant plate pivoted on the right side "chain stay." Chain adjustment is effected by swinging the plate slightly.

A compression release is fitted on the cylinder head, and is operated by a small pedal intended to be actuated by the right heel.

To provide support for the saddle, a tube is used, triangulated with the chain stays by two flat steel strips. This support has a lug on its lower end connecting with the main frame by one of the engine

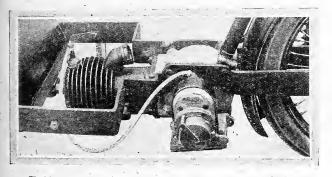
bolts. The price of the machine is £33. and the makers the Marseel Engineering Co., Victoria Park, Coventry.

The design is fully covered by patents, both as regards the frame construction and the countershaft adjustment.

AVERAGE SECOND-HAND PRICES

AS is often the case at this time of year, it has not been possible to give such a complete list as is usually presented. In all probability those riders who have machines on order are retaining their present mounts until they see some definite signs of the delivery of the new ones; owing to this state of affairs, there is likely to be a keen demand for the good second-hand machines available. Most wise riders at the present time are holding on to their machines in the belief that a 'bus in the garage is worth two on a waiting list.

A.J.S., -1914 6 h.p., sidecar
" 1919, 6 h.p., sidecar
Allon, 2-stroke, 2-speed
B.S.A., 41 h.p., 3-speed, sidecar
Calthorps-Jap, 27 h.p., 2-speed
Clyno, 3-stroke, 2-speed, 1914
,, 5-6 h.p., 3-speed, sidecar, 1914 (85
Douglas, 21 h.p., W.D
, 4 h.p., 3-speed, sidecar, 1919 £130
Enfield, 21 h.p., 2-stroke
1916, 3 h.p., twin, 2-speed
Harley-Davidson, 3-speed, sidecar, 1916 £130
Indian, 1914, 7-9 h.p., 2-speed, sidecar 195
, 1919, 7-9 h.p., 3-speed, sidecar
James, 24 h.p., 2-stroke, 2-speed
Levis, 24 h.p., 2-speed
Levis, 24 h.p., 2-speed
,, 5-6 h.p., and sidecar, 1916 £85 Scott, solo, 1919 £115
Sunbeam, 1915-8, 31 h.p., sidecar £140
Triumph, 3! h.p., single-speed
" 3½ h.p., 3-speed hub
" 1915, 4 h.p., 3-speed countershaft, solo 468
, 1919, 4 h.p., 3-speed, countershaft, solo 490
,, 21 h.p., 2-stroke
Zenith, 4 h.p., solo
" 8 h.p. countershaft, and sidecar £120



The Marseel miniature, in which the engine is placed horizontally under the platform.

A THREE-CYLINDER RADIAL ENGINE.

The 3 h.p. Beaumont Motor Cycle having a Unique Power Unit.

ERO practice has been the subject of many glib references during the past few years, but comparatively few manufacturers have closely followed aircraft

engine design up to the present. We have had the products of Beaumont Motors, Ltd.,

Park Lane Mills, Leeds, under our observation for some time, and have lately seen the parts of this interesting little power unit. We also inspected an experimental machine, which well on the way to completion. The crank case is of cast iron, and embodies the three cylinder barrels in the same casting. Aluminium is used for the detachable cylinder heads, and these are held down by a number of small screws.

No caps are fitted, access to the valves being obtained by removing the heads bodily. Small set screws in the cylinder walls retain the valve pockets, and it will be noticed that the valves and springs are entirely enclosed in the cylinder castings; on removing the screw the whole valve assembly and seating may be withdrawn.

At present it is not possible fully to describe the entire internal mechanism, but it suffices to say that the crankshaft runs on plain bearings, and that aluminium slipper type pistons are employed. The valve cams are formed on the outer circumference of internally toothed wheels, and the carburetter is attached to the base of the crank chamber,

the induction system being self-contained without external pipe work.

A heavy flywheel is not fitted, the engine being at present equipped with a steel fan of fairly sturdy construction on the exhaust side.

onnumentalininennetrili · committee or minimum or management of the contract of the co

The three-cylinder 3 h.p. radial Beaumont engine, which has all valves enclosed in the cylinder casting.

The magneto and transmission sprockets are on the inlet side of the engine, and when we inspected the machine the final transmission had not been fitted, while the ideal gear ratios have yet to be chosen.

A single-cylinder magneto is used, driven at one and a half times engine speed. Distribution is effected in a rather unusual manner. A Runbaken magneto is used, and it will be recollected that the hightension lead on this instrument emerges at the centre of the end plate opposite to the driv-ing end. The terminal is replaced by a bronze gear wheel on the armature shaft, and the distributer housing contains an internally toothed ring. Between the ring and the wheel rolls a bronze pinion, and as this passes over insulated segments in the former the hightension current is led to them

> segments. During our inspection the engine was several times started by swinging the fanflywheel, and the maximum revolutions were quite extraordinarily high.

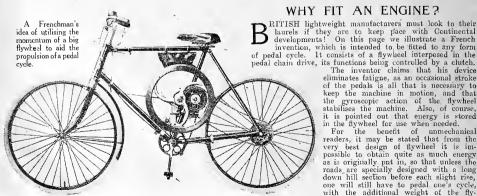
one by one. The high-tension wires are connected to these

Vibration was noticeably absent, for although the engine was only mounted in a bare frame, resting on the front wheel and rear stand, and was in turn placed upon a compara-tively light wooden erecting bench, the machine showed no tendency to jump about, even at the highest rates of revolution.

The whole machine will un-

cylinder casting.

donbtedly attract great attention on account of its decided renunciation of standard motor cycle practice. In the near future we hope to subject one of these machines to a severe road test, and our readers will be duly informed of the results.



WHY FIT AN ENGINE?

RITISH lightweight inadulacturers must look to their developments! On this page we illustrate a French invention, which is intended to be fitted to any form of pedal cycle. It consists of a flywheel interposed in the pedal chain drive, its functions being controlled by a clutch.

The inventor claims that his device

eliminates fatigue, as an occasional stroke of the pedals is all that is necessary to of the pedals is all that is necessary to keep the machine in motion, and that the gyroscopic action of the flywheel stabilises the machine. Also, of course, it is pointed out that energy is stored in the flywheel for use when needed. For the benefit of numechanical readers, it may be stated that from the two these telegraphs (flywheel it is in

very best design of flywheel it is impossible to obtain quite as much energy as is originally put in, so that unless the roads are specially designed with a long down hill section before each slight rise, one will still have to pedal one's cycle, with the additional weight of the flywheel, clutch, and gear.

New Name. The Acme, J.A.P.-engined Big Twin-

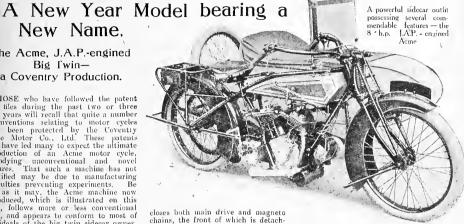
a Coventry Production.

THOSE who have followed the patent files during the past two or three years will recall that quite a number of inventions relating to motor cycles have been protected by the Coventry Acme Motor Co., Ltd. These patents may have led many to expect the ultimate introduction of an Acme motor cycle, embodying unconventional and novel features. That such a machine has not fructified may be due to manufacturing difficulties preventing experiments. Be this as it may, the Acme machine now introduced, which is illustrated on this page, follows more or less conventional lines, and appears to conform to most of

the ideals of the big twin sidecar owner. the sa' handsome machine, having a sloping frame, 28×3in, quickly detachable and interchangeable wheels, with a rather long wheelbase-a feature which, in con-junction with the large diameter and section of the tyres, should make for exceptionally easy riding.

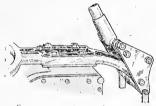
Unusual Magneto Drive

The engine fitted is the 8 h.p. J.A.P. adapted to the special requirements of the Acme Co. He.e lies the chief nove'ty, for the magneto is driven from the main drive side of the engine, and not from the timing gear, as is usual with J.A.P. engines. As will be seen from the illustration, this innovation admits of the contact breaker being placed on the "outside" of the machine. On the engine-shaft and between the crank case and smaller chain wheel which drives to another, twice the diameter, on the armature-shalt of the magneto; thus the speed is reduced to half without the means of gearing. A single guard en-



ab'e by removing three large nuts.

A Sturmey-Archer gear box and final belt drive form the transmission. The be't wheel, which is carried on a separate



The gear box bracket, snowing how the fixing plates are fastened to the frame

journal bearing, remains undisturbed when the rear wheel is removed. journal

At every point the framework is of a most substantial character, and accessibility has not been overlooked. The sidechassis is

rectangular in shape, has a diagonal reinforcement member, and four-point attachment by means of lugs cast integral with the frame.

Mudguarding of all wheels is well carried out, and the carrier stoutly constructed and stayed to the main frame by two horizontal tubes

Both the large tank and the sidecar hody are finished in light grey, trimmed with a dark shade of the same colour, and at the rear of the sidecar there is a large locker, in the form of a "boot," to which is fixed the carrier for the spare wheel.

The equipment includes adjustable

handle-bar, Brampton Biflex forks, aluminium swing-up footplates, drip feed and auxiliary hand pump, and Amac car buretter. The price, complete with spare wheel and tyre, is £185.

PETROL CONSUMPTION.

THERE appears to be an impression among present-day motor cyclists that their petrol consumption is greater than it should be. Frequently we have heard the remark that post-war spirit does not give the same mileage as that used in 1914. For this reason the results given in the judge's report of the Liverpool M.C. Trial held last autumn

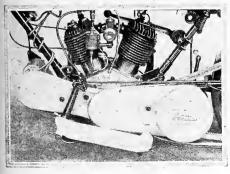
are of interest. The following are the best performances in the various classes:

Class.	No.	Rider and Machine.	Consump- tion.	M.P.G
C.C.			oz.	
350	36	A. Moses (2 A.J.S.) .	170	108.2
500	53	Capt. A. W. Brittain		
		(3½ Sunbeam)	149	123.7
750	30	W. Coffle (41 B.S.A.)	156	118
-	33	E Williams (4 A.J.S.)	160	115
1000	48	R. R. Coes (7-9 Indian)	210	87.6
750	10	V. Horsman (4 Nor- ton sc.)	220	83.6
1000	19	Imperial-Jap sc	314	53-4

The outstanding performance in petrol consumption was the excellent consumption figures shown by all riders of $3\frac{1}{2}$ h.p. Sunbeam machines. Six riders of these machines, who finished, showed an average consumption of 182 oz., which works out at 101 miles per gallon. The best performance in any class was that of No. 53—Captain A. W. Brittain, 149 oz.,

No. 35—Capitall A. W. Brittain, 148 02., equivalent to 125 m.p.g.

The consumption of lightweights and sidecar machines was disappointing. Twelve riders failed at the easy limits imposed in this test. A modern 8 h.p. sidecar machine should be capable or applied to the capable of the capable travelling forty-five miles on a gallon of petrol, and efforts should be made by manufacturers to attain this result.



The power unit of the new Acme. An unusual feature is the fitting of the magneto chain on the left side of the machine,

N.M.C.F.U. (Leeds).

A series of smoking concerts form part of the winter programme of this branch of the N.M.C.F.U.

Liverpool M.C.

The annual general meeting of the Liverpool M.C. will be held at the Compton Hotel, Church St., Liverpool, on Wednesday, the 21st inst., at 8 p.m., and this will be followed by a concert and prize distribution.

Finsbury Park C. and M.C.

The Finsbury Club recently held their ist dinner since 1913, the attendance being over sixty. One of the guests of the club was Petty Officer Thirlwall, D.S.M., who formed one of the band of pioneers who crossed the Atlantic in the airship R34.

Coventry and Warwickshire M.C.

Owing to pressure of business, Mr. M. Sampson has been compelled to resign Jampson has been compelled to resign the hon, secretaryship of the club, and the new hon, secretary is Mr. N. Ry-croft, 48, Broadway, Earlsdon, Coventry, All communications relating to the club should be addressed to Mr. Rycroft.

Carmarthen M.C. and C.C.C.

This club recently held a successful dinner at the Nelson Hotel, Carmarthen, in honour of four members of the club who had done well in the 1919 competitions. These members are: M. Davies, A.C.U. bronze medal and Liverpool M.C. silver medal; W. Edwards, B.S.A. team prize silver cup, A.C.U. silver medal, and B.S.A. Co. silver cigarette case; Capt. Lindsay, A.C.U. silver medal, Scottish Trials silver medal, and two gold medals in the Club hill-climb.

General Committee Meeting.

T is probable that the next General Committee meeting of the Auto Cycle Union on February 20th will be held at Southport instead of Manchester, as sufficient accommodation in the latter city is impossible to obtain.

Annual Dinner.

The Auto Cycle Union annual dinner will be held at the R.A.C. on the 21st rest. On the following day, the 22nd rust, a meeting of the Federation Internationale des Clubs Motorcyclists will be i.eld at the R.A.C. at 2.30 p.m. Delegutes to this important conference will be invited to the A.C.U. annual dinner, which will be a particularly brilliant and interesting affair.

Elsewhere in this issue we give a list of 1920 competitions as drawn up by the A.C.U. This gives the dates of all important competitions, both at home and abroad, which will take place in the 1920 season. This fixture list will be published

Westmorland M.C.C.

The annual dinner and prize distribution The annual dinner and prize distribution will be held at the Commercial Hotel, Kendal, on the 15th inst., at 7 p.m. Tickets (6s. 6d.) are available from Mr. W. Westwood, 9, Gilling Gate, Kendal, to whom application should be made to-day, the 8th inst.

Plymouth and District M.C.C.

The Plymouth and District M.C.C. is not neglecting the social side of club life, and is keeping the club together during and is keeping the club together during the winter months by a series of whist drives. A second highly successful whist drive was held recently at Genoni's Café, George Street, Plymouth. The secretary, Mr. L. B. Jackson, Langham House, Plymstock, will be pleased to hear from any local motor cyclist desirous of joining the club.

East Midland Clubs.

Representatives of affiliated clubs in the enlarged East Midland District will meet at the Angel Hotel, Angel Street, Sheffield, on Saturday, January 10th, at 6 p.m. Clubs not represented at the meeting held at Olympia should en-deavour to send delegates, as arrangements for the running of the three open trials allotted to the area for 1920 will be made

A New Motor Cycle Club.

A meeting will be held at the Fox and Hounds Hotel, Portsmouth Road, biton, on Wednesday, January 14th, at 8 p.m., with the idea of forming an active motor cycle club. All motor cyclists will be welcome. Dr. A. M. Low, D.Sc., has consented to accept the presidency, and Mr. F. W. Barnes is taking an official position together with several other well-known motor cyclists.

New Club at Sydenham.

A motor cycle club is proposed for Sydenham and district, and any motor cyclist in this locality, who is interested in club life, social functions, and competi-tions, should communicate with "Secretary," 7, Venner Road, Sydenham, London, S.E.

Essex M.C.

The A.G.M. of the above club will be The A.G.M. of the above club will be held in the Associates' Room at the R.A.C. at 7.30 to-night (the 8th inst.). The annual dinner has been arranged for Saturday, the 17th inst., at 6.30. All members who have served in the war, and who were unable to be present at the reunion dinner in April last, will receive an invitation, and those wishing receive an invitation, and toose wishing to attend should apply to the hon. secretary, Mr. D S. Kapadia, Algers Road, Loughton, Essex, or the captain, Mr. F. A. Applebee, 208, Great Portland Street, W.1.

Birmingham M.C.C.

The annual dinner of the Birmingham M.C.C. is fixed for January 24th, 1920, at the Queen's Hotel, Birmingham. As this is the first annual dinner to be held since 1913, it will be in every way a re-union, and a large demand for tickets is anticipated. The presentation of trophies and prizes will take place afterwards, and as there are over one hundred pected to be present, the function should be a great success.

A musical programme has also been arranged. Tickets, gramme has also been arranged. Theets, price 15s., may be obtained from the hon. secretary, Mr. W. H. Egginton, 76, Earsbury Gardens, Birchfield, Birmingham. The annual general meeting is to be held on February 9th.

AUTO CYCLE UNION NOTES.

in the form of a folder, inside the cover of which will appear the names and addresses of the principal motor cycle organisations throughout the world, and a complete list of all the trials and competitions to be held during the coming year, while the remaining part of the inside cover will be devoted to a list of clubs affiliated to the A.C.U., and the names and addresses of their secretaries. - This fixture list will be sent to any applicant for an A.C.U. competition licence, and will be supplied to the general public for the sum of 6d.

Short Distance Records.

The Competitions Committee of the A.C.U. has recently drawn up regulations which it has recommended to be passed by the General Committee, dealing with short-distance records. These regulations state that, in addition to the flying kilometre and flying mile records, and standing kilometre and standing mile records, mean speed records for these two distances will also be made, which will be run both

ways. The following definitions have therefore been decided upon: A maximum speed record is defined as the least time on record taken to traverse a specified distance; a mean speed record is defined as the least mean time on record of the two times taken to traverse the specified distance, one in each direction of the same course. A claim for a mean speed record will not be recognised unless the attempt thereto has been made within a period of two minutes calculated from finish to start.

Paris-Nice Trial.

The A.C.U. is prepared to undertake the insurance of competitors who will take part in this event, and will offer the advantages of the R.A.C. Touring Department to those of its members taking part in the trial, as regards transport to Paris of themselves and their reaching and all familities whiting the machines, and all formalities relating to the international driving passes, Customs, and passports. Entries close January 15th at ordinary fees.

INGENIOUS LUBRICATOR FOR DISC WHEELS.

A N ingenious lubricator, specially designed to lit on to motor cycles equipped with disc wheels, has lately been brought out and provisionally





disc wheels. and quite practical.

An oil-tight packing is placed beneath
the clip, so that all oil injected through
the lubricator is bound to reach the
bearings.

well thought out,

A NEAT ELECTRIC SIDECAR LAMP.

A N attractive sidecar lamp is sold by Messrs. Godfreys, Ltd., 208, Great Portland Street, London, W.1. The frm of lamp illustrated is not uncommon.

We are already rsing one on a sidecar, but it is fitted with a small gas burner. It is exceedingly nent, and admirfulfils the ably purpose for which it is intended. namely, to give a tiny light showthe sidecar. This lamp, as the illustration shows. has been adapted to take an electrie bulb, which it is able to do in a

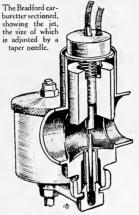


very efficient manner. Either end of the lamp may be unscrewed, so that it is quite a simple matter to replace the bulb should occasion arise.

A TWO LEVER CAR-BURETTER.

THE usual tendency in carburetter design is at present in the direction of single lever control, but many designers are of opinion that a second lever is essential in a country like our own to correct the changes of altitude and weather conditions. Among these is Mr. J. T. Bradford, Coine, Lancashire, who has produced the carburetter illustrated herewith. The main throttle lever

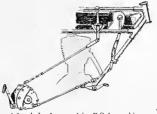
controls both the mixture supplied to the engine and the air, the second lever raises or lowers a tapered needle which enters the jet and varies its size as required. This needle does not rise and



fall with the throttle as in some carburetters, but is entirely independent of it, and regulates the quantity of fuel that may be required for varying conditions. More than this, it can be closed entirely when pure air may be drawn into the engine through the open throttle for cooling purposes when descending a hill. We are informed that very satisfactory results, including a consumption of 140 m.p.g., have been obtained from this instrument.

A HAND CONTROL FOR THE B.S.A. CLUTCH.

A SIMPLE attachment has been brought out by the County Cycle and Notor Co., 307. Broad Street, Birmingham, which will be much appreciated by riders of B.S.A. motor bicycles, enabling them, if they desire, to adapt their clutch to hand as well as foot control.

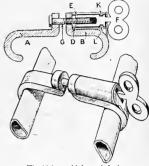


A hand clutch control for B.S.A. machines.

The device consists of a clip to fit round the down tube of the motor bicycle, a cranked handle, so as to bring the lever within access of the left hand, and a connection from a short lever on the end of the handle spindle to the clutch pedal arm, as illustrated.

A MOTOR CYCLE LOCK.

A N ingenious motor cycle lock has been recently provisionally protected by Mr. A. B. P. Hobson, 20, Oxford Southampton. It consists of a fork made in two sections, operated by a special key, and designed to clip tightly round



The Hobson thief-proof device.

the forks and between the spokes of a motor cycle. When once in position it cannot be removed, except by the aid of the special key.

The two sections of the fork are drawn together by means of a circular nmt D threaded on to the central bolt G, one end of which is rigidly fastened to the hook A. In the outer face of the circular nut there are recesses E to take the prongs of the special key F. Wards K and L may be fitted inside the tube through which the key passes, so that the key will fit only its own particular lock.

CLEARING A CLOGGED BURNER.





The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

AN IMPROVEMENT IN AIR-COOLING.

Sir,-I was very much interested in your description of Mr. Morgan's device for air-cooling a motor cycle engine-by means of the ejector action of the exhaust (à la "Lewis -

I have protected such a device used in conjunction with

one or both of two other methods.

Mr. Morgan will find that, except for very "light running," such cooling is not sufficient, as will be shown by considerations of the induced vacuum obtained by even excessive throttling of the exhaust, of the velocity, volume, and range of temperature of the air current involved, and of the B.T.U.'s to be transferred from the cylinder walls to keep their temperature within reasonable limits.

LINDON PEARSON (CAPT.).

MOTOR CYCLE SPEEDS.

Sir, In your "Letters to the Editor" column of *The Motor Cycle*, dated 2nd October, re motor cycling speeds, we notice a New Zealand correspondent states "a machine has been timed to do over 100 miles per hour."

May we point out that the world's speed record is held by the Indian motor cycle, when Mr. Jack Booth, at Adelaide, Australia, covered one mile, flying start, in 35 seconds, equalling 102.8 miles per hour.

equalling 102.8 miles per hour.

The South African speed record also stands to the credit of the Indian. On the 16th December, 1918, at Pietermaritzberg, Natal, South Africa, Mr. Pete Lawrence, on the road (not a prepared track), raised the previous record of 33½ miles per hour to 90 miles per hour, and until Mr. Booth made his sensational record, Mr. Lawrence's time was the fastest in the Southern Hemisphere.

Johannesburg. WILLIAMS, HUNT & CO.

LESIGN OF THE METRIC ENGINE.

Sir,-I notice in "Ixion's" comments a note connecting me with the Metric engines which aroused so much interest

May I trespass on your space to explain my position in this matter; as I find there is considerable misapprehension

on this subject.

The responsibility for the design of the Metric engines belongs to Mr. Bacher, and to him alone, and no share of the praise therefore is mine. My connection with them was in the production of the two models which were in

exhibition, and arose as follows:

On November 10th, Mr. Bacher gave the order for these two engines, to be constructed in time for the Show, to Leopold Ward, the firm of experimental engineers with whom I am now associated, and the carrying out of the work in the stipulated time has been my share in the production of the exhibit on which "Ixion" comments.

The engines were, in point of fact, delivered by 9.30 a.m.

on November 24th.

I quite agree with "Ixion" that the engines should have been inside and not in the Hammersmith Road, but, unfortunately, the Exhibition Committee were unable to allot us any space.

Leopold Ward was also responsible for the manufacture of the oscillating spherical valve which was on view on the Coulson B. stand (Messrs, F. Aslett Coulson being sole concessionnaires for motor cycle engines with this valve), and on which we are still carrying out extensive bench and road tests with a view to perfecting it before putting it on the market, instead of afterwards, as is sometimes the case. I also note "Ixion's" remark on a flat twin with cylin-

ders and crank case in two parts. I should very much like

to show him a flat twin air compressor, in which the two cylinders and crank case are in one casting, and that of aluminium alloy.

We do not at the moment see how we can reduce the weight or add to the simplicity of this design.

P. BREWSTER.

WATERPROOF CAPS.

Sir, Mr. Leather is, I am sure, quite near the right thing in his letter referring to the need expressed by "Ixion," for a waterproof headgear for motor cyclists.

He recommends a dome-shaped crown with a flexible rim. It is well known that the despatch riders at the front found the "tin hat" right in every respect except that of weight. It kept the rain and mud off the face and out of the neck.

A dome-shaped crown and stout flexible rim made of first quality felt would serve the same purpose; it would be quanty feit would serve the same purpose; it would be necessary to ventilate it well with armoured eyelet holes on each side. A chin strap might he added. Your readers may think that such a hat would blow off. I can assure them that in actual practice it does not.

I am a clergyman, and I always ride with a hat of clerical Rain a deligyman, and I always now while a lat of the trans-shape—domed crown, flexible rim, good felt, no chin strap. Rain never yet penetrated good felt. I ride a 3½ h.p. two-stroke, which doubles the speed limit at a bound. I ride over hills and moors in all weathers, often in fifty knot gales, yet I have still to stop my machine for the first time to recover my hat. The first hatter who makes a good felt hat to Tommy's "tin hat" pattern shall have my custom. CLERICUS.

Paisley.

SHAFT DRIVE.

Sir,—Please allow me to express my interest in "FN 240's" letter on "Shaft Drive" in the issue of November 1240's 20th.

It seems strange that no English firm has yet adopted this, as it appears to me an ideal form of transmission for

motor-cycles

Perhaps "FN 1240" will let us know what mileage can be accomplished before wear and tear takes place in the drive, if wear can be taken up, or if the worn parts are easily renewable; what milcage per gallon can be done on the F.N. solo, and ditto with sidecar? All pertinent queries, as one never sees or hears of the machine in competitions or trials. Amply mudguarded and the drive enclosed, as I believe the latter is, the F.N. ought to be ideal. Is it?

A. A. SMITH.

Sir,-I am glad to see "FN 1240" taking up the question of shaft drive, and I heartily endose his statement that it is the drive to give unqualined satisfaction in many thousands of miles of sidecaring. The reasons for this satisfaction are: (1) Absolutely positive. (2.) No adjustment. (3.) Very little wear. (4.) Perfectly smooth. There can be no slip, even in the wettest weather, and freedom from adjustment is a great been expecially with a sideor. ment is a great boon, especially with a sidecar.

It can also be added that this transmission does not in

any way hinder the removal of the rear wheel. I recently inspected the bevel gear of a 1912 F.N., and can find no trace of wear on either pinion.

Why do manufacturers not consider the shaft more? It

is certainly worth considering at least. In conclusion, may I state that my "ideal" sidecar machine would be a four-cylinder with shaft drive, and the nearest approach we have to it to-day is the F.N.

A. F. BURNS.

A.C.U. SIX DAYS TRIALS.

Sir,—I am much indebted to the Scott Motor Cycle Co., Ltd., for pointing out the error in the average marks awarded to Scott machines in the late A.C.U. Six Days Trial.

The report that I based the averages on was the provisional results published in *The Motor Cycle* of September

What I wish to point out is, that at the time of writing I had no other material available except the provisional results, and my purpose in writing was to draw the attention of the average motor cyclist to the average performances of the machines entered for the Trial. Immediately after the provisional results were published, makers displayed large advertisements telling of gold and silver medals obtained, but, of course, omitting all mention of medals lost through machines retiring!

I have rewritten the class in which the Scott machines

figure, as follows:

,	Make	Number of Machines 10 Start.	Total Marks Divided by Number of Machines	Position of Merit.
	Royer	1	189	r
	A.J.S	1	188	2
	Scott	5	182	3
	B.S.A	5	180	4
	Norton	2	-/ 170	5
	Triumph	4	165	6
	Zenith	4	132	7
		'	>=	,

I shall be much obliged if you will insert this letter, as I have no intention of misrepresenting the performances of any firm's productions.

STANLEY WELLS.

THE A.C.U. REPORT.

Sir,—In your issue of December 18th I noticed a letter signed "Lightweight" in reply to Mr. Norton's criticism of A.C.U. report. Whilst I am sure that Mr. Norton requires no assistance in dealing with this letter, I cannot let some of the statements made pass without comment. It is fairly evident from some of "Lightweight's" remarks that his experience does not include the use of the type of machine which he condemns. It is a pity that some of your correspondents cannot take a wider view of the matters they criticise, and realise that there are different types of riders to whom different types of machines appeal.

With reference to his remarks on the superiority of water-

With reference to his remarks on the superiority of watercooling being proved by the results obtained from the Scott motor cycle and the Lanchester and Rolls-Royce motor cars —without wishing in any way to detract from the excellence of these products, I should like to point out that, so far as

motor cycles are concerned at any rate, equally as good results are obtainable from air-cooled engines.

I think that no manufacturer would question the statement that such machines as the Norton, A.J.S., Triumph, and numerous others are capable of putting up performances in every way equal to the best which can be done with the water-cooled engines. I would point out that a number of motor cycle manufacturers have utilised the water-cooled engines and abandoned them, amongst them being such firms as Messrs. Humber and F. E. Baker. Aircraft work has proved that the air-cooled engine is capable of as high efficiency as the water-cooled type, that air-cooled cylinders up to 50 h.p. can be used without causing heating troubles to arise, and in view of these facts several motor car manufacturers are experimenting with, and some have even adopted, air-cooled engines for car work.

Few motor cyclists wish to be bothered with a water tank in addition to their petrol and oil tanks, with the trouble of constant replenishment and the necessity for draining them off in frosty weather. The question of adding unnecessary weight is also a serious one. Nor can it be claimed that radiators are universally satisfactory. A high proportion of these fittings become leaky after a few years' use, even on high-class motor cars, where they have all the advantages of occupying well sprung positious. This fault is very much aggravated on motor cycles, where keeping down the weight and the fact of their being in a comparatively unsprung position canse this trouble to arise at a much earlier period.

With regard to motor car and motor cycle transmission. A single gear belt-driven machine is a perfectly satisfactory

mount for thousands of riders who do not wish to participate in A.C.U. trials, and thereby meet conditions of road surface and gradient which never occur in their ordinary riding. Furthermore, many of these very rarely have occasion to use their machines in heavy traffic, and consequently a single gear machine fully satisfies their needs. It is cheaper to buy and to maintain than the more complicated mount. It is lighter, and, generally speaking, under ordinary riding conditions on the open road a more usable vehicle. These remarks on transmission should not be interpreted as applying to sidecar outfits, where it is acknowledged that some form of clutch and variable gear is necessary.

form of clutch and variable gear is necessary.

The relative efficiency of motor cycle and motor car transmission undoubtedly shows largely in favour of the simple motor cycle. Few cars could claim an overall transmission efficiency of 75% in all running conditions, while the direct belt-driven motor cycle can claim a permanent efficiency of over 93%, with a corresponding saving in petrol and oil

consumption.

In conclusion, I should like to say that I consider the A.C.U. Trials have been a very great benefit to the industry, and have developed the motor cycle along useful lines, but of late the improvements in machines have made the Six Days Trials too short to test out the soundness and durability of our monts; the consequence has been that in order to test the machines, conditions of riding have been sought which practically never occur in the normal use of the machines.

I quite realise that there are riders for which the A.C.U. type of machine is a most suitable mount, but although "Lightweight" is evidently one of this class he must realise that that type of machine by no means suits the whole of the riding public. Different users operate their machines in widely different conditions, and what suits one man is totally unsuited to another. There is ample room for all types.

KENNETH A. HELLON.



Midway up Hard Knott Pass. Just below this point is the steepest gradient—I in $2\frac{\pi}{3}$ for a few yards. (See page 30.)

LOST TOOLKIT.

Sir,-On Thursday, December 4th, a kit of tools was picked up scattered along the road near Gravesend. If the owner is fortunate enough to be a reader of your excellent paper, I thought, perhaps, if I informed you, and you published this letter, it would be the quickest way of restor-

I would be pleased to forward them to the owner upon his giving a description of the tools.

J.E.H.

CROSSING DARTMOOR IN THE SNOW.

Sir,-I am enclosing a photograph, taken in the snow, on Dartmoor, near Princetown The machine is a 1919 Lea-Francis, belonging to myself, and the person sitting on the ground is my sister, who was riding a Levis, until the belt



On Dartmoor. (See letter from Mr. I. D. Spooner.)

broke, necessitating her leaving the machine behind, and her riding the rest of the way on my Tan-Sad carrier. The snow in some places was 11th. deep.

IAN. D. SPOONER.

THE LIGHTING REGULATIONS.

Sir,-Having read your correspondents' voluminous remarks on the subject of rear lights, I am driven to a frenzy of despair, from which I can only find relief by submitting to you the following epitaph, which I can but hope will toll the knell of the bitter passions that have been aroused over this vexed question:

Here lies a pedal cyclist, dead Because of his unmanly dread Of carrying a rear light red. Had he not "Sivel's" letters read He might have lived to die in bed -Nuff said!

Bridgwater.

SHAKESWORTH.

Sir,—May I ask for a little space to reply to the attack made on me by "Sivel." This correspondence seems to be wandering a little from its subject, and it might be headed "Logic" or "Split Infinitives." Still, it adds to the gaiety of nations.

of nations.

First, I challenge "Sivel" to point out a single illogical sentence in my letter. No one, I suppose, thinks that "Sivel" seriously means that brickbats, etc., should carry red lights, and I, for one, have never accused him of it. Still, he says: "What form of danger signal do the enthuliation of the control of these impedimenta?" I siasts of the rear light propose for these impedimenta?" I took this for an example of the cheap rhetoric of which he accuses "Iorwarth." The inference contained in his letter is that, because these impedimenta cannot carry red lights, cyclists should also be exempt. A misquotation is certainly a misquotation; no one has denied that very obvious fact, but to call a misquotation of words only, where the sense is in no way changed, a deliberate misquotation is a departure from fairness and truth of which I, personally, should be ashamed. The opponents of red lights argue that, because accidents have happened where red lights are used, these are entirely useless; this is illogical and absurd. Wrecks have taken place in the neighbourhood of lighthouses, but will anyone deny the use of the latter? Even if fifty accidents could be proved to have taken place in

spite of red lights, I should still maintain that hundreds had been prevented by their use. "Sivel's" summing up of his opponents' argument is, too, entirely illogical and incorrect. No such statement has been made, and so far as I know no one holds such views.

Regarding a statement made in my last letter and doubted by "Sivel," I assert positively that I have seen white lights shown to the rear of cycles scores of times; the red light in front is less common, but I have met with it more than once, and only a week or so ago a cyclist was fined for this

wery offence.

"Sivel" accuses me of being guilty of a split infinitive, which apparently he thinks is to be found in the following sentence. "How does he know that his escapes have not been entirely due to the presence of his light?" This sentence of the sentence of th tence does not contain an infinitive. Can one split what is not there? A schoolboy once said "a preposition is a word you must never end a sentence with." This is sound, though badly expressed, and those who read "Sivel's" recond letter will see its point. These are small points, but I fear that "Sivel's" knowledge of the English language is about on a par with his acquaintance with logic.

The last sentence of "Sivel's" letter is merely rude, but

no matter! I used his own phrase with intent, as he should have seen. I thank him for his new phrase, but, as the inconvenience is not serious, the real benefit not lacking, nor the cause lost, I fear I shall have no use for it, though it would be excellent if properly applied.

JOHN HOLLAND.

2/- 2/3

Sir,—I wish to state my views in opposition to "Sivel's" letters I read in The Motor Cycle.

I can with difficulty believe that the motor cyclist who has had a "protracted experience of the delight thereof" can be in earnest over most of the silly statements he made

in his letters.

He says: "To say that a cyclist must carry such light in order that his presence may be thereby known to the motorist is certainly one of the most absurd grounds that could possibly be put forward." I would like to ask him why it is absurd. For what other reason were rear lights for bicycles ever manufactured but to let other users of the road, especially motorists, know of the presence of a bicycle? It is obvious that it is much more essential that the slow-going push bicycle should have a rear light than the motor cycle or any other meter vehicle.

Your correspondent enumerated a list of things that a motorist may meet on the road at night. Pedestrians, of course, should walk as close to the side as possible if there is no footpath. In the country a motorist sometimes meets cattle and stray horses on the road at night, but it is unavoidable, and the motorist has to take the risk of a collision; but I would like to know the number of motorists who have had accidents at night due to broken-down carts and parcels dropped on the road. Your correspondent then asks, "What form of danger signal do the enthusiasts of the rear light propose for these impedimenta?" We "enthusiasts" (of whom I am one) are not such fools as to expect stray cattle or parcels dropped on the road to carry a rear light or any other warning device. Your correspondent argues on these lines: "Because a ship at sea is lost due to a collision with a floating mine, why should ships carry lights? Why should there be lighthouses?"

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle.

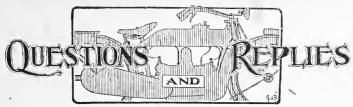
HINTS AND TIPS FOR MOTOR CYCLISTS." Price By Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Sixth Edition. (Second Reprint.) 2/- 2/- 2/net, post.

"TRACING MOTOR CYCLE TROUBLES."

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"THE MOTOR CYCLE" ROAD MAPS.
England and Wales, Scotland, London (showing roads into and out of London and avoiding London),
Mounted on linen. Set of three, complete in case

Obtainable by post (remittance with order) from ILIFFE & SONSLtd., 20, Tudog Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for retly. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and being a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Correct Level for Benzole.



What difference in the level of the spirit should there be in a 26 jet when using benzole instead of petrol?-H.S.

It may not be necessary to alter the level when using benzole, although it usually is possible to lower it about onesixteenth of an inch.

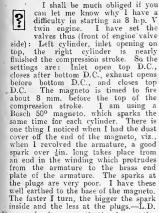
Sidecar on Lightweight. According to the makers of a



certain 23 h.p. two-stroke motor cycle, their machine will take a sidecar. Could you tell me if the frame usually fitted to this class of machine would stand the strain; also, if the engine would be sufficient? Would it be reliable? What, with reasonable care, should be the average life?-Novice.

We do not recommend the attachment of sidecars to extremely light machines, although in an absolutely flat district such a fitting might be moderately suc-cessful if a two-speed gear were used. The machine should be reasonably reli-able, and any modern motor cycle, with certain occasional renewals, should have an almost indefinite life.

A Magneto Defect.



Your engine is apparently timed correctly, both as regards valves and ignition. It

in the magneto. Possibly the high-tension wires are broken internally, or maybe the carbons in the high-tension brush

holders are not free in their guides. If attention to these points does not reveal the defect, we should recommend that you submit the magneto to an expert repairer.

Dynamo Details.

I have been a keen reader of your most valuable journal for several years, and am now writing to ask your help on one a small 12 volt 250 watt dynamo for lighting and charging. (1.) The dynamo, 1 notice, has three leads, marked red, yellow, and black respectively. What is the purpose of the yellow lead, and what must be done with it? (2.) Does it harm the dynamo to run (a) with all switches open, (b) while dead shorting the leads? (3.) What size fuse wire shall I need to use? (4.) I propose using an iron wire resistance when charging. What number L.W.G. will be necessary? (5.) Should the ammeter reading be the same when the accumu-

lators are being charged when wired in

parallel and in series?—E.H.B.

(1) One of the three leads will be smaller than the other two. This one is the shunt field lead, and is brought out for the purpose of introducing a shunt field regulating resistance on the switchboard, if necessary. By this means you can obtain additional voltage regulation in an economical manner. You can, however, if you prefer, connect the shunt lead directly to the opposite brush to which the other end of the shunt winding is permanently connected. (2.) It does no

harm to run with all switches open, but on no account run with the armature short circuited; it would burn out at once. (3.) Ask for twenty ampère fuse wire. (4.) To carry the maximum current which this dynamo will give without becoming unduly hot will require a fairly large iron wire, say, No. 12 B.W.G. wound on a bar in diameter. This will give you about one ohm per 790 turns. It is not possible to give you exact figures, as the composition of what is commercially called "iron" varies so greatly, but the above amount is approximately correct. (5.) If you have two when they are put in parrallel the ammeter will read double the amount shown when they are in series.

Bent Rear Forks.

I shall be glad if you can give some advice on the following point concerning a 4 h.p. Triumph motor cycle which I have recently purchased. The previous owner, in putting it up on its stand, let the machine down so heavily that the forks running from the engine to the hub of the back wheel are bent. If I have these straightened, will the machine be safe to ride, or would you

recommend having those forks entirely

In all probability it would be better to have new tubes brazed into the rear forks of the machine, although if they are not badly bent they could be quite easily straightened if warmed by a brazing lamp.

replaced ?-W.A.B.



The public displayed great interest in the London-Exeter run, its as they hid in an the important trials of 1919. The scene depicted shows a rider of a flat twin Harley-Davidson at Salisbu v

Faulty Running Two-stroke.

I have a 2½ h.p. 1919 model two-stroke that ran well until quite recently, when it started to choke. I have changed jets, and tried every possible variation of mixture, and cannot get it right. Compression is good, and I use No. 1 spirit. Speed is very poor, and as soon as I open out it chokes and splutters.—N.B

It would appear that the trouble with your two-stroke engine is due to the sparking plug having become defective. We should recommend you to experiment with a good quality detachable plug, baving fairly substantial electrodes, also make certain that the timing has not slipped. Note particularly if the nut on the magneto sprocket is tight, and also verify the fact that the spark occurs on top dead centre when the ignition control is fully retarded.

An Electric Lighting Scheme.

I have a Rover, with three-speed hub. I have fitted T.T. haudle-bars, and wish to fit a second pair of footrests beneath the saddle, im place of the present pedals. I shall therefore remove the pedalling chain. I have a Brooks motor cycle carrier attaché case on my carrier, and propose fitting a dynamo and accumulator in this, and running the dynamo off the old kick-starter chain sprocket Please let me know if you consider the idea feasible.—
N.L.W.

We do not think that your proposed fitting is practicable. The sprocket on the three-speed hub is a free-wheel, and consequently would not drive the dynamo unless it was locked in some way. The speed also would be too low. If you desire to fit electric lighting to your machine, we should advise you to have one of the lighting dynamos specially made for the purpose.

Timing for Speed. .

(1.) Is it possible to alter the makers' valve timing of my 1919
4 h.p. countershaft Triumph for speed work? (2.) If not, would the timing gear as fitted to T.T. Triumphs fit my machine, presuming that a special timing gear is fitted to T.T. Triumphs? (3.) The lead in millimetres to give the piston before top dead centre with the ignition lever fully advanced and points just breaking, for normal running and for speed work (4.) Most suitable size jet for speed work irrespective of petrol consumption.—F.M.

(1.) You cannot improve on the makers' timing of the 1919 Triumph engine, nor can you alter it largely unless you have a new timing wheel and cams, and this would have to be specially made. (2.) We do not know of any variation in the cams fitted to the T.T. and the ordinary models, but would recommend you to write to the makers for information. (3.) Normal lead 10 mm. for speed 11 or 12. (4.) The most suitable jet size can hest be found by experiment. If you think it necessary to vary the jet in your carburetter, the best course is to procure a selection of jets from the makers.

READERS' REPLIES.

Risk of Fire.

In reply to "Rudge Multist" (page 763, December 11th), I may say that the Minimax Co. in 1912 made a special fire extinguisher with bracket which could be fitted to any motor cycle. They have agents in almost every town in the British Isles.—WRINKLE.

Misfiring on One Cylinder.

"J.W.S." should examine the inlet valve of the offending cylinder, and find out if the stem is not unduly worn. I have no doubt that this is where his trouble lies. His query appears on page 765, issue dated December 11th.—GULLANITE.

Belt Trouble.

Having read in your issue for December Having read in your issue for December 18th a letter from a correspondent, "W.H.," bewailing the use of four belts in 5,750 miles on a Rudge-Multi, and asking advice, I tender the following experience for what it is worth: His figures are ridiculous if the gear is used with receptable ears and he gets hold of with reasonable care and he gets hold of good belts in the first place. For my part, I always use Dunlops, and have on my present Rudge a belt which has done hy bresent mage a bett which has done day, but he shortened it twice only, and it should be good for two or three thousand more, judging by appearances. Of this distance, which has included many rough roads. hills and much traffic riding necessitating constant use of the gear lever, I estimate that 75% to 80% was done with a pillion passenger. On a 1913 model Rudge-Multi I owned I could rarely get more than 2,500 to 3,000 miles per belt; but, even so, that was no extravagance, as the saving in tyres, petrol, and oil from the careful use of the gear much more than paid for the belts. The points to notice are: (1.) To keep the belt adjusted nicely, which is the simplest of matters with the rear hub tensioning device now fitted. Allow for 2in. play up and down, i.e., gripping centre of belt between pulleys, adjust so that it may be raised lin. and depressed lin. from its normal straight line. (2.) Move the gear lever gradually from notch to notch. (3.) Change down the whole time just before the engine lags. This saves the belt, the tyres, and the engine. So many riders of a Rudge-Multi think that the essence of driving is to hang on to a high gear to the last moment possible, regardless of the violent snatch that may be caused. They forget that the average 3½ h.p. engine is geared 5 to 1, or at most perhaps 4½ to 1, and, owing to the splendid hanging-on powers of the Rudge engine, they overlook the fact that they may be using a gear of 31 to 1 at 10 or 12 m.p.h., and if they should be carrying a passenger the strain and jar then are very great. I should be quite willing to wager that is the cause of "W.H." hreaking his spokes. Might I suggest to "W.H." that he reckon-out about where his lever should be at a gear about where his lever should be at a gear of, say, 5 to 1, and not use a higher gear than that at speeds below 20 m.p.h. A gear of 4 to 1 seems to suit the Rudge engine very well at 30 m.p.h., and the last two or three notches come in very nicely over that speed. If he will adhere to a rule on those lines I do not think "W.11." will be troubled with more broken spokes or vnewed up belts. And

possibly these tips may be of use and interest to other riders of Rudge-Multis whom I daily see using their gear in such a way as to ask for trouble of a similar nature to "W.H.," but to a more prononneed degree. Unfortunately, a very plucky little eugine makes the multi-gear rather a danger in the hands of people who do not understand that the underlying principle of driving a motor cycle is, or should be, to keep the engine to a fairly good and even number of revolutions. I should like to finish up with an appreciation of the Rudge as the ideal solo mount—engine, gear, foot-oiling system, spring-up stand, and many other details, including the steering. Should "W.H." care to communicate with me directly I will try to answer any points of difficulty he may have.—Rudge-Multi (Rediord).

Referring to "W.H.'s" query on page 791 of your issue of December 18th, I experienced the same trouble on my 34 h.p. Rudge-Multi. I think if he will fit a John Bull žin. belt on his bicycle and never move his gear up or down more than two notches at a time, he will do away with his belt trouble, and the breaking of spokes as well. I find that a John Bull belt wears very well on the Multi. I can get six to eight months' wear out of one, using the cycle every day.—N.J.S.

EXPERIENCES WANTED.

"H.D.L."—Most suitable lightweight for use in Central Africa.

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Grinstead, Crawley, Horsham, Five
Oaks, Billingshurst, Wisborough Green,
Petworth, Chichester.

READING TO NORWICH.-H.W.

Reading, Maidenhead, Beaconsfield, Ricksmansworth, Watford, St. Albans, Wheathampstead, Codicote, Stevenäge, Baldock, Royston, Whittlesford, Six Mile Bottom, Thetford, Attleborough, Wymondham, Norwich.

BATHGATE TO THORNE.-H.D.

Bathgate, Whitburn, Wilsontowi, Lanark, Abington, Beattock, Lockerbie, Ecclefechan, Longtown, Brampton, Alston, Middleton-in-Teesdale, Barnard Castle, Scotch Corner, Leeming, Boroughbridge, Green Hammerton, York, Selby, Snaith, Thorne. Approximately 225 miles.

THORNE TO PILLING .- H.D.

Thorne, Snaith, Selby, Tadcaster, Harewood, Otley, Ilkley, Skipton, Gisburn, Clitheroe, Preston, Garstang, Pilling. Approximately 110 miles.

PILLING TO BATHGATE.-H.D.

Pilling, Lancaster, Carnforth, Kendal, Shap, Penrith, and back by the route previously given. Approximately 175 miles.





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295.	6 BRADBURY Combination	1020	£157	11
101.	8 NEW IMPERIAL and Sidecar .	1010	_	
2291.	2} P. & S	1020.	£67	- (
290.	2} CARFIELD	1920	£60	•
	2. DOUGLAS, a-speed	1020	ESO	•
	4 DOUGLAS Combination	1020	£145	
	SECOND-HAND SOLO MACHI			
2292.			£32	11
294.		1910	£27	
272.	4 BRADBURY	TOTT	140	
074.	6 ZENITH, Gradua gear	1011	£84	-
259.	8 MATCHLESS, single gear	1012	£72	10
012.	3} CORAH-d.A.P	1912	£48	1
193.	4 DOUGLAS	1919	£116	i
762.	31 RUDGE	1913	£45	í
156.	31 RUDGE-MULT1	1915	£75	ì
079	24 TRIUMPH JUNIOR	1911		1
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	7-9 INDIAN Combination	1914	£93	1
275.	8 ROYAL RUBY and Sidecar		£150	•
273.	41 JAMES Combination	1916	±125	9
100.	6 ROYAL ENFIELD Combination	1919		1
oro.	7-9 JAMES-HOWARTH Comb	1914	£125	,
120.	31 KERRY-ABINGDON Comb	1914		19
082.	5-6 INDIAN Combination	1913	£12S	(
000.	7-9 INDIAN Combination	1913	283	•
184.	6 ROYAL ENFIELD Combination	1917	£155	٥
196.	4 DOUGLAS Combination	1919	£125	(
IOI.	4 A.J.S. and Sidecar	1915	£130	e
977-	8 - WILLIAMSON Combination	1914	£110	0
159.	5-6 RUDGE-MULTI and Sidecar	1914		10
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A J.S. Lightweight, single-speed, variable pulls, new front tyre (Hutchisons), new U.H. mas when the pulls of the

2 h.p. A.J.S., lete 1915, hand clutch, 3-speed, in 24 start, Westford speedometer, Lucas hore, Hu Daylight electric lights (40 amp, accumulator), in titled Hutchiacon front, Dundop beavy studded has both good, recently overhauled and fitted new pairries, general condition very good, mechanically perfect for most of the condition of the conditio

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LLON 2%h.p., 2-speed, hand clutch, splendld condition; £50, or exchange with cush for od combination.—194, Lawlord Rd., Rugby. [X2088] LLON de Luxe, delivered October, 1919, mileage 200, clutch, kick, 2-speed, lamps, horn, perfect adition; £70.—Box L6,492, clo The Motor Cycle.

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LIDAYS Matchless 1914 25, h.p. 2-stroke, 2-speed, head and tail lemps, horn, tools, excellent conson; £3270; no offers.—1. Bernard Mews, Heriand St., Russell Sq., W.C.1.

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Ariet.

ROW Bros., High St., Guildford, Ariel agents, supply at makers' prices. [X7944 YRIL WILLIAMS, for early delivery of Ariels.-Chape, Ash Depot, Wolverhampton. [X8625]

RIEL New 1920 Coachbuilt Combination; £130.— Edwards, 7, Exhibition Rd., South Kens. [7057] RIEL. just delivered, 3½h.p., 3-speed countershaft, in stocκ; £100.—Thomas, Garages, Welshpool. in stock; £100.—1100.

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1.31911 320 Ariel Combination, 6-7h.p., just delivered from works; £155.—Walbro Motor Works, Lyun Rd., (Cambs. 22042 RIFL 3'sh.p., single speed, C.A.V. Senspray, spring forks, drop back frame; £25.—Young, King Bedworth.

JNES' Garage, special agents for Ariels, Broad war, Muswell Hill, N.10, and Woodside Farade, th Fincbley.

n Kholiswen Hin, K.10, and nousing Earnne, 187, 197, 198, 20 33th, 3. 5-speed Ariel in stock, £100; coach, Hunts. '170ne; 5. 5. 198, 25. Earker and Son, St. (To42) Hunts. '170ne; 6. 5. 198 Early deliveries; all spare parts stocked, — Speekman, Ariel fx. 7, Rochdale Rd., Harpurbey, Muchester. (2020)

7. Rochdale Rd., Harparisc, Scientific, 3 19 Ariel Combination. 3½h.p., countershalt, 3 speeds, K.S., all accessories, nascratched; £115, ifter.—R.L., clo Martin, 18, Orchard St., Bristin, 1712. 1919; 3½-4h.p., 3 speeds, countershalt, clutch, decompressor, kick start, acw condition; tr abroad; £95.—28, Upper Redlands Rd., Rend-(713)

19 Ariel 315h.p. Coachbuilt Combination, lamps, horn, speedometer, perfect condition; Harrow; 5.—See Kwiksale advertisement, Miscellaneous sale

124 31-h.p. Ariel and C.B. sidecar, 3-speed, clutch, lamps, horn, tools, spares, insurance policy, d 3 years, splendid condition; trial run; £65, no ness.—6, Princes Rd., Ashford, Middlesex. [X2025]

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Solo £158 Combination £190



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A RNO 4h.p., 2-speed, clutch, Boarh, B. and B. top feed (bottom gear only wants chain diversified away on top; bargain (fine sidecear bus), 2,55 Arro, 7, Radgmount Villas, Montpeller Rd., Sutton, Surrey.

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2 th.p. Ascot; £48, bargain; or exchange higher 2 power, cash adjustment if required.—G. Watts, Bridge Buildings, Farringdon Gurney, near Bristol.

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WALL, B.S.A., mileage 80; £13.—Greatrex, Fox Cover, Hammerwich, Lichfield. [X2171

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A UTO-WHEEL for Sale, nearly new, perfect run-fly gorder; £14.—Noticy, 22, Herbert Rd., Seven Kinga, Hiord, Essex, Lux, (2.125) A UTO-WHEEL, 1920, Model de Lux, (2.125) A UTO-WHEEL, Pard, Wilkins, Simpson, and Co., opposite Dymphi Lendon. A UTO-WHEEL Model de Luxe, No. 41165, good A UTO-WHEEL Model de Luxe, No. 41165, good Crookwood Cottage, Yafrad, nr. Denbigh, V22157

BAT-J.A.P. Two Combination, spring frame, gear box, K.S. complete accessories; £75.-8, Sion Row Twickenham, [7113

6 b.p. Bat-Jup and Conchbuilt Sidecar, 2-speed counter-shutt, clutch, good tyres, lamps, etc.; £75.—Globe Iron Works, Thame, Oxoo.

6 h.p. Bat-Jap, 2-speed, countershalt gear, speedometer, all accessories, good condition; £65.—Broadbridge, Engineer, Lindfield. [7297]

BAT, 6h.p. J.A.P., coachbuilt sidecar, 2-speed countersilart, lamps, horn: £47/10, bargaia.—Kiugtoo, 2, Kiug Edward Parade, Norbury, S.W. [6743

19 20 Bat, just delivered, extra large sidecar, 700×80 tyres; £160; owner bought car.—Turner, Westbourne House, Richmond Rd., Twickenham. Phone: Richmond 217.

19 14 5-6h.p. Bat-Jap, T.T. bars (full), lamps, tools, tyres and belt good, engine good condition, long tapered exhaust: £52: any trial.-Ford, The Bell, Sotwell, near Wallingford, Berks.

BATJAP. 6-8h.p. Combination, 2-speed counter-shaft, clutch, handle start, cancelet sidecar, the machine is in perfect mechanical order, complete with spare valves, chains, cover, lamps, horn, etc.; £80.— 46, Cronwell Rd., Waltbamstow, £17. [7181]

Beardmore

L ANCASHIRE (West) and Cheshire.—Beardmore Precision, the most advanced and practical motor cycle yet designed.—Enquiries invited by J. Blake and Co., 110, Bold St., Liverpool. [6575]

Blackburne.

CROW Bros., High St., Guildford, are old Black-hurne agents, and invite enquiries. [X7945] STANLEY RUSSELL, Newport, sole Isle of Wight agent for Biackburne motors; early delivery, [5297

ERIC WILLIAMS, the Worcester Blackburge agent.— Early delivery 4 and 8h.p. models.—12, The Fore-cate, Worcester. [X1494]

JONES' Garage, special agents for Blackburges, Broadway, Muswell Hill, N.10, and Woodsids Parade, North Finchley. [0029

BLACKBURNE, 1920 models, for early delivery.— Book your order with the City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3.

PLACKBURNE.—New 1920 4h.p. models actually in stock: no premium required.—Chandler, Reyre and Williams, Hitchin. Herts. Phone: 165 Hitchin. [0062]

Hilchin,

B LACKBURNES,—Longman Bros. 17, Bond St.,
Ealing (Tel.: 699), and 387, Uxbridge Rd.,
Acton (Tel.: 1578 Chiswick), sole district agent.
Deliveries of 1920 models from stock; list price.
(7195

Bradbury.

Braddury.

WAUCHOPE'S, 9, 8hoe Lane, Fleet St., Londen, E.C.—4h.p. Briddury, 1911 nidel; \$40. [7448]

BRADBURY, 1914, 2-speed, excellent condition, \$45; sidecar, £10.—17, Heaton Rd., Mitcham. [7009]

BEADBURY 1920 Models for early deliveries.— Eright and Hayles, 78, Church St., Cambergeli.

BRADBURY 4h.p., semi T.T., variable pullev, scud order: £32.—3, Littletholps Terrace, Ripon, LY1965
BRADBURY 4h.p., splendid condition, clutch, administrable pulley, tree as new, lamps: £45.—Seen

MOTOR CYCLES FOR SALE. Bradbury.

BRADBURY.—For the earliest possible deliveries of 1319 models.—The Walsall Garage, Wolverhamp for St., Wal-all. Tel 444. [9575]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.-6h.p. Bradbury combination, new 1920 model, immediate delivery; £157/10 [7439]

BRADBURY 4h.p., Bosch, adjustable pulley, engine overhauled, lamps, horn, pump; best offer secures.—24, Higb St., Ironbridge, Salop. [X2039]

BRADBURY, 1920, 4h.p., 3-speed countershaft, kick starter, chain drive, Canoelet sidecar, storm anion, brand new, at makers' price; £147/5.—Wilkins, Simpton, and Co., opposite Olympia, London. [6847] 1915 6h., Bradburr Coachbuilt Combination. 3546d countershart, all chain, lick start, hand chiefal amps, Glaxoo, tools, etc., excellent order, £93. Sec., Whitehorse Garage, Whitehorse Rd., Thornton Heath, S.E.

C21.-34th.p. Bradbury motor cycle, Bosch mag. E and B. carburetter, a.i.v., Philipson pulley, T.T bars, good tyres, sound throughout, hargain; ride away —Apply, L. Fryer, Hare and Hounds Hotel, Foulindge near Colne.

Brough

5 h.p. T.T. Brough, promised next week; what offers Box L6,548, c/o The Motor Cycle. [7486]

MY Brough Combination due this month. Unab purchase. What offers?—Box L6,547, c/o Motor Cycle.

31h.p. Brough, 2-speed, T.T. model, end of season bargain, £49.—Clapham (Motors), King George 3t., Greenwich.

SOUTH Laucashire, North Cheshire, and Isle of Man only,—Brough enquiries.—J. Blake and Co., Official Dealers, Liverpool and Manchester. [6588] 19¹⁶ Brough 3½h.p., Watsonian sidecar, Binks carburetter, 3-speed, countershaft, Sturmey-Archer, lamps, horn, etc., excellent condition; London, S.W.; £90.—See Kwiksale advertisement, Miscellaneous sale column.

BROUGH, 1916, 3½b,p. o.h.v. twin, 3-speed counter-bant, senn-1.T. bins, re-enunciled and plated, compared to the control of the control of the control captilless of expense rice and the control of the con-trol of the control of the control of the control of the con-land, guaranteed speed 75 m.p.h., or 55 m.p.h. with ordinary cams; 185-Pull particulars and satisfactory costs of the control captilless of the control of the control of the control of the control captilless of the control of the co

Brown. Brown. H.T. mag., dropped tank, Davids, E. 22 and B.; £15.—Butiers Farm, Broomfield, Chelms-

23h.p. Brown, torpede tank, Simms mag, Aune car-lunetter, XL'all spring forks, and excellent tyres; first \$22 seemes.—Sedham, Mermoid St., Rye, Sussex [6799]

B.S.A

B 3AND New B.S.A. Model K. in st.ck.-Brook Bros., 16820 16) 18 B.S.A., mileage under 1.000, chain £85.-37, Arlington Rd., Surbiton.

14) 20 B.S.A., brand new, 414h.p., Model K.-Office Box L6,496, c/o The Motor Cycle. [69]

1015 B.S.A., 4h.p., countershaft, 3-speed, K.S.: £65.-9, Church Rd., Willesden, N.W. [7268

B.S.A. Sole District Agents; book now.—The Walsa: Garage, Wolverhampton St., Walsall, Tel.: 444

B.S.A., late model, 3-speed, kick start, all as new;

B.S.A., 4½h, p., W.D. model, wants slight attention, 265.—Coller's Motories, Union St. South, Halifar, 17349

B.S.A., 1911, very good condition, tyres as accept £35.-Welch, 135, Edgware Rd., W.2.

1016 B.S.A., 3 speeds, countershart, coachbuilt bination, periect condition; £90,-16, You Dover.

p. B.S.A., 2-speed clutch, smart machine, good order; £55 cash.—Turley, 32, High St., Rusthall Kent.

Rent.

B.S.A. 3j/h.p., 2-speeds, clutch, in excellent condition; £58.—Harris, Lexden Gaidens, Belle Vue, Shrewshury.

[X2163]

B.S.A., late 1916, 44(h.p., all chain, 3 speeds clutch, kick start, new tyres; £70.-63, Solen Rd., Brixton. [7178

JONES' Garage, special agents for B.S.A., Broad wav. Muswell Hill, N.10, and Woodside Parade North Finchley.

B.S.A. 4h.p. Model, with special sidecar, equipped Lucas spares: trial or examination.—Parker's, Bradshawgate, Bolton. [7392

1 920 B.S.A. Model H Motor Cycle, and No. 2 side-car, with In_gage grid, glass screen, and hood; £145; first cherms seemes.—R. Vickery, Photographer, Trots, Devon.



Sole London and District Agents for A.J.S. and British Excelsion Motor Cycles, also Watsonian Sidecars, tracting Agents for Triumphs, B:S.A., Hendersons, Enfields, Calthorpes, Allons, A.B.C.'s, Matchless, Rudge, etc.

USEFUL ACCESSORIES.



MOTORING GLOVES.

mitts, a really excellent glove 21;
Tan plain one finger mitts. 9 3
Reindeer bide alexander

RACING HELMETS.
I an leather fleece lined
I an leather Teddie lined
Waterproof fleece lined
(Postage on helmets 3d. extra)

OVERBOOT LEGGINGS. Separate legs (3 sizes) 23 - er. Special sentless type 27 - pr (Pestage 6d. extra).

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Easy to fix and very effective (postage 4d. extra) Price 8/- ar. TIPPS PETROL POURER

Will empty a two gallon can in

12 minutes. Fits any can.

(Post 3d. extra) Price 2/3

CAMEO WINDSCREENS Just the thing for winter riding £2 15 or with valance £3 0

COWEY SPEEDOMETERS.

MECHANICAL HORNS. Very strong and efficient. (Post 6d.)

WOOD-MILNE FOOT PUMPS None better to be had. (Post 6d.) 47

REPAIR OUTFITS

Motor Cycle size, special bargain at (Post 3d.) 1 /- each

MOTORISTS' TOOL KIT. Genuine Abingdon 10 tools complete in canvas

H. TAYLOR & CO., LTD. Showrooms: 21a, STORE ST., W.C.1 Wholesale: 38, ALFRED PLACE, W.C.1

Garage—Tottenham Court Road.
Phone—Museum, 1240.
Telegrams — "Dynametro, Westcent. London "

MOTOR CYCLES FOR SALE. B.S.A.

19¹⁶ B.S.A. 44h.p. Combination, 3 lamps, hor etc., sew condition: £95, quick sale.—436, Whit horse Rd., Thorntoo Heath, S.E.

19¹⁵ B.S.A. 4h.p., 3-speed countershaft gear, kid Farm, Highwood, near Chelmsford. [703]

B.S.A. 6h.p. Twin 3-speed Combination, J.A.P. egine. in good order; £135.—Elee and Co., 15-1. Bishopsgate Av., Camomile St., E.C.3. [006]

19 3 B.S.A. 35/h.p., free engine, adjustable pulle good tyres, horn, tools, sound condition; £45.
T. Jones, 3, Broncynon Terrace, Aberdare. [728] WE Are Agents for the R.S.A. Place you order with us to secure good delivery.—Appl King and Harper, 6, Bridge St., Cambridge. [678]

B.S.A. Specialists.—All leplacements in stock; B.S.A. Specialists.—All leplacements in stock; B.S. Siderars in stock,—The County Cycle and Mot Co., Broad St., Elirningham. Tel.: Midland 733.

T.A. Comocyco, Birmingham.

1917 B.S.A., all-chain, coachbuilt combination lamps, horn, speedometer, etc., excellent condition; Surrey; £97/10.—See Kwiksale advertisemen Miscellaneous sale column.

B.S.A. Combination, 1919 model, 4½h.p., complet with 3 lamps, wind soreen, horn, etc., 130 gas perfect condition; also second-hand Harley Sideca 10 gas.—J. Warner, High St., Witney, Oxoa. (X212)

B.S.A. 4½h.p., new, chain driven combination, le works Oct. 16th, 1919, ridden 500 miles, Luc lamps, horn, mirror (comprehense insurance polic cost 26): £142.—A. Mould, High St., Cobham, Surre (X190)

19 13-14 B.S.A. Ceachbuilt Combination, lamp war, new tyres, 2-speed bub; £65. Northauts.-8 Kwiksale advertisement, Miscellaneous sale column

LATE 1916 B.S.A. 4½h.p., chain-cum-belt, Glor coachbuilt sidecar, very little used, recently cou-pletely overhauled, electric tail and side lamp, spat tube, etc., perfect running order; 100 gns.—Kilne R.A. Mess, Shoeburyness.

1019 (Jilly) B.S.A. Model H, latest B.S.A. sides with cantilever springs, appearance and med anical condition as new, small mileage, double hore £130. Saturday afternoon or Sanday.—Tuckett, 140 Watery Lane, Mecton Park, S.W.12.

B.S. A. 19, 4/thp, Medel K. condition perfect B.B.S. A. bet side for rulleage 100, complete Lucas lamps, Stewart speedometer, spares, etc., a tyres unpunctured, excellent turnout ungeratche best offer over £125 secures.—A. Turner, Broad 8 Banbury. Tel.: 28.

Cross, S.E. 14.

19 17 (Sept.) B.S.A., 4/h.p., all chain, with sideer
perfect going order, complete with all accessors
and many extras, including 3 unused retreaded aptyres, College shields, Lucas 3 neetylece lamps, seprate generators, trip speciometer, Kinxon, 2 yantalies, etc., small mileage; any trial; buying car; £13

—Collier, Viso Tannery, Northampton.

[139]

Calthorpe.

3h.p. Calthorpe-Jap, 2-speed, free engice, la Marchael and Machine; offers.-4, Lumley Rd Skegness.

CALTHORPE 2½h.p., 2-stroke, 2-speed, order; any trial: £36, or nearest offer. House, Tunbridge Wells.

19¹⁵ Calthorpe-Jap, 2³/₄h.p., 2-speed and condition; 1240, quick sale.—436, Whithorse Rd., Thoruton Heath, S.E. CALTHORPE 2-stroke, 21/h.p., Enfield 2-speed, bran new, at makers' price; £64/1.—Wilkins, Simpsor and Co., opposite Olympia, Loadon. [684

19 17 Calthorpe 254h.p., excellent condition, s mileage; £40; London.—See Kwiksale a tisement, Miscellaneous sale column.

CALTHORPE-J.A.P., 25th.p., Enfield 2-speed, bracenew, at makers' price; £65/2.—Wilkins, Simpsot and Co., opposite Olympia, London. [684]

CALTHORPE, 1919 (June). 2-speed, 2-stroke, 2-speed, 1919 (Lucas lamps, insurance perfect: £56.—46, Western Rd., Southall. [713]

19 15-1916 Calthorne-Jap 25th.p., Enfield gears, in good condition; 50 gns., or near offer.—Hayles, Lodge Farm, Alderholt, Salisbury. (X216)

WE Are Agents for the Calthorne. Place you order with us to secure good delivery.—Apply King and Harper, 6, Bridge St., Cambridge., [679] CALTHORPE, 1915, 2-speed and free, new tyres sue belt, lighting set, machine to excellent condition sacrifice £35; cash wanted.—Cobhold, Clifton Mount Summerhill Rd., Dartford. [703.

CALTHORPE-J.A.P. 27;h.p., delivered 1919, Enflel 2-speed, clutch, electric rear hight, P. and H. hard Pedley grips, variable ignition, Amac, Avons, Lourd new, long copper exhaust, fine machine; £50.—4, Has over St., London, W.I.

MOTOR CYCLES FOR SALE.

Camplon.

AMPION T.D.O. 25th.p. 2-stroke, 1919 engine, new tyres, belt, perfect; exchange Scott, adjustment; Il £35.—Utridge, Bolsover.

YEDOS.—The first 2-stroke ever produced; ladies or gentlemen's; arder now for spring delivery.—I, lake and Co., Lancashire's leading motor cycle alers, Liverpool and Manchester. [6576

1 h.p. Centaur and siderar, 1914, Sturmey-Archet 2 3-speed hub, kick start, speedometer, lamps, tools, lendid condition: £65.—Hills, Motor Engineers, Wood-rd Wells.

Chater-Jap.

16 4h.p. Single Chater-Jap, in excellent condition: £50.—Cragg, 5, Ailsa Av., 8f. Margatet's, Twickenn.

Chater-Lea.

HATER-LEA 8h.p. Combination, 1915, 3 speeds, all accessories; £95.-40, Louie Rd., Forest Gate. HATER-I.E.A Enquiries Invited by J. Blake and Co., leading motor cycle experts, Liverpool and anchester. [6577

HATER-LEA 6-8h.p. J.A.P. C.B. Combination, C.S. gear box, all chain drive, lamp, etc., trial, 30, or offer.—C.S., 14, Swaton Rd., Bow, E.3. [7165

TOTOR Cycle, 315h.p., Chater-Lea Irame, mag., in good order, good tyres, tubes; owner going ey; £22; before mid-day.—35a, Midmoor Rd., Ballmi, S.W.12.

Chater-Lea-Rex. [X2177]

914 Chater-Lea-Rex 7h.p. Combination, 3-speed countershart, K.S. gear box, chain-cum-belt, and form of art, very lattle used, excellent maning addition 2 [20] corner going abroad.—Denby, Western [X1634] Clyno.

LYNO. brand new, 2-stroke, 2-speed model, in [X2243 916 6h.p. Clyno Combination; £90, bargain for quick sale.—436, Whiteberse Rd., Thornton sath, S.E.

hp. Clyno Coach Combination, 2-speed, kick start, very little used: £70; will ride 50 miles.—17, Gar-1 Av., Mitcham, S.W.

AUCHOPE'S, 9, Shoe Lane, London, supply new Clyno 24h.p. 2-strokes, 2-speed and clutch, 1920 dela; £70, from stock. [6617

LYNO 6h.p. Combinations, late models, wanting attention; £59/10, £68/10.—Collier's Motories, ion St. Sonth, Halifax. [7350

LYNO.—New 1920 2-speed 2-stroke models actually in stock.—Chandler, Reyre and Williams, Hitchin, rts. 'Phone: 165 Hitchin. [0063

RIC WILLIAMS, the Worcester Clyno agent.— Immediate delivery 1920 lightweights, combinations by spring.—12, The Foregate, Woicester. [X1491] LYNO 1920 2-stroke, 2-speed and clutch: £70; hrand new, actually in stock at makers' price.—kkins, Simpson, and Co., opposite Olympia, London.

LYNO 6b.p. Combigation, 3-speed, K.S. (6851 ace hamps, mechanical born, and Renold clinics, spot cash. - 16. St. Mary Abbott's Terrace, Ectron.

6b,p. Clyno Coachbuilt Combination. 2-speed, clutch, kick starter, running order, good tyres, p, horn, tools; £45.—209, Broadway, West Hen-

LYNO (late model) Combination, 3-speed, kick start, spare wheel, all in good condition, £95; new sidecar, as new, £75.—Hawkins, 455, YG973, Wandsworth.

LYNO Lightweight in stock. Orders booked in rotation. Clyno combination orders booked in rotation, very from March.—Rothwell and Milhourne, Coul. Garage, Malvern. 19 Clyno, brand new, 2½b.p., 2 speeds, fitted with P. and H. lamp, rear lamps £5/5 speedoer, horn ;cost £79, accept £67; Cambridge.—
L6,509, c/o The Motor Cycle.

LYNO Combination, 1917-18, 6-8h.p., W.D. model, 3-speed, countershaft, clutch, R.S., T.B. mag, head lamp, generator, Klaxon; any trial; 120, near offer.—21, Glendale Rd., Erith.

15 Clyno 5-6h.p. Twin, 2-speed, countersbaft, lamps, born, speedometer, cane sidecar, stored 1914 till Jniv, 1919, excellent condition; £65; don, S.E.—See Kwiksale advertisement, Miscelles obts sale column.

oos sale column.

Brand-New W.O. Clyno, J.A.P. engine, 28×3, detechable wheels, heavy Danloy tyres, spring sent spillon seat, commercial delivery chassis with stag goods carrier, perfect order, not ran miles; 130 gas.—Rox 66, c.o The Motor (Sect.)

Connaught.



All Motor Cycles quoted below are for Immediate Delivery:

COMBINATIONS.

1920 MATCHLESS Combination, Lucas dynamo lighting set Offers

1919 8 h.p. SUNBEAM Combination, Lucas dynamo lighting set, screen, spare wheel, extra fittings, run a tew miles onlyOffers

1920 ENFIELD Combination, Lucas dynamo lighting set, hood, screen, speedometerOffers

1920 Sporting HENDERSON Combina-tion; smartest outfit on the road. Offers

1920 HARLEY Combination, lamps, all accessories List price 1920 BLACKBURNE Combination £145

1919 4 h.p. TRIUMPH Combination, Swan sporting Sidecar, T.T. bars . . £135 1915 MATCHLESS Combination, M.A.G. engine, Lucas dynamo lighting set, screen, disc wheels £140

1916 ENFIELO Combination, disc wheels, electric lighting, 2 electric borus, speedometer£125

1916 ENFIELD Combination, Lucas dynamo lighting set £138

SOLO MACHINES.

Brand new 4 h.p. BLACKBURNE. List price. 1920 4 h.p. TRIUMPHOffers

1920 4 h.p. hor, opposed HARLEY-DAVIDSON, complete with lamps, speedometer, born. Brand new. List price 1917 3 h.p. ENFIELD, excellent con-

1920 DIAMOND, 27 h.p., Enfield 2-sp. gear. Brand new List price

CARS.

1918 sporting CALTHORPE, genuine racing model, aluminium body, bucket seats, Brolt dynamo lighting, very sporting£450-

1916 Baby **PEUGEOT**, limousine, up-holstered Bedford cord, electric lighting, exceptionally smart little car£23)

1916 Grand Prix MORGAN, water-cooled J.A.P. engine, overhead valves, disc wheels, equal to new .. £230

We are London Agents for the famous CASTLE Three-wheeler, complete with dynamo lighting set; £250. Early deliveries

We are also London Agents for the **HENDERSON** Flite Sidecar. Deliveries commence this month.

J. SMITH & CO., 16, HAMPSTEAD ROAD, LONDON, N.W.11

MOTOR CYCLES FOR SALE.

Connaught.

Communght.

24m, wheels, new January 5th, unpacked ment for the Mark Cycle. [747]

24m, wheels, new January 5th, unpacked ment for the Mark Cycle. [747]

CONAUCHIT 2-stroke, 22th, 2-speed gear box, kick starter, hand chitch, brand new, deliver from stock; £75.—P. J. Evans, 87 91, John Bright St., Birminsham.

CONNAUGHT 1914 25,h,p. 2-stroke, new tyres and tubes, excellent condition and running order, just overhauled and rebushed, Lau as highting set; 255, of near offer. Borrow, Pachell Farm, Cowplain, Cosham, 18ants.

Coulson

COULSON B 23th.p., 2-speed model, in stock Malvern Agents, Woodyatt, Ltd., Malvern, 13865 COULSON B.—The ideal spring frame.—Enquiries invited by J. Blake and Co., the motor cycle experts of Liverpool and Manchester. [6578]

192 Coulson B 25/h.p., brand new, owner buying Ford, lamps, and all accessories; £96.—White White Farm House, Way, Minster, Isle of Thanet.

19 20 Coulson B, used 150 miles only, guaranteed perfect, 2 speeds, spring frame, 215m. Palmer tyres; rost £95, will accept £85; Cambridge.-Box [7071]

COULSON B 25th.p. Blackburn engine, Albion 2speed gear box, delivered end November la-t,
only ridden few times, discs, Klaxon, F.H. lamps;
bargain, £36; 10.—Adelaide Garage, Adelaide Rd,
Shelpherd's Bush, W.

Coventry Eagle.

19 16 Coventry Eagle 21/5h.p., lamps, etc., very good condition; Surrey, £35.—See Kwiksale advertisement, Miscellancous sale column. [6702]

tisement, Misceitaneous sale column.

COVENTRY EAGLE, brand new Villiers engine in 1914 frame, with 24in, wheels, barely scratched, complete the control of the control of

Dalm

19¹⁷ 3b.p. Dalm 2-stroke, 2-speed, disc wheels, lamps, horn, spares; £40.-36, St. Thomas Rd... [7456

Dayton.

DATTON 2-stroke, 1915, just overhauled; any trial; [X1899]
DATTON 2-stroke, Egerton, Kent.

DATTON 2-stroke, Indips. Avons, new belt, Sensing, perfect condition; \$236/10.—M., 27, Samilag Rd., Adidstone.

ting Rd., Mohdstone. [5622]

19. 3 Daydon 24/h.p., U.H. mag., Dunlon Magnum tyres and belt. Lycett saddle, lootboards, brakes, Druids, excellent condition, but minus carburetter, £20: P. and H. head lamp, 40/--H. Pettlier, 4, Granville Rd., Maidstone.

Diamond.

LATE 1919 Diamond 25th.p., 2-stroke, only done miles: £45.—79, Eaton Rise, Ealing. [6

CYRIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [X8622

JACK HEALY, Cork, official Diamond agent.—Retational delivery. No premiums accepted, [6437]

P. D. VARTY, Thundersley, Essex, agent for Diamonds, J.A.P., and 2-stroke models; early deliveries.

ERIC WILLIAMS, the Worcester Diamond agent.—
Delivery January of these famous lightweights.—
12, The Foregate, Worcester. [X1492]

DOT.-For earliest deliveries, order from J. Barran Ackroyd, Hyde Park Corner, Leeds. [734

Ackroyd, Hyde Park Corner, Leeds.

6 hp. Dot Motor Cycle, single-speed, jnst overhauled and re-enumelled red; £30, or nearest; wann small repuirs.—Hill, Acton St., Wigam.

D'T Combination, 1913-14, 6hp. J.A.P., 2-speed clutch, long plated exhaust, new Remore torped sidecar; enamelled red; £95.—Davidson, Hartfield: (X2087)

Douglas.

VIVIAN HARDIE and Lane, Ltd., Douglas Special-

1 h.p. Combination, 1920 model; £145.

 $2\frac{\pi}{4}$ h.p. Solo, 1920 model, clutch and kick starter; £90.

23h.p. Solo, 3-speed model W.: £86

 $2\frac{3}{4}$ h.p. 2-speed W.D. Model; £80.

WE Stock Everything you require for your Douglas.

24. Woodstock St. off Oxford St., Bond St., Will Phone: Maytain 6559.

XNAUGHT.—For early deliveries, order from J. Barran-Ackroyd Hyde Park Corner, Leeds. (7340 Conconditional Control of Cont

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. 1-1

MOTOR CYCLES FOR SALE,

DOUGLAS 254h.p., 1916; £50, near offer.-Williams, 517, Wandsworth Rd., S.W.8. [7132 FOR Sale, new Douglas machines, 254b.p.; 275.— Nicholas, Yerbeston, Begelly. [6930

19¹¹ 23/h.p. Douglas, perfect condition; £25/10 C., 103, Preston Rd., Brighton. [74 17/130

DOUGLAS, late 1915, new condition, fully equipped; 50 gas.-45, Burton Rd., Brixton. [7106 19 19 25(h.p. Donglas, equipped: 70 gns.-Loweth, 6, Monot Pleasant Rd., Ealing. (7015

DOUGLAS 1916 W.D. 274h.p., 2-speed; £55.-25, Townsheed Rd., Richmood, Surrey. [7288

19 14 254h.p. Douglas, semi-T.T., 2-speed; £45.-E. D. Lloyd, 75, Addiscombe Rd., Croydon. [7099] DOUGLAS Lightweight, in good running order; £25.-Weston, 4, Timbrell St., Trowbridge. [7304

3h.p. Douglas, 2-speed model, 1914, complete, less power unit; £23.—Coates, Glan Coaway. [6631

£45 or Nearest Offer for Douglas 23/h.p., 1915, perfect order.—39, Rycroft St., Guartham, Lines. DOUGLAS 4h.p., 1918, 3-speed, K.S., clutch, genuine, smart; £73.-21, Newton Av., Acton, W. [7204]

19 15-16 24 b.p. Douglas, buffer forks, makers colours; £46.—7, Gibson Sq., Islington, N.1. (7047)

19 20 2%b.p. Douglas, new, equipped, ready for the road; £100.—Artbur G. Daw, 114, Brixton Hill

23h.p. Donglas, 1915, 2 speeds, in running of £45.-199, King's Cross Rd., London, W.C. D OUGLAS 25th.p., 1915, lamps, here, footbours £55.—Norris, Pood House, Wert Wickham, Kent

W.D. Douglas 274h.p., uncrated June, excellent condition, accessories; £65.—167, Camberwell Grove, [7396

19 4h.p. Douglas Combination, 3-speed, lau horn, pump, tools; £125,—Holder, Garage, Bro [6738

19¹⁶ 4h.p. Douglas Combination, in splendid condition; £55.—Apply, The Neck, Crccken Hill, 17278

DOUGLAS 254h.p., 1915; £35; requires overhanding -Speechley, 1, Gunnersbury Lane, Acton Hill. W.3. [6713

DOUGLAS 1916 4h.p. Combination, indistinguish-able from new; £78:-32, Preston Rd., Westcliff-on-Sea. [7175]

DOUGLAS 254h.p., 1915-16, new lamps, horn, splendid condition; 260.—Williams, 153, Gainsborough Rd., Crewe. [X218]

DOUGLAS 1920 2%h.p., 3-speed, in stock, £90; 1920 at Olympia.

19¹⁹ 4h.p. Combination, delivered October, under 500 miles, Cameo, lamps, horn; £145.—Edwards, F. Exhibition Rd., South Kensington. [705]

1920 4h.p. Donglas Combination, acw, in list price.—Bounds Garage, 223, High Ki!burn.

19¹⁷ Douglas Combination, 3-speeds, Lucas lamp, Klaxon, just overhauled, fast.—7, G bion Sq., Islington, N.1. [7048

10 15 254h.p. Douglas, C.A.V. mag., fully equipped guaranteed; £45; exchange,—Stanley Biss, Wal tham Abbey.

DOUGLAS 4h.p. 3-speed Combination, good order;
95 ens.—Halifax Motor Exchange, Union St
South, Halitax. [7351

19 16 25/h.p. 2-speed Douglas, new in 1919, accessories; £70.—Bounds' Garage, 223, , and High Rd., Kilbura.

DOUGLAS 254h.p., 2-speed, T.T. model, 250th Kensington, S.W. £48.-55, Pelham St., [6864]

DOUGLAS 254h.p., single speed, excellent condition, footboards, etc.; £35, first cheque.—Cox, 2a, Merton Rd., Watford. [6935]

DOUGLAS.—Large assortment of 25/h.p. second-bane models in stock, all tally guaranteed.—Ross, 86. High Rd., Lee, S.E [554]

DOUGLAS Solo and Combination; regular monthly deliveries from November.-Lloyd and Son, 29 Station St., Lewes. 19583

19¹¹ 27th p. Douglas, lovely condition, new Dunlops and belt; £20.—Syd Pearson, Gate House, Cheylesmore, Coventry.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.
Douglas machines from stock, 1920 models, sole and sidecar combinations. [6618]

THE Colmore Depot have the latest 1920 4h.p. las and sidecar for delivery; price £145.—31 more Rew, Birmingham. DOUGLAS Combination, July, 1919, done under 1,000 miles, perfect condition, several sparse; £107, or best offer.—Damant, 19, Murray Rd., Rngby. [N2145]

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	Boys' and	Youths':	
Size.	Per pair.	Size.	Per pair
4-5	1 2/3	1-13 -	- 2/-
2-3	2/-	11-12 .	1/9



Sole Pieces, Adjustable.

ze	7	for	8 I	200°	ts			2/3
,	6	,,	7	7.3		•	•	2/-
	5	,,	6	**	٠	-	•	2/-
	4	,,	5	,,	•	-	•	1/9
,	3	,,	4	41	-	•	-	1/8

Sol-fix Solution:

In Titts 8d., 1/3, 2/6, and 4/6. An 8d sufficient for 2 pairs of soles.

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Please remit 6d. to cover cost of postage. Any excess will be refunded.



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Douglas.

GENTLEMAN has 1915 23h.p. Douglas, 2 speed maker's colours, new; £54.—Woodcliffe, Chishurst, Keat. (Near Station.) DOUGLAS 25(h.p., bought August, only us weeks, Klaxoo, extra mudguarding; £75.-14, Cronwell Mews, S.W.3.

23 h.p. Douglas, old machine, splendid condition, rend vated, overhauled; trial in neighbourhood; £60.-Christmas, Haslemere, Sprrey.

DOUGLAS, 1913, 2-speed, nearly new Dunlops splendid running order; £40 lowest pric Butler, Bootmaker, Bracknell.

1916 4h.p. Douglas Combination, 3-speed, condition and appearance as new; £10 Church Rd., Willesden, N.W.

DOUGLASS 2%hp., 1911, in good running ord wallington. Tel.: 526 Sutton.

DOUGLASS 2. Combe Hurst, Holmwood Gard Wallington. Tel.: 526 Sutton.

DOUGLASS 2. Call at Smith's lor your models of the Company of the Country of the Country

DOUGLAS 2%h.p., 1916, bought Nov., 1919, don 180, in brand new condition; £55.-Willie; 4 Dewhurst Rd., Hammersmith, W. [682]

19 20 Douglas Models, Now delivering 2%,b.p. 3 speed, £90: 45.p. combination, £145.—Modal Douglas agent, Yeoril. *Phone: 50. [110]

SMITH'S bave in stock new W.D. 2%,b.p. Douglas at 70 gos.—Smith's, 10-16. Haverstock fill opposite Chalk Farm Tube Station.

1917 4h.p. Douglas Combination, as new, all sories, lamps included; £100, or offer.c/o Martin, 18, Orchard St., Bristol.

DOUGLAS 254h.p., 1919, brand new, electric light all tools and spares, complete; seen any time £75.—P. Reveley, Wantage, Berkshire.

NO Waiting for the latest 4b.p. Douglas and sides 1920 models now in stock, price £145.—Colmot Depot, 31, Colmore Row, Birmingham.

DOUGLAS 25th.p., 2-speed, uncrated July, condition, very fast, fully equipped; £62, tist, 216, Portobello Rd., N. Kensington. DOUGLAS, 25th.p., W.D., 1919, 2-speed, all sories, nearly new; best offer over £80; London.—Box L6,452, c/o The Motor Cycle.

19²⁰ Douglases.-By one who knows, delay changerous.-Order yours now from the Dougla specialist, Gibb Gloncester Phone: 852 [634]

DOUGLAS 1920 4h.p. Combination: £145; im ate delivery.—Arthur Horsfield (Motors), Ltd 20, N. Audley St., W. (opposite Selfridge's).

2 h.p. 1919 Douglas, new, accessories, lamps, ho fefer.—S.G.S., 53, Burges Rd., East Ham, E.6. 10 16-17 4h.p. Douglas Combination, perfect, tyres, clutch, K.S., 3 speeds; £96, or of R.L., c/o Martin, 183, Orchard St., Bristol.

A. h.p. Douglas Combination, recessly overhauled m. in excellent condition, lamps, horn, tyres as me 95 gas.—F. Lunca, 31, Centerer Rd. Woking, [65]

DUGLAS 2²h.p., 2-speed, speedometer, at lamps, lunca, lully enuipped, and perfect throughon £50.—18, Gladstone Rd., Actoo Green, Chiswick. [73]

D OUGLAS 1916, thoroughly good conditioe; ow going abroad; best offer over £55.—Brothers, The Grangeway, Grange Park, Winchmore Hill, N. [68

The Grangewar, Grange Park, Winchmore Hill, N. [682]
NOVEMBER, 1919, 4h.p. Doughas and siderar,
£145.—Avoodale, Bath Rad, Woking, Surrey. [634]
4 h.p. Daughas Combiantion, 1919, splendid conductor
specimenter, lamps, Rixone £215, or best office
-Jork Trees.

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1915 2%h.p. Douglas, 2-speed, powerful and spee tyres excellent, perfect condition throughout; £ -Cooke, 33, Hoveden Rd., Cricklewood, N.W.2. [60] SMITH'S for Second-hand 1916 234h.p. Doug overhauled, from 50 gas.—Smith's, 10-16, stock Hill, opposite Chalk Farm Tube Station.

1919 4h.p. Douglas Combination, complete with stor agron, lamps, speedometer, and Klaxon, in aple did condition; £130.—Price, 119, High St. North, Established Ham.

DOUGLAS 25th.p., 2-speed, uncrated in Octo absolutely periort, brand new condition, equipped, low mileage; £65.-60, Wallington Av.

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DISMANTLING 1915 25/hp. Douglas, ucused 1916
18, every part in fice condition.—Posteard end requirements to Chesber, Ros.dene, Forty Hill Enfield. (D) [X196

MOTOR CYCLES FOR SALE.

Douglas.

EW Doughts 1920 4hp, and sideer, fitted with the latest improvements, ready for immediate delivery, a £145.—Colmore Depot, 31, Colmore Row, Bir-gham.

15 Donglas, 2-speed, completely overhauled and in excellent condition, lamps, horn, etc.; £52. don, W.-Seo Kwiksale advertisement, Miscellaneous column.

) 18 4h.p. Douglas Conchluilt Combination, kick start, clutch, 5-speed, speedometer, electric lights tyre, etc., perfect condition; £115,-174, Vennige Leyton. [7130]

19 Douglas, Combination, 4h.p., delivered April, all accessories, hardly used, 3 speed, kick start; 15 by appointment only.—II. P. Barnard, Marsham Westminster.

Westminster. (7112)
19 25/h.p. Douglas' 2-speed, brand new one only left in stock; £80, plus carriago.—Robinson's age, 32-35, Green St., Cambridge. Tel.; 993. [7352a

OUGLAS, 2/h.p., late 1914, just enamelled red, tools, good heavy Dnnlops, knee grips, fast, ty, my tiid: 45 gns.-1love, 44, Stoneleigh St., Kensington, W.11.

DUGLAS (Oct., 1918) 4h.p. Combination, 3 speeds, clutch, kick starter, electrically equipped, ton; £125.—L. James, 72, Longridge Rd., Earls, t. Western 1544

OUGLAS.—Do you want a 1920 show model? Longman Bros., 587, Uxbridge Rd., Acton ct. 1578 Chiswick), have one in stock—2½h.p. 3-d kick starter model.

TUALLY in Stock for immediate delivery (no pre-mum), brand new 4h.p. Douglas combination, cheque secures.—Edwards and Parry, 4, Blenhein Bond St. Mayfair 2666.

OUGLAS 25,h.p., 1915, 2-speed, semi-T.T. £48; also 1916 model, £52; both thoroughly overhauled nutil 6 p.m., after by appointment.—Gron, 59 field Rd., Upper Hollowny. [X2192

FERS Wanted, about £75.—3h.p. Enfield light weight combination, mechanical lubrication, 2 key, church, etc., in first rate order.—14, Dorkorte Trinity Rd., Wandsworth Common. [6730] [6730

19 Douglas 4h.p. Combination, horn, launs, spares 2 covers, tube, rulve, helt, insurance policy: £130 by appointment.—Roberts, Adlard, 47, Queeu Elizast., Bermoodsey. Thone: Hop. 87. [680]

UGLAS 1919-20 4h.p. Combination, new typethich, absolutely new condition, over £12 access, makers, guarantee, iosurance policy; £140; te owner.—59, Bextey Rd., Entin, Keot. [6740]

18 4h.p. Donglas Combination, 3 speeds, clutch kick start, land very little use, periect condition ghout, tyres excellent, take 3 anywhere; best offer 255.—Cooke, 35, Hoveden Rd., Cricklewood, N.W. 2 (663)

19 (August) Douglas, 25, h.p., privately owned; Volex dry battery lighting, special very efficient hield, horn, tools, space belt, chain; take £63,— at Thomson and Co., 408, Commercial Rd., Ports-b. (X1909)

UCLAS 1914 25/h.p., 2-speed, just overhauled and re-enamelled, mechanically perfect, tyres y new, acetylene lighting, separate geocrators; offices?—J. L. Collier, Vigo Tannery, Northun, 22178

on.

Douglas Combination, W.D. model, about 1917, excellent condition, automatic oil pump, tet Watford speedometer, horn, lamps, tools, 2 aew covers; £90.—Saut, Vicange, Elsenhun. F7432

P. Douglas Combination, 1917. 3-speeds, hick start, lamp set, perfect condition and appearance, and tried week-end or will call within radius of tiles; £90 lowest.—91, Mapledene Rd., Dalston.

UGLAS, 1912, single speed, stored during war, perfect mechanical condition, tyres nearly new, melled and renickelled, bore and tools, ride 50 to intending purchaser; £30.—237, Iffiey Rd. [7179

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4 h.p. Houghts Combination (not run 50 miles), complete with storm apren; prices and extended payment terms on appleation, Harrise Moro Showtoons, 116-118, Brompton Ret., epposite Main Binking, Lemon, S.W.I.

DOUGLAS, 25th.p., W.D., 2-speed model, new No. long copper exhaust pipe, 4 galla, petrol, 1 gall, orl; 475; owner soung abroad—12, Kilburn Park Rd. Minds Valo.

DOUGLAS 23(h.p., 2-speed, 1911, Bosch, footboards, log and undershields, engine thoroughly overhunded, awe year spice/et, pistons, rent tyre, tube, just done 100 mile rue; £35,—Verity, 17c, 8ilver 8t., Wellingborough.

DOUGLAS Combination, 4h.p., 1919, delivered Oct, not done 50 miles, complete with hood and series, speedometer, 2 horus, lamps, etc.; £150; owner bought enr.—1, Bellasis Av., Streatham Hill, S.W. Traoner. Streatham 2309.

DOUGLAS 25(h.p., special overhead valve model, late 1914, 2 special, tully equipped, grand condition, smart, sporty opperamer, thoroughly overhoused by makers recently; best offer,—66, Hawarden St., Bolton, Lunes.

1919 Doughs Combination, purchased Oct. 10th, gun, 2 kits of tools, now tyres and aluminium dises, 3-speed, kick start; take £120.—King, Harley, Argyle Corner, West Ealing.

19 20 28th.p. Douglas, 3-speed gear (no clutch), latest type forks and tank, undershield, etc., in stock for immediate delivery; £86, plus carriag:—Robinson's Garue, 32-35, Green St., Cambridge, Etc.: 995. T.A.: Bicycles.

1930 23th.p. Douglas, 3-speed gear (no clutch), latest type forks and taak, undershield, etc., in stock for immediate delivery; 28d, plus carriage.—Robinson's Garage, 32-35, Green St., Cambridge, Phone: 995. Tel: Bicycles.

DOUGLAS 27th.p. W.D. 1916, uncrated July, run 800 miles, Amac, W.S.R. jet, discs, lataps, tools, spares, knee and Pedley grips; exchange late Nortou, T.T. Rover, cash adjustment; sell 275.—W. G. Worth-ington, Maple Hayes, Lichfield.

DOUGLAS, 1914, excellent condition throughout, fitted aluminium disos, footboards, and shields, long exhaust, 2 lamps and generators, spares include new tube, belt, and chains; \$50.—E. D. Dowell, Woodbine Cottage, Byheet, Surrey.

19 da.p. Douglas Combination, new Dec. 11th, 3 lamps, horn, spare tyre, not does 500 miles, latest type clutch, and Douglas sidecar; officer going abroad; bargain, £145.—Lieut. Barringtor. Clovelly, Junction Rd., Audover.

19 the Douglas 25th.p., 2-speed, Amac, Thomson-Bennett, Duntlop specials, just overhauled, ecomelled, and plated (cost £15), 2 lamps, horn, generator, etc., very fast; £58; after 6.30.—Parker, 65, Clitton Av., Wembley Hill.

19 20 4b.p. Douglas Combinations, latest sidecar, finished in saxe blue, absolutely acw, on the premises for immediate delivery; £145, plus crate and carriage.—Robiason's Garage, 32-55, Green St., Cambridge, Thome: 995. Tel.: Bicycles. m Ш

19 20 4h.p. Douglas Combinations, latest sidecar, fluished in Saxe blue, absolutely new, on the premises for immediate delivery; £145, plus crate and carriage.—Robinson's Garage, 32-55, Green St., Cambridge, Tel.; 995. T.A.: Bicycles.

DOUGLAS, the new Model W. 1920, 25th.p., 3and lighting, only run 50 miles, in perfect running
order: £100; owner waiting for car.—Arthur Webb,
Manor House, Newington, Sittingbourne. (7091

DOUGLAS ab.p. Combination, in spleadid order, 1916, renovation of the proposition of the

[583]
19 W.D. Douglas, delivered October, mileage 400, sories, Lucas lamp, Stewart speedometer and mechanical horo, spare plugs, exhaust valve, chain lioks, and belt iasteeer; will deliver personally if required; 270.—C/o Tate, Suonistde Laue, Cleadon, near Standerland. ▥

Sinderiaad.

DOUGLAS 1918 25th.p., new tyres, belt, specially tuacd engice, aluminium pistons, 5a cam wheel, dynamo lighting, Stewart specdometer, mechanical boro, spare tank, heaps of spares, adjustable pulley, a really hot barrow, with the last word in drain pipes, guaranteed 55 m.b.i. 270.—Truscott./ 347, Finchley, Rd., Hampstead, N.W.

August a green. Solution of the strong and s

MOTOR CYCLES FOR SALE.

Douglas

Douglas 25th.p., not W.D., very smart little 'bus, ename' absolutely perfect, eaging ditto, Binks carburetter with but air pips and speedometer, knee grips, tools, spare chain, insurance policy with "The Motor Cycle," mileage guaranteed under 4,000, very carefully used and kept: £75, or dier.—Veolutra, Elizambe, York Rd, Sniton, Spriety

DUZMO.-For earliest deliveries, order from J. Barran-Ackroyd, Hyde Park Corner, Leeds. [7342 DUZMO, the sporting 31th p. single.—All enquiries South Lancashire and Cheshire to Leach and Seed, 16, John Dalton St., Manchester. [6515]

Elswick.

ELSWICK-PRECISION, 4h.p., 2-speed, fine machine £42.—Speechley, 1, Gunnersbury Lane, Actor Hill

23h.p. Elswick Precision, free engine, very little 4 nsed, guaranteed perfect; £38.—Empson, Gamlingay, Cambs. (D) [7252

ELSWICK 4-stroke Lightweight, excellent rnnning order and general appearance like new; £30.—
King, The Stores, Coxbeath, near Maid-tone. [6880]

Enneta

E \$\frac{\text{Enneta}}{\text{E410}}\$-\text{Exect}, \text{Pic} \text{model} \text{model} \text{model} \text{pand new, 2-speed; } \text{E8410}.

E \$\frac{\text{E8410}}{\text{E410}}\$-\text{Exect}, \text{The Dingle, Stoorbridge, [6958]} \text{Exect} \text{B40} \text{App. Combination, Enfeld 2-speed, lumps and-accessories; [160 gns.—Taylor, Perreton, Merston, I.O.W. IXIS92 \text{Exect} \text{XIS92} \text{Exect} \text{XIS92} \text{Exect} \t

E NFIELD Combination, 6-8h.p., complete, 1916; £125; trial.-26, Totteridge Rd., Enfield Wash

2h.p Enfield, just delivered; makers' price £76, offers.-55, Ballspond Rd., Islington, London.

JONES Garage, special agents for Enfields, Brands Woodside Parade North Finchley.

19 9 Royal Enfield Combination, all lamps, etc., indistinguishable from new; £160.—Arthur G. Daw, 114, Brixton Hill.

Entrield, brand new, 2-stroke, 214h.p., 2-speed, at makers' price: £63.—Wilkins, Simpson, and Co., opposite Olympia, London.

ENFIELD 1915 5h.p., 2-speed, clutch, K.S., lamps, guaranteed mechanically perfect; £50.-20, Treen Av., Hoggers Corner, Barnes. [7030]

ENFIELD 1919 2-stroke, 2-speed, as new; £55, or exchange combination, cash adjustment.—C.S., 14, Swaton Rd., Bow, E.3. 7164

England and Costle, S.E.11.

ENGINEED Combination, 1918, P. and H. lamp set; 2110, or offer; any trial.—W., 45, West Sq., Elephant and Costle, S.E.11.

ROYAL ENFIELD 214h.p., 2-speed, never ridden, as delivered by makers; £57.-H. Martin, 10, West Chapel St., Maylair, W. [7105

R OYAL ENFIELD 254h.p. Twin, single gear, Bosch, overbanled, ready to ride away; £30, bargain.—
Walton, Painter, Kirkby Stephen.

ENFIELD 1916 6h.p. Combination, little nsed, speedometer. 3 lamps; £120. — Spurling. 8. Conrthorpe Rd., Hampstead, N.W. [7286

W AUCHOPE'S, 9, Shoe Lane, London, 1919 8h.p.
Royal Enfield Combination, £165; 1917 combination, £155; 1915 or 1914, £87.10. [6620

Enffield 1916 6h.p. Combination, Bosch, Lorn, speedometer, lamp, screen, good condition; £125. -54, Willoughby Park Rd., Tettenham. [6982]

19 19 Royal Enfield, 21th.p., 2-stroke, done less than 200 miles, delivered September: 56 gbs., or asarest.-C., St. Marie's, Dale Rd., Purley. [5421

ENFIELD 1916 6h.p. Combination, Lucas lamps,
Dualops, excellent condition; £130.—Cyril Williams, Charel Ash Deput, Wolverhampton. [6361

5-6h.p. Enfield, fitted with coachbuilt sidecar, combining order; £160.—App King and Harper, 6, Bridge St., Cambridge. 68

L-ATE 1915 Enfield 3h.p. Twin, 2 speeds, clutch, kick starter, good order and condition; £50.—
Barry, Newbridge, Clifden, Co. Galway, Ireland, Nagara

Barry, Newbridge, Clifden, Co. Galway, Ireland.

ENFIELD Combination, Dec., 1914, Wind screen,
electric lighting, 700×80 Dunlops, splendid condition; after 5.30; £100—7, Thornhory Rd., Clapham,
S.W.2.

ROYAL ENFIELD, October, 1919, 2¹4h.p. 2-stroke, 2 speeds, lamp, horn, tods, insurance, etc., all new; £62, Peckham Box L5,525, c/o The Motor [7459]

ENFIELD 3h.p., 2-speed, kick starter, free engine, Binks carburetter, in new condition, tyres new, tcols, perfect condition; trial; £75.—11, Palace St., Ber-wick-on-Tweed.

19 16 Reyal Enfield 3h.p. twin, 2 speeds, lamps speedometer, etc., in excellent condition; £60 Cernwall.—See Kwiksale advertisement, Miscellancon; all column. [704]



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Enfield. Enneid.

ENFIELD 1917 3h.p. Twin, mileage 300, store during war, everything as new, complete hump born, tools; highest over 270.—Captain, 5, Easteath, Winchester.

ENFIELD Combination, 6h.p., late 1916, scree lamps, horn, and spares, perfect condition beautiful turn-out; £140.—Home, 2, Strathbias Rd., Clapham Junction. [73]

19¹⁴ 6hp. Enfield Combination, lamps, sp meter, horn, wind screen, mirror, and not used 2 seasons; \$120, or nearest; any trial Ambury Rd., Huntingdon.

10 16 Royal Enfield 3h.p. Twin, cane sidecar, Enfield 3h.p. Twin, cane sidecar, Enfield gear, lamps, horn, speedometer, etc., excellencondition; London, E.; £90.—See Kwiksale advertiment, Miscellaneous sale column. [58]

19 14 (late) Royal Enfield 6h.p. Twin Coachbig combination, little used, sound condition, equipped; Southend-on-Sea; £110.—See Kwitz advertisement, Miscellaneous sale column.

19 14% 6h.p. Enfield Combination, bood, screen, lamps and generators, spares and tools, sto 3 years, condition guaranteed equal new; any traction—Burt, 189, York Rd., Southend, Essex. [72]

10 20 Enfield Combination, 6h.p., Locas dynam-lighting, horn, Tan-Sad, hood, screen, speed, meter, watch, etc., not ridden; best offers; seen as time.—98, Grange Park Rd., Leyton, E.10. [730

D ELIVERED Nor. 11th, 1919, new Royal Enfe 6h.p. combination, Lucas dynamo lighting, Luc horn, Enfield wind screen, tools, etc.: £175.—C. Bra 62, Langwith Rd., Shirebrook, near Mansfeld. X206

62, Lingwith Rd., Saftedroos, Rear Mansiedo. Actor of Christopher Christopher

ENFIELD 1914 6h.p. Combination, lamps, spec-ometer, tools, complete: £100; splendid machine clumb anywhere; seen by appointment for trial any where in Kent.—Enfield, 143, Rock Av., Gillingham Keat. (713)

TULY, 1919, 5h.p. T.T. Enfield, 2-speed, sprung fr boards, good Palmer tyres, complete tools a spares, milease well under 1,000, carefully used, cellent condition; by appointment; 280, or near of Grylls, Funtington Holl, Chichester, Sussex. [56]

Tripelly Sh.p., 1914, 2-speed, kick start all-charles language senerator, pump tools, its distribution of a son front, and the whole machine in perfect mechanic condition; 455.—Any trial allowed by Caswell, Tillew. Uter, Keighler, Yorks.

630 Cong, neignier, Lores. 660 Cong, neignier, Lores, company, com

dynamo lighting set, speedometer, large Luo dynamo lighting set, speedometer, large Luo horn, luxnirous sidecar fitted with 2 lockers, hood an screen, large large grid at rear, all good tyre-tools, machine throughout in splendic condition, and trial; \$120; exchange light car.—171, Cambrone (Th).

Chn. Royal Enfield Combination, 1915, beed, sere Lucas electric lighting throughout, and Lee horn, lundop tyres 700×80, new this year, sides spron, heage grid, tools, etc., just overhanded as-chaned, worn parts renewed, a reliable and luxuru-turnout; 112 gns.; owner must sell.—Vicar, rimdo

UNIQUE Opportunity.—£110 for rather sportis folip. Landeld outfit, semi-TT. bars, 3 lamps, cenerators, billion: sparse include chain, pluz, valurances, etc.; sew etbing unusual un sideenes, aluminate hisish with white deek, upoblestered in cordinor, spranger, overall; a 1-olly strong and powerful buts; own buring cycle can-17, Elmowoof Gardeni, buts; own buring cycle can-18, and buring cycle can be compared to the can-18, and the compared to the compared to the can-18, and the compared to the can-18, and the can-

Excelsior.

3½ h.p. Excelsior, 3-speed, coachbuilt siderar, splet 2 did condition; £75.—Fish, Crawley, near Win chester, Hants. [X223

19 19 Excelsior 25th.p., 2-speed countershart, as me Stewart horn, extra special tank to fit on carrie 50 gns.—153, St. George's Rd., Coventry. [X22]

LANCASHIRE, Cheshire, North Wales, Isle of Ma and Co., Official Dealers, Liverpool-Manchester. (658

A MERICAN Excelsion 1915 C.B. Combination 7-9h.p., clutch, kick start, electric lights, plateglass wind screen, step to sidecar, excellent conditions £125.—Hawkes, 77, West Green Rd., Tottenham

Telephone: 90 East Ham.
Telephone: 190 East Ham.
Telephone: Egaraco, London.

THE New 1920 American Excelsior represents the for early delivery: fitted with Swan de Luxe sidews. Edwards and Parry, 4, Bleabelin St., Bond St. Mark.

121 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.



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United States—The International News Assess. New Touris, 100-100 April 100-100 A

The Simple Motor Cycle.

EARLY every motor cyclist has his own requirements, which may differ widely from those of his neighbour. course, accounts for the many types which successfully find a market. There are those who require a heavy sidecar machine capable of carrying a luxuriously appointed attachment over the roughest and hilliest country. Some only demand a lighter mount capable of occasional sidecar work on reasonable roads, and to many the sidecar is altogether unnecessary. What of the solo rider? He has a choice between the 8 h.p. variable geared mount and the 11/2 h.p. scooter.

The popularity of the little two-stroke is such that one can be assured that there is an enormous market for a machine which can go anywhere over ordinary roads and climb with ease any The two-stroke is admirable main road hill. for those who are content with moderate speed, but there is a large class of sporting riders who demand a fair turn of speed and a light machine at a moderate price. These are the enthusiasts who ride single-geared T.T. machines—a class of vehicle which is in danger of being ousted from the market by the demands of those who need sidecars.

There are very few makers left to us who market a T.T. 31/2 h.p. which has not been spoiled for its original purpose by increased weight and unnecessary fittings; yet our daily letters show that the class to whom this type of mount appeals is still of considerable proportions. A good 31/2 h.p. single with direct drive is lighter, cheaper, and simpler to keep in order than a dual purpose mount, and will go anywhere that 90% of present-day motor cyclists require, if the rider is agile and not averse to slight inconvenience on occasion. A really first-class clutch is an advantage in traffic. The saving of £20 to £30 in price and 50 lb. weight, in addition to the lessened cost of upkeep, must appeal to a large number of riders.

The decision of the A.C.U. to retain the 500 c.c. class for the Senior T.T. race in June may, however, stimulate interest in this type of machine.

Effects of the Moulders' Strike.

S the weeks pass and no signs of a settlement of the moulders' strike appear, the thinking motor cyclist must by now have realised some of the possible effects these labour troubles may have upon the production of motor cycles. Practically every manufacturer is now at' a standstill with stocks of raw materials depleted and delivery of new machines is delayed. Even if the men resume work immediately, considerable damage has already been done, and ill-effects are bound to be felt by both maker and user throughout the year, and every day production is held up increases these difficulties. It is a deplorable state of affairs, and it is questionable whether anyone will benefit by it. There is something wrong with affairs in general when a very small section of the community can jeopardise the foundations of industry.

Unless a speedy settlement is made, the nation will suffer harm from which it will take years to recover, for at the present time especially, export trade is the very lifeblood of the country, and this is being held up. So far as motor cyclists are concerned, the effects of the strike undoubtedly will be many. Promises of delivery made a few months ago cannot be fulfilled; outputs will be smaller; prices higher, because the overhead charges of the year will have to be apportioned to fewer machines. Second-hand prices are also bound to be higher, because of the scarcity of new mounts. Experimental work is held up. The T.T. race is in danger, for, unless manufacturers are able to commence their new racing machines in good time, it will be futile to enter.

It is time the public realised that this paralysing strike affects them personally as well as the country in general.



A Tip for the Next London-Exeter.

ERE is a tip for the next London-Exeter. If there are any gas lamps left on the road by that time, the only absolute insurance against trouble is to use dissolved acetylene. It eliminates generator and burner troubles at one swoop, and the man who cannot fake up pipe connections to last over one night is unfit for competition work. In sober fact, this system is actually preferable to electricity for competition work, for if it is less convenient, it is necessarily more reliable. I have used it for ten years, and have never had any stoppages with it, barring perished tubing. On the other hand, I have had a score of stops with electric lamps during 1919. Most of them were trivial-a blown fuse, a dud filament, and the like. Give me electricity for daily use, because of its convenience. Give me dissolved acetylene for "twenty-fours," because it cannot shortcircuit or do in a bearing. I use the handy cylinders, even for solo competition work, for one six-foot cylinder will last a head and tail lamp for fifteen hours with ease; but it is, of course, found at its acme of mental comfort on a sidecar, which can easily stack a reserve cylinder.

Back to Plain Bearings?

READ "Ubique's" brilliant article on mechanical progress in our issue of January 1st with great interest. One of its by-products, in my mind, was a reflection that we are all faddists, and that design is an extremely contentious affair at the best. For example, "Ubique" hates mechanical noise as much as I do. He has an equal detestation (which I unblushingly refuse to share) for exhaust noise. His ideal motor bicycle is as silent as the breathing of Venus. In his enthusiasm he desires to enclose the tappets and valve stems, à la Corona, and to eliminate the rumblesome ball and roller bearings now so fashionable. I, on the contrary, desire overhead valves, and that on an engine of the so hotstuff typethat its exhaust valve spring and stem will need direct cooling: I admit I do not love the subterranean burr which a multitude of ball or roller bearings confer on an engine. But these bearings have produced the only motor cycle engines I know which have printable lubrication consumptions; and I do not want to go back to the old days of over-oiling and lightning carbonisation. It is only fair to add that "Ubique" pleads for a combination of forced lubrication and plain bearings, from which he doubtless expects maximum bearing life and minimum oil consumption. M'yes! I have only tried out one engine on those lines, and it was not a hotstuffer. But somehow it was nothing to write home about either in economy or durability. I suppose I cannot have it both ways. If

naked valve gear and non-plain bearings spe mechanical noise, well, I shall have a fresh argumer in favour of my heresy that soupcon of exhaust nois is desirable. But, dear "Ubique," I must quare with one generalisation of yours: "Modern gear boxe are wonderfully satisfactory as regards noise." Yoshall just hear mine-post-war pukka 1919, and famous make. Did you ever hear a De Dion tricycl with a Dupont gear after it had done 20,000 miles?

Gear Box Mounting.

NCE more "Ubique" is perfectly correct i stating that it is a horrid nuisance to have t upset both chains when the front chain want attention. In this connection, he praises the Raleigl which has an immovable gear box and a slidabl engine. I have not owned one of the new Raleigh as yet, but I once had a 'bus designed on similar line in this particular respect. It is not generally realise that motor cycle frames are at least as liable to dis tortion as car frames, but I would go so far as t say that they distort inevitably, after a reasonabl amount of hardswear. So long as a belt figured i the drive, frame distortion did not matter a cent, unles it were serious enough to throw the wheels well ou of track and affect the steering. But with all-chair drive. frame distortion comes up to the footlights The 'bus which I have in mind distorted its' frame and put both chains out of line. Now it is possible within limits to set your back wheel a trifle askew in fact, most back wheels with 10,000 miles or at amateur chain adjuster to their name, are askew a this moment. It is less easy to skew an engine in the frame-wherefore this construction demands a frame which cannot distort or set. Incidentally, an engine requires very clever mounting if it is to be slidable with the same aplomb and accuracy which suffice to slide a gear box. The design is theoretically superb: but it is heavy work for the designer to get it flaw lessly expressed.

Three-wheelers, New and Old.

THE presence of so many new three-wheeled runabouts on the 1920 list is not at all surprising the only miracle is that the Morgan has enjoyed Fourteen years a practical monopoly for so long. ago there was a tremendous but transient boom ir machines of this type. I still do not know why the best of them—the 10-12 h.p. Lagonda—died, for there was very little the matter with it, even at that early date, though a usable second-hand car could be bought at the same price (about 160 guineas, if I Most of the other machines remember aright). suffered from many serious defects-weak brakes, dud clutches, accumulator ignition, inaccessible back wheels, a habit of over-turning if the rear wheel

Occasional Comments.-

punctured, etc. Nearly all of them mounted the second passenger forecar fashion, which was less sociable than a sidecar; moreover, it is bad manners to use your flapper as a buffer. The modern threewheeler offers car type weather protection, comfort nearly approaching car standards, and a specification which is quite as troubleproof as that of the sidecar, if not more so. It is unfortunate that these machines are at a special disadvantage in the trials where freak hills cause jolts for three-trackers which do not occur in ordinary riding, and also artificially intensify the problem of tyre grip to a point never attained in staid But the Morgan has always surmounted these special handicaps; and the newcomers may do the same if they do not try to transmit too much power through a single wheel.

An Illuminating Contrast.

UR sister journal, *The Autoiar*, maintains a henchman whose special business it is to keep an fait with air-cooling, and he spends much of his time in keeping in touch with experimental air-cooled cars. He tells me that the testers of one firm confess that engine seizure is a common occurrence in their routine work, and that he himself suffers the liveliest apprehensions when he is handling the chassis referred to. On the other hand, there are concerns engaged in this new branch of the industry which have yet to seize up their first engine, or even to induce a bout of pre-ignition. A designer will hand over one

of these engines to him, and tell him to maltreat it in any fashion which ingenuity can suggest, even up to the pitch of leaving it running in the garage overnight, and visiting it in the morning to see whether it was not finally stopped by a dry petrol tank, and is ready to resume running at once. My own experience of motor cycle engines is on all fours with his experience of cars. In the field of air-cooling there are three distinct types of designer, as follows:

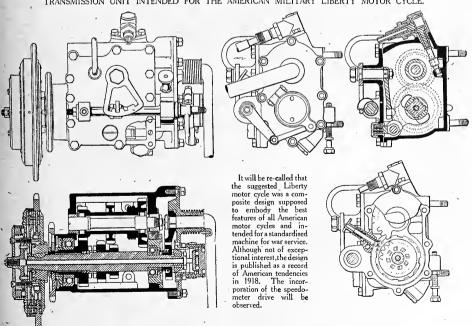
(t:) The man who does not understand air-cooling. His engine will often knock on a long hill.

(2.) The designer who understands air-cooling, but considers that his machine is roadworthy if it will take a sidecar up Sutton Bank at 15 m.p.h. on a hot day. This is good enough for the average user and the general market, but hardly good enough for an Λ.C.U. Six Days.

(3.) The designer who understands air-cooling, and considers that a commercial air-cooled motor cycle should run well when the piston temperature approaches 500° F.

The first type of designer still survives in the motor cycle industry, but will get squeezed out when the coming over-production and resultant slump ginger up competition. Type No. 2 has a rational excuse for his methods, and may adhere to them, even though the A.C.U. pundits misunderstand his ideas, subject his wares to extreme tests, and draw illegitimate conclusions from the net result. Type No. 3 appears to be the man of to-morrow. We shall see.

TRANSMISSION UNIT INTENDED FOR THE AMERICAN MILITARY LIBERTY MOTOR CYCLE.

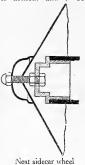


IDEAS: Useful and Ingenious.



Sidecar Wheel Disc Attach-

NEAT fitting for a disc on a side-car wheel may be made with an old cycle bell dome. The hub cap is drilled, and a bolt passed through



Neat sidecar wheel disc fitting made with a holt and a cycle bell

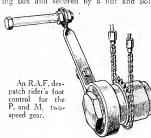
from the inside and secured with a nut. A suitable hole for the bolt drilled in the bell dome, and it is put in place after the disc is fitted over the holt. The whole is secured by a nut. Access to the tyre valve is obtained by removing the disc. A fitting such as this obviously limits the use of the disc to the sidecar wheel, to which it can only be fitted on the outside. -J. W. F.

Foot Operation for P. & M. Gear.

HORAN.

OOT operation for the P. and M. gear is easily arranged, and is a decided convenience when road conditions render it undesirable to release the handle-bars.

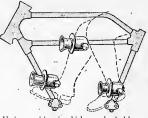
A strip of iron 9in, long ×1in, wide × in, thick is bent round the gear operating box and secured by a nut and bolt.



The outward end of the lever thus formed is twisted at right angles and drilled to take a gin, or in. bolt, which is secured by two nuts. Low gear is engaged by gently pressing the lever backwards, high gear by lifting with the toc of the boot. From the high gear free position is reached by giving a short sharp kick.—L. A. C. Perris, R.A.F., D.R.

A Foot Controlled Horn.

Y fixing the mechanical horn on the lower members of the frame the leg can be used to operate it, and necessity of releasing the hands from the handle-bars is removed.

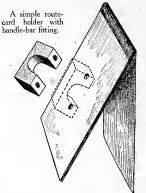


Various positions in which a mechanical horn may be attached for foot operation.

diagram shows three positions in which the horn may be fixed, so that by in-ward pressure of the leg the horn can Le operated .- C. McC.

Making a Route Card Holder.

OR long journeys over strange roads route card holders are very desirable. The main portion consists of a cigar box lid, and this is screwed to a block of wood about ain. thick, which is drilled



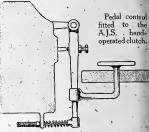
to fit over the handle-bar, and a cover of American cloth is tacked on to the top edge. A home-made holder is illustrated above. Drawing pins are used to secure the route card.—G. H. Northover.

Pedal Control for A.J.S. Clutch.

FOOT operation of A.J.S. and similar type clutches is often of great con venience, especially when gear chang ing, since the throttle may be manipulated more carefully when there is r need to release the right hand to contra

the gear lever.

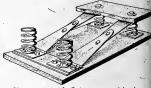
The sketch is self-explanatory, consists of a small pedal, easily forged by any blacksmith, brazed on to the clutt lever mounted on the gear box. As wi



be seen, the pad of the pedal comes clos to the end of the footboard, and is in mediately under the control of the rider heel.-J. D. O'HANLON.

A Home-made Fillion Seat.

THE feature of this pillion seat is th elimination of excessive side swa Essentially, the device consists two boards the size of the carrier. The boards are fitted to each other by tw pairs of hinges, the long arms of which are riveted together, as shown in the sketch.



Cheap and simple fittings are used in the making of this pillion seat.

Four ordinary cycle saddle springs at used between the boards, and these at held by nuts and holts passing through the hinges and boards. It is advisable to use large washers or thin iron structure to the holt heads and nuts in order the holt heads and nuts in order. under the bolt heads and nuts in orde to prevent cracking of the wood.—H DE M.C. (Crewe). (Will H. de M. C. please forward hi

full address to the Editor?)



STAINLESS STEEL FOR MOTOR CYCLES.

By DR. L. AITCHISON.

lts Composition and Possibilities for Constructional Purposes.

LL motor cyclists are now familiar with stainless steel. Almost wherever they go for lunch. or dinner they are provided with a stainless steel knife. Doubtless the average person says that the new cutlery is a remarkable invention, but probably only a few who use the steel knives imagine that stainless steel has any other uses than for cutlery. This is probably due to two causes. In the first place most people are aware that cutlery (other than stainless) is made from a special type of steel which is hard and capable of taking a good temper, and they are also aware that this kind of steel is never used for structural purposes at all. They therefore assume that stainless steel is similarly constituted, and, consequently, is not suitable for structural pur-The second reason which, in a great many cases, causes them to pass over stainless knives without reading fully the signs of the times which are embodied in these useful household articles, is a fairly widespread belief that the stainless property is something put on to the surface of the knife, and is not a virtue extending throughout the steel.

My purpose in this article is to suggest some directions in which stainless steel would be of conspicuous advantage to the motor cyclist. The obvious way to deal with such a matter is to divide the motor cycle into two halves, namely, the motor and the bicycle, and to deal with these separately. In order to appreciate, however, the following suggestions as to the application of the steel, it may be well to give a few facts about the steel, and to endeavour to establish at once the opinion that stainless steel has properties which will make it useful in other directions than the manufacture of cutlery.

Stainless steel is an alloy steel; that is to say, it contains, in addition to iron and carbon, which are the ordinary constituents of steel, a considerable percentage of another element, namely, chromium. In an ordinary table blade the amount of chromium which is present is probably about 12% to 13½%, and it is this high percentage of chromium, combined with the fact that there is not a very high percentage of carbon in the steel, which makes the material stainless and impervious to rust.

Ease of Hardening.

In consequence of the high percentage of chromium in it, stainless steel can be hardened very effectively, much more effectively than can the ordinary plain carbon steels which are used for most structural work. When it is stated that stainless can be hardened very effectively, two things may be inferred. The first is

that when hardened, stainless steel can be made to possess a very high tensile strength, and the second is that the method required for hardening stainless steel is very simple. To illustrate the latter point, a slight digression is necessary to explain how ordinary steel is hardened. Most steel which contains only carbon in addition to the iron is hardened by heating to a full red heat, and quenching in water. Sometimes, instead of quenching in water, the articles are quenched in oil. If the steel, however, is cooled in air from a full red heat, it is not hard at all, as the figures in the following table show distinctly.

PLAIN CARBON STEEL

		1.1	ALN UA	RBUN	D.T.	EEL.			
							Tensile		
							tons/sq	uare	inch.
Cooled	in	water					 	48	
,,	in	oil					 	38	
	in	air						28	

Stainless steel, like many other alloy steels, differs, however, from the carbon steel, in that it may be hardened fully by cooling it in air. In order to harden a piece of stainless steel completely, the only thing which it is necessary to do is to heat it to a temperature of about 900° C., i.e., 1,650° F., and allow it to cool in still air. When this is done, the tensile strength of the steel is about 110 tons per square inch, which is obviously much higher than can be obtained from the carbon steel by any method of cooling, whether it is quenched in water, in oil, or whether it is allowed to cool in the air.

Tempering.

It would, of course, be of very little use to the motor cyclist if stainless steel could be obtained only in such a condition that it has a tensile strength of over 100 tons per square inch. Stainless steel, however, is just like other steels, and can be softened or tempered by heating to various temperatures after it has been fully hardened. In the following table are shown the tensile strengths of stainless steel after it has been tempered at suitable temperatures: and in a parallel column are shown the corresponding strengths of plain carbon steel, such as is usually used for structural or engineering purposes after similar treatment.

			Tensile Sta	streng	th tons/so	uare in	ch.
Fully hardened -			*	105	***	48	.041
Tempered 400° (•••		100		45	
,, 500° (D	•••		92		38	
,, 600° ().	• • • •		62		34	
,, 700° (2.	•••	• • • •	54		- 30	
,, 750° (Э.			51		30	

From the table it will be obvious at once that stainless steel offers a considerable advantage in

Stainless Steel for Motor Cycles .-

strength over the ordinary steel, so that, apart from its main property, stainless steel can be seen to have many attractive points. The great virtue, however, of stainless steel is, of course, the fact that, after hardening and tempering and polishing, the steel does not corrode or rust under the attack of either the air or moisture, or sea-water, or weak acids, such as vinegar. This means at once that the effective strength of a part is considerably increased because no allowance need be made for rusting. In addition, it is not necessary to protect the parts made from it by means of paint or enamel or varnish, or any of the metal plating processes which are so frequently employed.

Where Stainless Steel could be used.

Turning now to the actual uses to which the steel may be put, the bicycle itself may be considered first. In the bicycle are the following main parts: the skeleton framework, the handle-bars, the brakes, and the wheels. In addition to these are the various brackets for lamps, etc., and the mudguards. The framework and handle-bars are generally made of mild steel tubing, which has tensile strength of approximately 24 tons per square inch. The brackets, where they are of steel, are made from mild steel of the same strength. The rims of the wheel are made from mild steel strip of about 30 tons per square inch strength (as it is cold-rolled), and the mudguards are made from strip of about 26 tons per square inch. The spokes of the wheels are made from steel about 75 tons per square inch tensile strength. Of these parts the ones to which stainless steel could be most profitably applied, taking into account the various methods of manufacture, are the framework, the handle-bars, the mudguards, and the brackets and similar fittings.

The Saving in Weight.

During the war the development of aircraft construction and design has shown the importance of conserving weight to the maximum degree possible, and, incidentally, has advanced the manufacture of tubes to a very great extent. Many aeroplane axle tubes are now required to be of about 85 tons tensile strength. This has resulted in an appreciable saving in weight. Why should not something similar be effected in the case of the motor cycle and by the use of stainless steel? It would not be impossible to make stainless tubes of 85 tons strength, but it would be easier to make them of about 60 tons. This means that the present steel of about 26 tons strength would be replaced by one of about 60 tons: more than twice in the strength. This is bound to result in a reduction of the weight of the part materially, even though it does not mean a reduction to a half. This in itself is very well worth considering. Add to this advantage, however, the fact that the material is stainless, and weights can be reduced still further. Plating and enamel do not weigh much, but they weigh something, and every.

Plating and Enamelling Unnecessary.

The second great advantage following from the use of stainless steel for the framework and handle-bars of the bicycle is that the use of this material would obviate completely the necessity for enamelling or plating the parts. This would be of some considerable consequence in the initial cost of the parts. Besides

the initial cost, however, the use of stainless steel would do away with repairs and renovations of the enamel or plating, and the parts would always be bright and clean. This is surely a very great advantage, and, when taken in conjunction with the great gain in strength which could be achieved by the use of stainless steel, suggests that the utilisation of this material presents considerable advantages.

The Price Question.

It must, of course, be admitted at once that stainless steel is distinctly more expensive than mild steel, and also it must be admitted that, although there is a possibility of the price of stainless steel being reduced distinctly from its present level, yet there is no likelihood of it ever competing with mild steel as regards' price. The price, however, of an article is by no means fixed by the price of the raw material from which the article is made. As stated above, by the use of stainless steel, the weight of the parts would be considerably reduced, less material would, therefore, be required, and hence the price of the finished article would not be so high as might be expected from a direct comparison of the prices of the raw material in billet form. When cost is being considered, the cost of enamelling and plating must be taken into account, and set off against the extra price of the material. It appears possible, therefore, that when all these points are taken into account, the stainless steel frame and handle-bars would not cost a great deal more in the long run than those in the ordinary steel.

When other parts of the bicycle, such as mudguards or brackets, etc., are considered, there can be little doubt that stainless steel would have considerable advantages from the point of view of lack of rusting. By creating a demand for the type of stainless steel which would be suitable for mudguards, the price would be reduced considerably. In this case strength questions are of no great importance, but freedom from rust plays a considerable part. Even with the best enamelling, mudguards generally present rather a poor appearance after a time, and it appears very well worth while to consider the use of a material which would never rust, even after years of service.

Stainless Steel in the Engine.

The above remarks have been confined exclusively to the utilisation of stainless steel in the cycle as distinct from the engine. When the engine is considered, it can be said right away that there is probably hardly a single part (with the possible exception of the pistons) which could not be made from stainless steel. There is, however, no need to use this material for ja great many of these parts, since their liability to corrosion is small, the parts being enclosed and running under conditions giving suitable lubrication. steel, however, is of considerable use in connection with valves, and it is hoped that this subject may be dealt with in a separate article. In fact the general application of stainless steel to the engines should be dealt with separately. It may be taken, however, as a fairly safe statement that if corrosion is being experienced on any of the exposed parts of an engine, the use of stainless steel for this part, in order to overcome this corrosion, should be very carefully considered, and it will probably be found that, if it be adopted, the corrosion troubles will be overcome.

The First 1000 Miles on a Mechanically Lubricated P& M

THOUGH owing to the early date of its delivery my machine was minus one or two of the improvements that have since been carried into effect on the post-war model, it belongs, so far as these notes are concerned, to the post-war category, for the power unit throughout is the new model, which made its $d\ell but$ in the A.C.U. Six Days Trials.

The conditions of riding in France left many of us when the war ended in the possession of an almost morbid thirst for something reliable—something endlessly reliable, which would jog us through the genial monotony of everyday life with never an anxious thought or an irksome moment. That, I suppose, was why I bought a P. and M.—not, perhaps, without certain misgivings. An impression of bygone days has never classed the P. and M. as among the antelopes of the road. They were renowned, rather, for always getting there on a minimum of petrol and a maximum of oil. Twin-cylinder enthusiasts talked about the vibration. I was among them. When I bought the P. and M., it was in a spirit of preparedness as concerned accepting a certain amount of vibration in return for the numerous and unquestionable advantages of the breed, and I was prepared to feel it badly, as the previous mount was a twin-cylinder which, theoretically, was a perfectly balanced engine except for a "negligible couple."

Absence of Period.

Mounting the new P. and M., however, I was very pleasantly surprised to discover that it did not vibrate This was the first impression, and it has been a lasting one. Old P. and M. riders who try the new model have a treat in store, and, personally, as a flat twin maniac. I had no idea that it was possible to balance a single-cylinder engine so perfectly as this post-war model is balanced. Either the manufacturers have accomplished the impossible by ruling out the "inevitable period," about which the knuts talk, or they have shifted it so high up the scale of revs. that none but the topmost knuttiest of the knuts will ever find it. Perhaps that is a slight exaggeration, but, at any rate, the engine is vibrationless at the speeds one ordinarily drives a P. and M., while at higher speed it is negligible. Certainly, it is better balanced than any of the pre-war V twins, and this. I believe, applies to at least two other of the best present-day singles. .

Silence.

Of recent years quiet running has been a great point in favour of P. and M. machines. Considerable comment has been passed on their silence, and, so far as mechanical sounds are concerned, the new model is distinctly more silent than its silent predecessors. The forced lubrication has a good deal to do with this, but of that more anon. As regards exhaust noises, it is somewhat difficult to judge. Throttled

Being the Road Impressions of a Practical Rider on a Practical Mount.



down, the new engine turns over like a sewing machine, but it has a considerably bigger kick than the R.A.F. model—it is, in fact, a more powerful engine—and therefore, when the throttle is opened, the natural response comes by way of a healthier bark. Its usual method of progress, however, leaves nothing to be desired, and generous throttle openings are sufficiently infrequent to be negligible.

Road Speed.

The new model looks what it is, a thoroughly practical road proposition of genuine British design and finish. I hold no brief for P. and M.'s, but it is really time that old-day impressions as regards the speed of these mounts went their way. Up till about 1913, P. and M.'s were as monotonously slow as they were monotonously reliable. The two were inseparable. They traded on their slowness, and thereon built up their reliability. The makers had decided how many fluffy, woolly "ploffs" per minute were good for you, and you could get no more. You could jam open the throttle, waggle the air, sit on the joystick, but it went on "ploffing" at the same indifferent speed. Those days are gone, and for some" years past the aim of the makers has been to obtain a single of as great an all-round efficiency as any other single, without sacrificing any of the original properties. How far they have succeeded the present model shows. My mount is standard, but it is really a "hot-stuff" single. Several of the genuine speed "nobs" have marvelled at the manner in which it will rev.-and keep on revving over long distances. With a loaded sidecar it is not, of course, fast. The least head wind brings down the average enormously, as three speeds are essential for even a moderate average with so small an engine. With an empty sidecar and no head wind it is faster than most big twins with loaded sidecar, because one can stick on top gear and simply rev. An experiment in this direction proved a great surprise. I was riding up from Bradford to Scotland with the sidecar containing only "emigrants' effects." On the up grade after Settle, a big American twin with moderately loaded sidecar passed me with a look of contempt from its rider. "All right, my son," I thought, "now you'll have to keep moving all the way to Scotland!"

A good open road, no wind, glorious weather, and I continued to ride at the same speed as previously. Probably the P. and M. and the American were geared

The First 1,000 Miles on a Mechanically Lubricated P.&M.—about the same. It was merely a matter of engine speed. All manner of queer remains in the way of sidecar outfits were passed on the way, and presently it was quite evident that the driver of the American was doing a little more than he had intended. On a long level the P. and M. drew up alongside, and out of the corner of one eye the American was observed to be desperately twiddling twiddly bits and pulling strings. The last ten miles, however, had proved too much for the big engine. It simply could not stick the ress., and fell ignominiously to the rear.

At Carlisle I pulled up for petrol—the big twin ticked in later, and numerous tentative enquiries were made as to whether the P. and M. was standard. This little anecdote is related not by way of inviting jibes from the big twin enthusiasts, but simply to illustrate the point that the new P. and M. is not slow, and, further, as showing that there is a good deal of truth in the statements of certain single-cylinder

experts to the effect that when it comes to a matter purely of revolutions the average big twin simply cannot stand up to a well made single beyond a certain distance.

Pending improvements, the P. and M. engine should mark an era of additional vitality, and it remains only to be said that where one finds difficulty in keeping pace with other good machines is on such a trial as the Scottish Six Days, when the absence of a middle gear inevitably results in periodical and stupendous "blinds."

Mechanical Lubrication.

Though the reader may be becoming fed up with favourable comments, he must endure a few more

adjectives till we are through with this paragraph. A lubricating trouble with P. and M. engines hitherto has been the drying of the top side of the piston. This alone accounted for their high oil consumption, as, in order to keep the top side of the piston anything like adequately lubricated, it was necessary to maintain a larger quantity of oil in the crank case than would otherwise have been necessary. Because the engine had one dry spot it was necessary to keep the rest Even then the top side was alternatively swimming. dry and half dry. A little exaggeration may be pardoned in order to emphasise the point, but examine the piston of any P. and M. prior to the post-war model, and that a dry side existed is evident at a glance. This, of course, led to uneven wear and an irritating piston tap, quite apart from loss of efficiency and high oil consumption, while the high oil consumption correspondingly led to the necessity for frequent decarbonisations.

These points could, perhaps, be ignored previous to the present era of perfection, but the fact that the new system of lubrication has removed them is an important step. I cannot say whether my machine acquires less carbon deposit than the present model, because, living in the mountains, and generally using a side-car. I habitually over-cil, but certainly it does not carbon up quickly. That the forced lubrication has

improved the engine enormously is a fact any tyro could perceive. At all times it runs with the silken smoothness suggestive of night riding, and which indicates perfect lubrication—i.e., that a steady flow of oil is reaching the spots where it is required. A constant feed goes to the top side of the piston walls, the original dry spot, and thus the dry spot is ruled out, while the second force feed goes to the big end.

The ruling out of that dry spot is an enormously important point. Hitherto P. and M. engines have been fitted with pistons on the tight side in order to reduce the piston tap, which came in the end anyway. This is no longer necessary; the advantages of a free piston can be enjoyed without irritating mechanical noises and without excessive wear. In point of fact, the present piston is so well lubricated that it wears imperceptibly, as the following will show.

Reliability of the System.

When my machine was first turned out it was fitted,

in error, with the usual P. and M. tight piston. After 1,000 miles of hard riding, I one day accidentally left the oil turned off, and, though there was a sufficient supply in the crank case, the piston dried up almost immediately, indicating that, after 1,000 miles, it had not run in sufficiently to take off its initial newness. Again, at a more recent date, I accidentally ran out of oil, and again the piston dried up immediately.

This brings us to another point. Riders of the old school are still sceptical about mechanical lubrication. "What if the pump fails, and you ride on without knowing it?" they ask. The reply is, "The pump is never likely to fail, and if

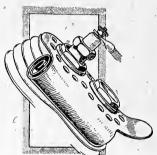
it does you will know about it in double quick time."
The piston will dry up long before any other damage will occur, because a mechanically libricated piston

never becomes a really sloppy fit.

The pump under discussion camot very well fail. It contains no valves nor springs, is simply a little solid plunger reciprocating and rotating in a little solid tube, and the only conceivable manner in which it can give up the ghost is by stripping its pinion; and you are just as likely to strip the magneto or half-time pinion. Should this occur to some luckless vagabond, he can very easily strip off his pump, send it to the makers, and go on riding by the use of his hand pump, as he did when he was a boy. It may be added that the lubrication now employed has been in use on machines (not served to the public) since 1914, and first proved itself on the P. and M. twin.



Practically all the points one would criticise on this attractive and serviceable machine are to be washed out on the post, war model the public will get. The R.A.F. model kick-starter left a good deal to-be desired. Sometimes one kicked with effect, sometimes one kicked the air and, in effect, almost broke one's ankle. Its chief weakness lay in the fact that the public seemed incapable of grasping the one or two



An additional cooling device fitted to the author's P. and M - It consists of sheet copper and fits under the valve caps.

The First 1,000 Miles on a Mechanically Lubricated P. & M.—adjustments provided, and on which its satisfactory working depended. The new kick-starter is a big, husky ratchet affair, which swings the engine over half-a-dozen times. It is neat and infallible.

Some Points for Improvement.

One recalls also having to hang head downwards between the machine and the sidecar in order to remove oily little screws and an ornamental cover in order to inject oil with an oily injector through a red elbow and into the gear—the sort of circus trick the public ought not to be called upon to perform. That, too, is gone. The new gear is provided with a big roller bearing packed with grease and requires no attention from the beginning of the scason to the end.

The front mudguard remains the same-a blot in an emerald landscape. It might profitably have been redesigned five years ago. There is so little tyre clearance that, unknown to the rider, a stone can jam between it and the cover, and cut the front tyre all the way round—as has happened in my case. Wider guards and larger tyres are really needed. friction shock absorber either absorbs nothing at all or it absorbs the whole drive. If perfectly adjusted, it remains so for about 100 miles, gradually slipping more and more till at 150 miles one has to get out hammers and crowbars to tighten up the whole affair. Every practical P. and M. rider I know keeps the lock nuts rammed home, and rides with a solid drive, but this is also, I learn, to be superseded by a shock absorber of the mechanical and unadjustable type, which is bound to function, and to function always.

The B. and B. variable jet carburetter is, perhaps, the writer's favourite on account of its economy, wide range of adjustment, and general efficiency. The only

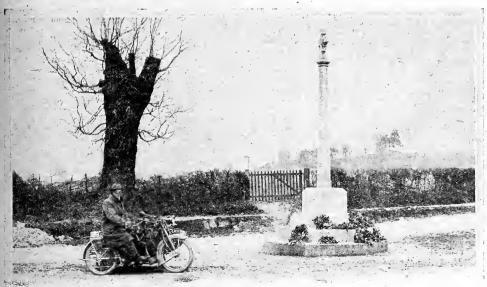
trouble with it is that one is never sure of the best position of the levers for an easy start. The best position to-day may prove hopeless on Saturday next, and once having properly middled the mixture, it is necessary to make a clean sweep and start all over again. Even with this defect, the variable jet is miles above most other designs.

The E.I.C. magneto has given no trouble. It seems a thoroughly sound proposition, but it will be more appreciated when British manufacturers get away from minute adjustment screws.

Economy.

A machine of the type under review probably affords the cheapest possible travelling for two. A 3½ h.p. two-speed is not, of course, ideal for sidecar work, though the climbing abilities of this mount are equal to anything but the most freakish conditions. Heavy winter roads and winter winds are the real trial.

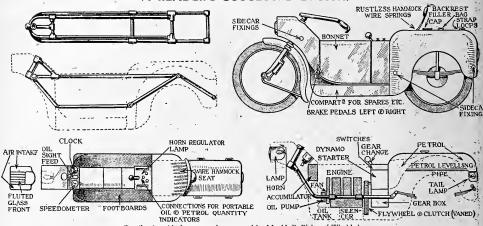
The reason why the P, and M, sidecar and one or two others of its class are essentially adapted to the poor man's requirements are, first, because they are absurdly cheap to run and, secondly, because they fetch good second-hand prices. The market value of a well-used P. and M. falls very slowly. At the end of two years, if it has been well kept, one should have very little to write off as depreciation. With luck, repair bills and renewals run to only a few shillings per year, and petrol and oil consumption is very low. From Peebles to Skipton via Carlisle and Kendal, with passenger and luggage, our petrol consumption panned out at 108 m.p.g. From Peebles to Glasgow via Lanark, through mud and against wind, it once dropped to 62 m.p.g.—the lowest yet. Oil consumption has not been measured, but I should say it is roughly just over half what it was with the R.A.F. models. CHINOOK:



. A war memorial in the village of Lugwardine, Herefordshire. It has thirty-two names on it—a large total for a village of only a few houses.

A Highly Developed Motor Bicycle.

A READER'S SUGGESTED DESIGN.



Details of an ideal motor cycle suggested by Mr. H. P. Blake, of Wimbledon.

S OME years ago Mr. H. P. Blake, of Wimbledon, sent us a model and sketches demonstrating his ideas of a motor bicycle de luxe; and the attention recently devoted to this topic by The Times and ourselves has moved him to submit the accompanying specification and sketches, which he places freely at the disposal of anybody who may be intercested, since he is unable to develop the design for himself.

The general view shows a smooth-sided casing of Duralumin utilised to conceal an ordinary frame of steel tubing. The whole of the mechanism and accessories are protected and hidden by this casing, so that the machine does not look "spiky," and is very easily cleaned after a dirty ride. The back wheel is carried on semi-clliptic leaf springs, a U tube being carried up from the rear forks to the tail of the main frame in order to prevent lateral sway when cornering. The front wheel is trailed caster fashion, with its springs concealed in telescopic tubes.

A vertical three-cylinder engine of the two-stroke type is suggested, driving the rear wheel through a four-speed gear box and enclosed shaft. A combination electrical outfit would cater for ignition, engine starting, and lighting.

The cowl surrounding the steering head houses three items, viz., the head lamp (which has a dimming device), the electric hooter, and the air intake to the fan which cools the encased engine.

The frame is narrow, the rider's legs being outside the engine cowl. The footrests are carried up in a slow curve at the front end to form mudshields, and lockers beneath the footboards are utilised for the

storage of tools and spare parts.

The lubricating oil tank is set low down between the footboard lockers, the oil being pumped to the engine via a sight-feed mounted on the dash or instrument board. The dash also carries a sunk speedometer and clock, together with the adjustment for the

oil-feed. An unusual petrol tank of 3½ galloris capacity is mounted above the rear wheel, its fore and aft bottom levels being connected by an equalising pipe concealed under the Duralumin cowling. The registration numbers are, of course, painted on the cowling, and the tail lamp is built into the rear of the petrol tank.

The handle-bar controls would naturally be of the concealed type, viz., twist grips or thumb slides.

In lieu of a saddle, a hammock seat of cycle car pattern is suggested, but the use of rustless steel links is preferred to leather.

The approximate dimensions are:

Wheelbase, 56in.
Saddle, to footboards, 17in.
Ground clearance, 7in.
Wheels. 28 × 3in.
Width of bonnet, 7½in.
Width of petrol tank, 12in.

Maximum width (across footboards), 14in.

Such a machine, it is claimed, should not be appreciably heavier than a conventional mount of equal horse-power, since the light cowling would not weigh much more than the numerous fittings required to carry the parts as usually arranged.

Perfection in Motor Cycles.

It will be interesting to see how far Mr. Blake's design conforms to readers' notions of a machine de luxe. His specification is tantamount to a heavy-weight built with two special points of emphasis, viz., ease of cleaning and disregard of cost. But the cache of the Rolls-Royce car—so often quoted as the zenith of motoring luxury—is not unconventionality in general outline, but the perfection of a normal first-class design by dint of first-class material, first-class workmanship, and incessant testing. It follows that a Rolls-Royce motor bicycle need not be unconventional. The policy might imply no more than the following points:

A Highly Developed Motor Blcycle.-

(1.) Limited output.

(2.) High price.

(3.) Vibrationless engine.

(4.) Vibrationless frame.

(5.) Ten hours' bench test of each engine.
(6.) 500 miles road test of each machine.

The quality of the machine would then embody a host of minor perfections, which cannot all be guaranteed in a cheap machine built on the quantity system. For example, it would have no oil leaks at the tappet

guides or crank case joints; it would never soot a plug; its carburetter would not flood until, say, the third season; it would be impossible to adjust the back wheel out of track with the front wheel; it would tick over at 75 r.p.m. in neutral; its clutch could be operated with one finger, but would not slip within 20,000 miles; it would not carbonise its cylinder in less than a full season's riding; its wheels would be interchangeable within sixty seconds, etc., etc. Nevertheless, it might closely resemble in outward appearance one of our standard production machines.

OUR EXPORT TRADE.

BOTH IMPORTS AND EXPORTS ON THE INCREASE.

THIS year will mark the resumption of trade in Overseas markets on a scale fitting the nation that turns out the world's finest-machines. Last year, of course, an effort was made to fulfil a small percentage of the Overseas orders im-hand, but the few machines exported did little to satisfy the ever-increasing demand, the number exported being, roughly, half of those in 1913. Many have been the criticisms levelled at British makers at their efforts at building up Empire trade. Lethargy, indifference, and shortsightedness, have been among the accusations advanced by Overseas motor cyclists, the greatest grievance probably being the spare part question.

We have been told that in a few years time British trade will be entirely eclipsed by American, that our antiquated methods will result in the total ruin of the pioneer work performed by a few British firms years ago. Yet, in spite of all this condemnation and rather tiring tirade, in spite of the American trade organisation, and the magnificent opportunity they had of penetrating our reserves during the early part of the war, the demand for British machines is as firm as ever. When British motor cycles are sent out-whether to South Africa, New Zealand, India, or Canadathey are snapped up in spite of price and the socalled bad spare service. That fact speaks for itself. The demand is there, and will unquestionably remain so long as our machines maintain their high standard and workmanship.

British Service Abroad.

There is room for much improvement in British service abroad without a doubt, but the many grumbles heard are uttered without giving thought to the obstacles that confront the comparatively small and individual manufacturer in his effort to supply a world market. These obstacles will be overcome when British firms combine in their efforts to form central spare depots in various countries—a scheme we discussed some months ago, and to which reference will be made at a later date—and when the strangling effect of labour troubles is overcome.

The coming year British makers will have great difficulty in meeting the demands of the home market, but the wise manufacturer, who is looking right ahead, will make provisions for maintaining or building up goodwill abroad. There will be an ever-increasing demand at home for machines: a demand that is likely to lull to sleep the faculty for a full realisation

of the gigantic possibilities of "foreign" demand, for not only is there the white population of such places as India and China to consider, but also the coloured races. Let it be remembered that the enlightened population of India and China is a large one, and, judging from correspondents' letters, it is interested in the cheap and simple type of motor cycle. The world's demands for motor cycles is huge, and the makers who have imagination, mettle, and push, will reap a big reward: there is no question whatever on that point.

Exports for 1919.

So far as export trade for the last year is concerned, no remarkable feature presents itself on studying the figures. It will be observed from the table below that about half the number of machines were exported last year compared with 1913, but their value was nearly £160,000 more.

Compared with the month of November, last month's figures show a very slight decline, the number of machines exported being 838, their value, together with parts, accessories, tyres, and tubes, amounting to £115,035.

EXPORTS.
YEAR ENDED 31ST DECEMBER

TEAR ENDED 3151 DECEMBER.							
	1913.	1914.	1915.	1916.			
Value of notor cycles, parts, and accessories	£991,035 16,850	£1,305,250 20,877	£820,217	€958,729 12,851			
	1917.	1918.	1919.				
Value of motor cycles, parts, and accessories	£1,237,207	£672,649	£1,158,139				
No. of machines	14,159	5,652	8,330				

MONTH ENDED 31ST DECEMBER.

	1917.	1918.	. 1919.
Value of motor cycles, parts, and accessories	£95,9¤7	£45,717	£118,822

IMPORTS.

MONTH ENDED 31ST DECEMB R

	1917.	1918.	1919.
Value of motor cycles, parts, and axessories	£1,691	£491	£42,860

AIR-COOLING UP-TO-DATE.

By "ROAD R!DER."



Modern Views on the Question of Heat Conductivity and the Selection of Materials.

T is not a mere accident that several prospective motor cycle engines are to be fitted with detachable heads; nor has this ancient system of construction been revived solely or mainly to facilitate decarbonisation, or to permit the interior surface of the combustion chamber to be machined. A little consideration will show that a detachable head is essential to full cooling efficiency.

Where "hotstuff" engines are concerned, it is desirable to keep the inlet pocket as cold as possible. It is true that a portion of the inlet pipe should be well heated, to assist vaporisation of the fuel on any type of engine, and to ensure equal distribution of the charge to the several inlet valves of a multi-cylinder. But if the inlet valve pocket is really hot, it is impossible for the engine to inhale a maximum charge, since heat expands the gases; and the inlet valve is open for a miserably brief period at the best. Consequently the inlet pipe should be heated close to the carburetter, and cooled near the valve. For this reason it is desirable to prevent the inevitable heat of the ex-

haust valve pocket from raising the neighbourhood of the inlet valve to a very high temperature. If the cylinder head is made of a metal possessing a high degree of conductivity, e.g., aluminium, the temperatures of the inlet and exhaust valvepockets will be approximately equal, which is undesirable. On the other hand, if the cylinder head is made of cast iron, which possesses comparatively low heat conductivity, the inlet valve will keep fairly cool, and the heat of the exhaust valve will be isolated, and the cylinder head will expand unevenly.

A Composite Cylinder.

A recent patent solves this dilemma with satisfactory results. A one-piece cylinder of aluminium will suffer from too hot an inlet valve, with resultant wire drawing of the charge. A one-piece cylinder of cast iron will tend to distort eggshaped with its long diameter bi-

secting the exhaust valve, with consequent piston friction. Hence a detachable head is clearly indicated as the road towards a solution.

The nature of the problem is absurdly simple. Theoretically, the cylinder head should be hot on one side and cool on the other, for reasons already stated:

while the cylinder barrel should be of an even temperature all round to avoid distortion and piston friction. In other words, the designer must devise a detachable head which will not pass on uneven heating to the cylinder barrel. Any type of joint between head and barrel interferes to some extent with the flow of heat from one part to the other: the best made faced joint is an insulator of heat to some extent; racing sparking plugs are made with one-piece electrodes to secure the most rapid conduction of heat and so to prevent the points from becoming incandescent and causing preignition. Hence some designers deliberately fit a type of head-to-barrel joint which is a bad heat conductor. Such a joint is necessarily apt to leak; since the hot exhaust side of the head is expanding away from the cool inlet side, and exerting a sideways pull. The patent, above referred to, embodies a thickish aluminium washer of considerable diameter between a cast iron head and a steel barrel. Aluminium possesses splendid heat conductivity, and measurements

of temperature on the top and bottom sides of this washer are very interesting. At the top the exhaust side of the washer is appreciably the hotter: at the bottom there is no material difference between the temperatures on the two sides. In other words, this washer puts the heat into equilibrium before communicating it to the steel cylinder barrel. Thus all three desiderata are obtained, viz.:

i. A cool inlet valve pocket.

2. Full internal machining of the combustion head.

3. A symmetrical piston path under full load.

. It is doubtful whether any other method of construction at present in use fulfils all these requirements quite so satisfactorily.

CONSIDERABLE CAST IRON CYLINDER HEAD WARM COOL EXHAUST INLET ALUMINIUM CYLINDER HEAD CYLINDER HEAD

Relative distortion of cast iron and aluminium cylinders (exaggerated).

Piston Temperature.

In the second place, it is equally necessary to maintain the whole area of the piston at as even a tempera-

ture as possible. In pre-war motor cycle engines this necessity was fully realised, but clumsily tackled. The designer's main expedients consisted of:

Drenching the cylinder walls with oil.
 Retaining the hand lubrication system, simply because it furnished cold oil at periodic intervals.

Air-cooling Up-to-date .--

3. Spraying the interior of the piston with oil.

4. Compensating for the excessive expansion of the red-hot crown of the piston by giving the top "land" of the piston from corin. to cogin. more clearance in the cylinder than the lower "lands" (i.e., using a "tapered" Crownst MEET ?

piston). All these expedients were faulty. For ex-

ample:

1. Created excessive piston friction, as the tight-fitting rings had to overcome the resistance of a "wave" of oil which they squeezed along the cylinder walls on both the up and the down stroke: led to rapid carbonisation; produced absurd oil consumption.

2. Gave the rider trouble which no car driver would tolerate: 75% of motor cycle engines were either under or over lubricated.

under or over lubricated.

3. Exaggerated the overheating of the piston as soon as carbon crusts formed under the piston crown (few riders removed these crusts during amateur overhauls) and produced excessive oil consumption.

(A) Cast iron head

(C) Steel cylinder.

(B) Aluminium washer

4. Rendered the second ring from the top the real "compression guard" whenever the engine was cold, and the top edge of the piston had not yet expanded to fit the cylinder bore. For this reason the second ring bore heavy responsibilities, and three rings became advisable. Moreover, the two top lands and rings carbonised heavily, and after a few hundred miles this *arbon wiped out the extra clearance.

Experiments Five Years Ago.

Quite five years ago a number of piston experiments were in progress, though it is doubtful whether even their originators fully understood the factors by which they achieved notable successes. The three principal innovations were the recessed or

Aluminium piston with crypt-type internal ribs for cooling piston head.

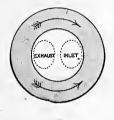
mnovations were the recessed or drilled steel piston, the aluminium piston, and the scraper ring. The steel piston with a recessed waist ranged from the Rudge pattern, on which the "waist" was barely noticeable, to the Zephyr patent, which resembled an hour glass: in between these extreme patterns came all manner of "perforated jam jars." Some inventors claimed improved efficiency as the result of the lightness of

their designs, others emphasised the fact that their perforated piston skirts made for improved lubrication of the cylinder walls. In practically every case the main merit was the fact that the harassed piston rings were able to get rid of the waves of compressed oil which they had pushed in front of them for years. Similarly, the original devotees of the aluminium piston made great play with learned

talk about the lightness of the reciprocating parts. In one experiment aluminium pistons, weighing considerably less than the steel pistons which they superseded, made no perceptible difference in the running whatsoever, except when the engine was cold and their excessive clearance caused them to "slap" quite audibly

until they had warmed up "and grown" to a better

It follows that the prime essential in piston design is to get rid of the oil friction as far as possible. This implies proper cooling of the piston; otherwise cutting down the supply of oil will lead to scizure.



Arrows show circumferential radiation of heat in aluminium washer.

Getting the Heat from the Piston Head.

Since the crown of a piston is subjected to enormous heat, and the skirt is protected from direct contact with the explosion flame, it is essential to use

a metal of high heat conductivity; and in this respect aluminium has cast iron beat to a frazzle, and is suitable in all other respects. The main value of the earliest aluminium pistons was their superior heat conductivity, considerably assisted by the inevitable thickness of their skirts, since a thin aluminium skirt would not bear the load.

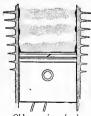
Drilling a piston impairs its heat conductivity. The holes narrow the path by which the heat struggles to flow from the head to the skirt. From a thermal standpoint this device is as foolish as trying to empty the Chelsea football ground quickly after a cup-tie by keeping half the exits shut.

Secondly, the interior of a piston should be heavily ribbed; not to withstand the thrust of the explosion, but to conduct heat from the centre of the piston crown into the base of the skirt. On some of the Sunbeam

aircraft engines a metal stud connects the piston crown to the gudgeon pin. A superior practice is to web the whole of the crown to the skirt in a fashion reminiscent of the groining of the roof of a crypt.

If an aluminium piston designed on these lines should weigh more than the cast iron piston which it supersedes, the engine will nevertheless be improved. If, in addition, the aluminium piston weighs less, additional revolutions will be

obtainable.



Old type piston forcing waves of oil (exaggerated diagram) up the cylinder bore on each upstroke.

The famous Ricardo piston, known as the "slipper" type, reduces the oil friction to a minimum by dispensing with a skirt except for two brief panels on the pressure sides. Mr. Ricardo has also patented a "trunk" piston, which has no skirt at all: the rings are carried on a shallow cap, and the bearing surfaces lower down are out of range of high temperatures.

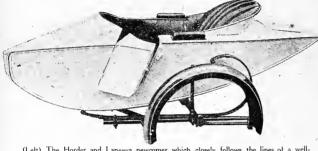
CHOOSING A TOURING SIDECAR.

Some Details concerning Sidecars are Discussed by a Practical

PERHAPS it is unnecessary to go into the reasons which impelled the writer to consider the necessity of choosing a sidecar, since they appear to crop up eventually in the life history of every motor cyclist. Let it suffice to mention the fact that whatever attachment was ultimately decided upon a certain amount of luggage had to be carried without interfering with the

To this end, a large collection of sidecar manufacturers' literature was gathered

together and perused.



(Lett) The Horder and Lane—a newcomer which closely follows the lines of a well-known French sidecar. (Right) The Rover sidecar, which is one of the many fitted with a luggage carrier on the body itself

In the first place, the writer is an ardent solo enthusiast, who regards the sidecar as a necessary evil which will persist concurrently with the continued existence of the social (and sociable) instinct.

Following this confession, it may be assumed that a critical eye was brought to bear upon the sidecars described, and so much as this may be said at once—that the writer found so little to criticise and so much worthy of praise that he became quite disgruntled, feeling that the day of the meticulous scribe was ending.

Luggage Grids.

Regarding sidecars in general, one distinctly noticeable feature must be mentioned. Hitherto the carrying of luggage has been a difficulty with the touring sidecarist. Most luggage grids were mere extensions of the rigid chassis, and were ultimately of greatest value to suit case makers—even a solid steel case could not be guaranteed to withstand the chafing of a tour to the North of Scotland or a week of mountaineering amongst the Lakes.

The 1920 catalogues reveal a change. With few exceptions the luggage grid, such as is fitted to almost all the best class of machines, is mounted on the body itself, thus insulating it from vibration in the same degree as the passenger is insulated. One firm, the Rudge, goes even so far as to mount the body on the spring luggage grid as it were, since the main springs carry a frame which rearwardly is the grid, while in front it forms

a support for the body. The mudguard is also mounted on this, and is likewise removed from the effects of the road wheel vibration.

Another ingenious arrangement, as effective as it is unobtrusive, is the concealed luggage platform on the Millford

de luxe sidecar. The popular bulbous back variety, and if luggage has to be carried the back may be let down and retained at right angles by the same strap which secures the suit cases. A tool hox is also hidden in this arrangement.

Another sidecar embodying, a tool drawer with the grid is the A.J.S., which has a convenient rear platform attached to the back of the body immediately below the spare wheel carrier. Since A.J.S. machines receive such arduous testing in public competitions, they are replete with the details suggested by practical road experience, and that mentioned is undoubtedly one.

Spare wheel carrying is somewhat of a problem if other im-

pedimenta are to be accommodated, and the Excelsior people meet the case in a very cute manner. In the centre of the folding grid is a lng bored and tapped with a screw thread. A bolt, which goes through the hollow centre of the wheel, is screwed into this, so that when the grid is in use the wheel is horizontally beneth it.

Epring Wheels.

Sidecar wheel springing has likewise received much attention in these later days, and more than one firm produce thoroughly sound springing systems. Grindlay sidecars have double leaf springs which insulate everything but the wheel itself, while the Henderson, which has the wheel and axle spring, only carries 11 lb. dead weight. The Bamco leaf spring model has the stub axle mounted at the centre of a heavy laminated half-elliptic, and is extremely simple. Clyno and A.B.C. outfits have sidecars with



On the Royal Ruby, special attention has been given to the carriage of petrol tins.

MOTOR CYCLE

Ch. osing a Touring Sidecar .-

wheels supported on quarter-elliptic leaf springs, while the Matchless embodies coll springs, all these work in unison with the motor cycle frame springing.

The general tendency to support the wheel his spindle at its outer end is probably largely due to the growing favour of detachable wheels, and a good point in this connection is to be seen on the Rex chassis. Here the outer member of the frame encircling the wheel is detachable, this making for easy withdrawal of the wheel.

Bodywork.

Bodywork generally much improves, and some excellent finish is to be seen. The pumple Scott sidecar, for instance, is made up with aluminium panels and is extremely light. Norton sidecars can be had with a large rounded back which opens out to form a dickey seat, while, in the matter of weather protection, there is every refinement to appeal to the most sybaritic passenger. He (or she, we must say) can choose between the extreme at the one end represented by the open sidecar with a simple screen like the Easting passing through the intermediary ground covered by the touring types with hoods, windscreens, and side curtains, on to the other end of the scale, where we find the complete sidecar-limousine type of body.

imousine type of body.

As stated in the prefatory remarks, the writer is something of a solo enthusiast of the all-weather type, and,

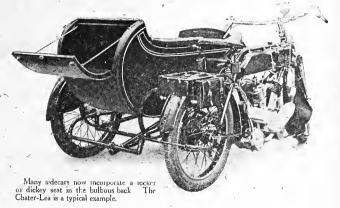
although the enclosed, glass-sided hody appeals to him as a commercially valuable innovation for sidecar work, he would be most distinctly affected by the contrast of his position with that of the passenger if he chanced to be driving such an outfit regularly in Manchester or any of those places on which popular repute bestows a ceaseless downpour.

In conclusion, even this very cursory glance over the catalogues is sufficient to give one food for reflection on the

advanced state of sidecar design to which our manufacturers have attained in the comparatively short period since the exit of the once-popular basket body. Actually the sidecar has not yet been

Actually the sidecar has not yet been chosen, because it has been decided that the most important point is the colonr, and a more influential personage has informed the writer that it must be selected next spring in accordance with the prevailing fashion in complexions at that date.

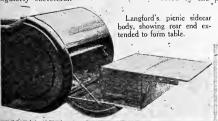
WHARFFEALE.



A PICNIC SIDECAR.

WE have often urged sidecar manufacturers to consider the demand which undoubtedly exists for a sidecar embodying equipment for the large number of motor cyclists, who during the summer months make a practice of taking their meals in the open. On the score of economy alone, the picnic has much to commend it, but apart from this question the majority of motor cyclists' wives prefer to cater for themselves, when they are sure of obtaining meals exactly to their liking at no greater expense than if they stayed at home. So far, however, accommodation for the picnic equipment has been a matter

So far, however, accommodation for the picnic equipment has been a matter for the sidecar owner to arrange as best he could, and especially where a sprung grid is not fitted it has not been easy. As we have frequently pointed out, it is a problem for designers of sidecars to solve, and in this connection the Langford Sidecar Body and Chassis Co., Londom Road, Norbury, appear to have been singularly successful.



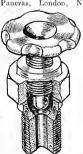
To provide a comfortable sidecar capable of carrying fuel, oil, and spares for long-distance touring, and suitable equipment for a picnic, a most ingenious and compact arrangement has been constructed within the rear of the body of the new sidecar offered by this firm. Two doors are provided, the lower one of which, when opened, is held in a horizontal position by means of two hinged brackets. On the inside of the door is a complete luncheön-box equipped for, two, persons. Two wooden brackets are hinged to the side of the box, which enables a false top to be opened to form a large table. The complete box may, if desired, be sid out on the rails fixed to the door. Also housed in the lower compartment are two collapsible seats. The upper locker is constructed to accommodate a two-gallon tin of petrol and a quart tin of oil, and should the sidecar be required for utility purposes, the luncheon box may be substituted by the passenger's luggage.

A very neat appearance has been obtained, the rear of the car possessing a gracefully curved line. A small tray is also provided in the nose of the body for the accommodation of pages or many.

of papers or maps.
The price of this sidecar when fitted with a special chassis, which is provided with coil spring shock absorbers, will be approximately £38

A LEVERLESS COM-PRESSION TAP.

A LEVERLESS compression tap of simple design has recently been placed on the market by Messrs. Leo Ripault and Co., King's Road, St. Pancras, London, N.W.1. Two components only are



The Ripault compression tap

used in its construction, one being the brass body provided with an hexagonal nut on the outside, the lower portion of which is threaded in order that it may be screwed into the cylinder. The other component consists of a brass screw provided with a circular adjusting head, serrated about its circumference for case of turning, in the centre of which

is a large priming cup. A hole is drilled through the centre of the screw to allow the petrol to flow from the priming cup through a hole in the tapered valve (located beneath the screw) to the engine. When the tap is in the closed position, the tapered valve is screwed on to the tapered seating inside the body insuch a way that no leaks may occur. This tap can be easily and readily detached for cleaning purposes.

OUR AMERICAN NEWS LETTER.

Some Notes of Sporing Events in the United States.

T the Passaic (N.J.) M.C.C.'s recent hill-climbing contest at Pompton Plains, the principal interest centred about the first competition between the Indian Scontread the Harley-Davidson sports model. The Harley-Davidson mediumweight, handled by a seventeen-years-old rider, who was compelled to carry a 25 lb. sack of sand to meet the minimum weight set by the M. and A.T.A., won with a climb of 703 feet. The Indian Scout went over the hill three times in practice, but in the hands of a novice rider, unfamiliar with both mount and hill, fumbled a good climb twice running near 550 feet up. The Scout has plenty of reserve power for gruelling work

in heavy sand. The hill is 800 feet long, The with a gradient of 1 in 3.

For the first, time in three contests the hill has been topped by sidecar outfits, both times by Indian riders. This event was watched with interest, because new rules of the M. and A.T.A. were being tried out. Formerly a sidecar passenger in hill-climbs was per-mitted to ride on the rear mudguard of the machine. No more, however, for the new regulation calls for the passenger to keep

in the car, from the hips down. The terrific drag of the sidecar wheel was overcome by the driver throwing his weight as far to the left (we use right-hand sidecars) as possible. This method held the two successful drivers to a straight course.

A Craze for Freak Hill-climbing.

With the running of the Passaic Club's climb, the "season" rounds out with no fewer than six big hill-climbs being promoted within a radius of one hundred miles of New York City. The craze for grade-conquering stunts does not abate, for everyone is talking of the 1920 climbs he will organise. Trouble is, we shall run out of hills if this activity keeps up. In fact, one ambitious set of promoters, keen for a real hill-climb, are planning to hold a contest up Mount Washington, in New Hampshire. This mountain is a part of the White Mountains of that State, and is a pimple of considerable size. Eight miles is the length of

the waggon road, and the top is 6,254 feet into the sky. This hill was the scene of a famed climb in 1905. An Indian rider made the eight miles in 20m. 59 s., or slower than the fastest automobile time.

High Speeds.

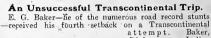
Since the F.A.M. passed out and the Motorcycle and Allied Trades Association Competition Committee assumed Amed Trades Association Competition Commence assume control of motor cycle competition, there has occurred a wonderful revival of interest in contests of all sorts. The controlling body put over four championship race meets in various parts of the United States, at all of which amazingly fast the controlling the controlling than the controllin parts of the United States, at all of which amazingly fast times were clocked by the timers. Foolishly or otherwise, "'Mattie'' officials did not attempt to affiliate with the Fédération Internationale des Clubs Motorcyclists, which deprives the Indian and Harley-Davidson machines of official world's records at various distances. At Sheeps-head Bay, on October 11th, 1919, two miles were ridden at an average a shade under ninety-seven miles per hour; and

at the same meet another mark was set for fifty miles at an average of 91 mp.h. At the next meeting of the F.I.C.M., American representatives from the M. and A.T.A. will be

Although road record riding has been brought to a stand-still in most parts of the States, on account of winter weather, Southern California continues to be the scene of weather, Southern California continues to be the scene of some fast riding. Boy Artley, riding a 1920 Indian, motor bolted in a rigid frame, shattered the San Francisco-Los Angeles mark by rolling the 465 miles in 9h. 25m., of October 31st, 1919. This clips his Henderson record by 39m., and breaks the Cadillac automobile time by 12m.

Artley averaged close to 50 m.p.h. for the journey. One stretch—the 221 miles between Frisco and Fresno—was ridden in 2h. 54m. which found out crears up to

widden in 3h. 54m., which, figured out, creeps up to 56 m.p.h. for four hours—almost unbelievable.



driving an Indian sidecar outfit, left New York City on a schedule that called for his appearance in Los Angeles, Cal., 3,327 miles away, just seven days and five hours later. He established a sidecar mark of 27h, 5m, for 802 miles when he pulled into Indianapolis for his first rest. West of that point, he encountered rains in country that has clay main roads. After many discouraging delays caused by miring into the mud deeply, Baker was forced to abandon his trial somewhere west of Kansas City, Kansas, or about halfway across.



The Indian Scout and Harley-Davidson flat twin in a climbing contest at Passaic, N.J.

American View of the Six Days.

At a time when we were turning to the A.C.U. Six Days Trial as a solution to our machine-wrecking endurance runs, that

nan winner, along comes news of a lot of dissatisfaction over the results of that same contest. From a seat 3,000 miles away, the affair looked like an illustration of that old saw, "Too many cooks spoil the broth." Inspections of motor cycles before and after a contest are fine ideas; but this one about silence, that lost the Harley-Davidson and Indian seven points or so, how was that arrived at? We always prided ourselves that, muffled down, both of those makes were rather quiet running.

E. B. Holton. rather quiet running.

There have been many efforts on the part of Australian motor cyclists to establish a record for the Inter-state route between Adelaide and Melbourne, and the Dunlop Rubber Co. between Adelaide and Melbourne, and the Duntop Rubber Co. has offered a trophy for the first rider to complete the journey in twenty-four hours. A South Australian rider, Mr. E. C. Wagener, recently made a piucky attempt to win this cup on a Harley-Davidson, and succeeded in covering the 589½ miles in 24h. 22m. The ride was checked by the officials of the motor cycle clubs of South Australia and Victoria, and, respectively the specific of the motor with the board of the product of cognising the merit of the ride, the Dunlop Co. awarded him a special trophy.

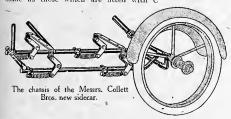
SIDECAR SUSPENSION BY COIL SPRINGS.

WING to the length of the average C spring used on the modern sidecar, there is always a tendency for the body to bonnee when the machine is driven sams passenger. With the idea of eliminating this, and also to provide a suspension system which will prevent side sway and canting, Messrs. Collett Bros., of I, Railway Buildings, South Norwood, have introduced a new sidecar embodying bell cranks aid coil springs in tension.

It will be seen from the illustrations that double crank levers are pivoted on the longitudinal members of the chassis, and carry on their upper arms the transverse plates which support the body. The lower arm of each pair of cranks is connected to one end of a coil spring which is fixed to the chassis. By this system the body occupies a position relative to the chassis approximately the same as those which are fitted with C



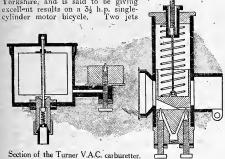
The suspension of the sidecar is by bell cranks and coil springs instead of ordinary leaf springs.



springs, and the direction and amount of movement are also similar. The design certainly has a clean appearance, and, provided that the bearings supporting the shafts of the bell cranks are of good size, are a good fit, and are kept lubricated, there is no reason why it should not be a great success. Some of the most comfortable sidecars we have used have been fitted with coil springs in tension, and there is a marked tendency at the present time for car designers to consider the many advantages obtaining with this type of spring for suspension purposes. With the Collett system it should be quite possible to include a means of adjusting the spring tension. Owing to the light weight of a sidecar, it is exceedingly difficult to provide springing ideal for both light and heavyweight passengers.

A SIMPLE AUTOMATIC CARBURETTER.

HE demand for carburetters operated by one lever only is steadily growing, and designs for this type are flowing in in large numbers. A very simple instrument, which depends for its automaticity on the shape of the throttle barrel and the size of its jets, has been produced by Mr. E. R. Turner, of Kildwick, Keighley, Yorkshire, and is said to be giving



are mounted in an extension of the float chamber, each being adjustable by means of a screwed taper needle. The jet nearest the engine acts as a pilot jet, and lies- in a groove in the throttle barrel, thus the incoming air is concentrated round the jet orifice. Delivery from the main jet is delayed until the throttle is about one-third open.

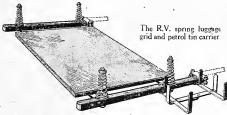
A curious feature is introduced in the float chamber, for the petrol orifice is normally closed by a spring-loaded ball, which is opened by the weight of the float and needle when the fuel in the float chamber sinks below the required level.

A SPRUNG SIDECAR LUGGAGE CARRIER.

UGGAGE platforms rigidly attached to unsprung sidecar chassis have almost disappeared from present-day sidecar designs. Current practice insists on the grid being spring supported, and this is done either by mounting the carrier on the body, where it has the benefit of the latter's springing, or else a separate spring arrangement is used.

On a rigid grid it is not only difficult to fix a luggage case to prevent it chafing the sidecar body, but the contents are sometimes damaged by vibration

A device readily adapted to standard sidecar chassis that brings the specification into conformity with modern ideas as regards the carrying of personal effects is manufactured by the R.V. Sidecar Co., of 92, Humber Avenue, Coventry. The platform, which is of enamelled wood, is



carried on four springs, supported in turn on two arms clamped to the main chassis tubes. Lightness of the whole construction is obtained by making these arms of ash, and they are stiffened by entirely surrounding them with steel flitch plates. A petrol can carrier is also fitted, and various modifications to suit different makers' chassis are undertaken.



Times to Light Lamps.

GREENWICH TIME.

Jan.	15th		 4.47	p.m
22	17th		 4.50	٠,,
. ,,	19th		 4.53	,,
,,	21st		 4.54	21

Police Trap.

We have received indications on several occasions recently of considerable activity on the part of the Metropolitan police. There is a trap working between the Wheatsheaf, Banstead, and Banstead Downs.

Cubical Capacity Table.

A useful table, giving the cubical capacity of cylinders having bores from 50 to 90 mm. and strokes from 50 to 100 mm., is available from the offices of The Motor Cycle. The price is Is. post free.

Three-cylinder Radial Engines.

We are advised that the three-cylinder radial_engine fitted in the Beaumont motor cycle, which was described on page 46 of last week's issue of *The Motor Cycle*, is manufactured by a separate concern, and will be known as the Redrup.

An Anglo-American Alliance.

We are able to announce that Miss Marjorie Bridgeman, the daughter of Mr. E. A. Bridgeman, the well-known Indian expert, was married to Mr. Russell Reed Coes on the 3rd inst. Mr. Russell Coee, like his father-in-law, is a skilful rider, and took part in the London-Exeter run, gaining a gold medal on an Indian Scout motor cycle. He is an American subject, and has been over in this country for a holiday.

New Motor Fuel.

Reuter reports that successful tests of a motor fuel declared to be more economical, than petrol were announced recently in New York by Mr. Otto Praeger, Second Assistant Postmaster-General, in charge of the air mail service. The fuel consists of 38 parts alcohol, 30 petrol, 19 benzole, 7.5 ether, and 4 toluol. The ingredients making up the remaining 1½ parts were not given. It is stated that a saving of 3.9 gallons an hour in favour of the synthetic fuel was indicated in the test, for which two aeroplanes of identical design were used—one consuming petrol alone. While extremely interesting as showing efforts to develop what is termed a synthetic fuel, it must not be overlooked that the B.T.U. in such a mixture do not equal petrol. In view of the ingredients the term synthetic is perhaps hardly applicable.

Paris-Rouen Trial.

In view of the large number of competitions announced for this year, the Touring Moto Club of France will only organise one trial, namely, Paris-Rouen, which will take place on June 20th.

Air-cooling.

An interesting article on the future of aircooling appeared in last week's issue of our sister journal-The Autocar, in which the author states his conviction that in a very few years the air-cooled engine will become the standard motive power for touring vehicles. Most types of air-cooled engines are discussed.

A Story with a Moral.

At the London Bankruptcy Court, last week, a schoolmaster, who had filed his petition; stated that his failure was due to a motor cycle accident. Last July he knocked down and injured a woman, who, in an action against him, was awarded £500 and costs. In spite of previous warnings of a like nature, one frequently hears of motor cyclists who prefer to take third party risks themselves rather than pay for insurance.

French Scooter Trial.

The organisers of the French Scooter Trial, to be held on April 18th, have discovered that the maximum weight fixed by the Auto Cycle Union, and which they had adopted, will not allow many French manufacturers to take part; they have, therefore, increased the weight from 66 lb. to 88 lb. The height of the platform from the ground, also an A.C.U. regulation, is not sufficient for French roads, so the

Special Features.

STAINLESS STEEL FOR MOTOR CYCLES.

AIR COOLING UP TO DATE.

CHOOSING A TOURING SIDECAR

organisers have increased the platform height to eight inches. In making the announcement with regard to the alteration in platform height, English roads are referred to as billiard tables. Possibly, on the whole, our main roads are better than those of France, but they are not all "billiard tables."

123 m.p.g. with 3½ h.p. Motor Cycle.

To obtain 123 m.p.g. with a 3½ h.p. motor cycle during a reliability trial in Wales is indeed a good performance. This was achieved by Captain A. W. Brittain on a 3½ h.p. Sunbeam, fitted with a Binks carburetter, in the Liverpool M.C. Trial, last October. The average consumption of the six Sunbeam riders competing was 101 m.p.g.

Old-fashioned Road-making Methods.

The Fosseway, so far as the Leicestershire section is concerned, is a notorious stretch of road, which for some years has been neglected and is full of potholes. In an attempt to put matters right, the holes have been filled up with loose stones for a considerable dustance after passing the Syston lane-end, and considerable damage to tyres is now the result. The Notinghamshire section remains in excellent condition, and a spleudid object lesson to the road surveyors of the neighbouring county.



THREE STAGES IN THE WORLD OF WHEELS. A 6 h.p., a 23 h.p., and a one foot power mount starting out for a run in Kent!

We are informed on excellent authority that the revised taxation on motor vehicles will be based on cubical capacity of

Companies Registered from August to December, 1919.

The number of companies associated with the motor industry registered during the last six months was 411, the capital prescribed being £18,408,925.

The 1920 Tourist Trophy Races.

We know of a well-known private owner who is anxious to compete in one of the 1920 Tourist Trophy races. Any manufacturers who are interested and care to communicate with this gentleman should write to the Editor, who will be glad to place them in touch with him.

A reward of £10 will be paid by Mr. Boswell, Iver House, New Barnet, of information leading to the recovery of his 23 h.p. Douglas, which was stolen from the front of the Warrington Hotel, Maida Vale, on Sunday, January 4th. The machine was fitted with disc wheels, and bore the number LH 2987.

The Moulders' Strike.

Several of the leading motor cycle manufacturers are "closed down" owing to shortage of materials due to the moulders' strike. Apparently the majority of the moulders who are connected with the motor cycle and automobile industry are in favour of accepting the terms which have been effered to the affected trade.

59.8 m.p.g. with G.N.

The R.A.C. has now issued its "certificate of performance" in connection with Mr. Rex Mundy's non-stop engine run from London to Edinburgh on N.B.A. benzole. It certifies that the engine was not stopped nor the clutch disengaged when descending hills. The oil consumption was 316.4 m.p.g., the benzole consumption being 59.8 m.p.g.—equivalent to 42.6 ton-miles per gallon. The total running weight of the runabout with passengers was 1,594 lb. (approxiwith passengers was 1.594 lb. (approximately 14 cwt.), the weight of the car being 1,246 lb. (approximately 11 cwt.). The equipment included a Sthenos type B.H. carburetter, Cooke plugs, Easting car screen, and Palmer 700×75 mm. tyres. Coolie oil was used.

Motor Permits for Ireland.

In conjunction with the Irish authorities, and working through the Royal Irish Automobile Club, arrangements have been made whereby members and associate members of the R.A.C., who wish to proceed to Ireland with their cars, can obtain the requisite permits beforehand. The details required by the authorities are:

(1.) Dertyen.—Surname; Christian names; pro-lession or occupation; age; height; build; colour of hair; name and address of the owner of the car; registration number; make, horse-power, relour, and seating accommodation of car; two small photographs, unmounted (of driver), 3in.x 24jin.

22-in.

(2.) OWNER.—Surname; Christian names; pro-lession or occupation; address; recitration number of the car; make, horse-power, colour, and seating accommodation of car.

(3.) If the owner of the car wisbes to drive it he must supply precisely the information concern-ing himsell as requested for the driver.

Second-hand Prices.

High prices for second-hand machines are likely to prevail this spring on account of the lack of new machines resulting from the moulders' strike, which has suspended manufacture for about three months.

Alcohol as Fuel.

There is every possibility of a test being made in the near future of a British motor spirit that has alcohol as its base. The trial will probably be conducted on the lines of the recent 5,000-mile National benzole test, and a driver with much experience in this class of work has already been retailed. Extremely low cost will be a feature of the new fuel, but it remains to be seen whether the lower thermal value of alcohol will commend itself to motor cyclists with lowpowered engines in competition with petrol and benzole.

IMPORTANT DATES.

Sat. Jan 17th, to "a", Jan. 24th -Montreal Motor Show.

Fri., Jan. 23r J, to S t., Jan 31st - Scottish Motor Show, Glasgow.

Thurs., Jan. 29th-Institution of Automobile Engineers. Taper by Dr. A. H. Gibson on "Air-cooling of Engines," hamber of Commerce, Birmingham, 7 30 pm.

Fri , Feb. 13th, to Mon , Feb 6th-Paris-Nice Trial

Mon, Feb. 23rd, to Sat. March 6th-British Industries Exhibition, 1 irmingham Sat. Feb. 28th— Sutten Coldf eld A.C Trial for Colmore Cup

Mon , March 1s , to Tues , March 16th-Lyons Fair.

Good Friday, April 2-Inter-club Meet at Richm nd, Yorks.

Fri. May 21st-M.C.C London Edinburgh Run. Mon., Ju e 14th, to Sat. Jan 19-Roya Scot ish P.C. Light Car Trial.

Tues. June 15 h-Junior T.T. Race, Is'e of Man.

Thurs. June 17th— Senior T.T. Race, Is'e of Man. Wed, and Thurs., July 7th and 8th-Arbuthno: Trophy Trial.

Sun , July 25th, to Aug. 1 -Interna ional Six Days Trial in France. Mon. Aug. 23r.), to Sat., Aug. 28ta-

The T.T. in Danger.

If the moulders' strike is not settled soon, it is extremely doubtful whether manufacturers will be able to build their special machines for the T.T. races.

Considerable interest is being manifested in the 250 c.c. class for the Junior T.T., which will compete for *The Motor Cycle* trophy. As was to be expected, our suggestion to encourage the development of the smaller machines promises to swell the entries for the Junior race, as there are quite a number of makers interested in engines under 250 c.c., who would not otherwise bave entered in direct competition with engines 100 c.c. larger. Nevertheless, should a particularly fast 250 c.c. machine be produced, it may have a chance to win both trophies, i.c., the Junior T.T. and The Motor Cycle Cup.

New South Wates TT

Messrs, John Marston, Ltd., have been advised by cable that the New South Wales Tourist Trophy has been won on a 3½ h.p. Sunbeam.

Ilford Bridge.

The R.A.C. warns motorists that great care is required in crossing Hord Bridge. The surface of the road in this locality is particularly bad.

Evesham.

The pelice at Evesham do not allow motor vehicles to stand in Bridge Street, and motor cyclists desiring to stop in the old town are advised either to garage their machines or leave them in High Street or Market Place.

Entrant for Paris-Nice Triat.

Among the several British entrants for Annuag the several brish entraits for the Paris-Nice Trial is Mr. Maurice Greenwood, who is riding the machine he entered for the F.I.C.M. Six Days Trial at Grenoble in 1914—a 2½ h.p. twostroke Connaught.

French Trial and Beach Races.

The Moto Club Parisien will hold a trial for motor cycles and sidecars from Paris to La Baule and back on May 2nd. A speed trial in conjunction with the reliability test will take place on the beach at La Baule

Police Tran

We have received information of a police trap working on Saturdays and Sundays chiefly, on the main Croydon Road between the Anerley Road and the Mitre Hotel. The road is absolutely straight and down hill, and is therefore an inducement for a good turn of speed.

Another Trial in France.

The Moto Club of Marseilles will held a touring reliability trial from Marseilles to Nice and Monte Carlo on April 4th. There will be twelve classes and numerous prizes. Entry forms and further particulars can be obtained from the secretary of the Marseilles M.C., Brasserie du Chapitre, Marseilles.

One Car Every 25 Seconds.

In a paper read before the technical section of the Institution of Automobile Engineers, on the 7th inst., Mr. A. Tilt, the author, stated that the Ford factory, in addition to the skilled men, employs the "scum of the earth," represented by fifty-two nationalities, speaking 100 dialects, working in soulless monotony. The result is a complete chassis every twenty-five seconds.

Re-making Belgian Roads.

The Royal Automobile Club has received information from the Belgium Ministry of Public Works that it has decided to commence a vast programme of road improvements which will prove a real boon to motorists who may wish to tour in Belgium. The programme includes the remaking of a network of roads which will connect Brussels with all important towns and centres, and will afford communication by means of good cross-country roads between various tourist resorts, the devastated districts, and the battlefields of Flanders.



South Birmingham M.C.C.

The final results regarding the Palmer Cup Trial, held last autumn, have now been announced as under:

B. Bird (41/4 B.S.A.), Palmer Cup and Cameta

Cup.
G. Kuhn (Levis), Upton Cup.
A. Walker (4 Triumph), Cooper Cup.
A. Milner (Diamond), gold medal.

The Brookdale Club.

The Brookdale Club (Catford), Ltd., has just completed the purchase of the freehold of its headquarters at the Brookdale Hall, Catford. It will be carried on as a sports and social chab, and prior to the war was making great progress with its motoring section.

The New Bedford Club.

A large number of applications for membership have been received for the proposed new club in the Bedford district, and a meeting will shortly be held in one of the central hotels in Bedford to elect officers. All local riders who are interested should send their names to either Mr. C. F. Plowman, 37, Broadwater Avenue, Letchworth, Herts, or Mr. H. H. Berrie, Goldington, Beds.

Bath and West of England M.C.

The above club is holding a twentyfour-hour reliability trial from Bath to Land's End and back on the 23rd and 25th inst., which will be confined to members only. The entrance fee is 7s. 6d. Motor cyclists wishing to join the club and desirous of competing in the trial should communicate with the secretary, Mr. C. B. Newman, 20, Stali Street, Bath.

Ealing and District M.C.C.

The annual dinner of the Ealing and District M.C.C. will be held at the Clarendon Restaurant, Broadway, Hammersmith, on March 2nd, at 8 p.m. Prizes won during the 1919 season will be awarded. Motor cycling events, filmed by the Hon. Victor Bruce, will be shown on the screen during the evening, and a concert has been arranged. The price of tickets is 10s. 6d., application for which should be made immediately to the hon, sec.
An interesting non-competitive

is fixed for February 1st. This will be in the nature of a run under Colonial conditions as regards road surface and course. The run will start from Kew Bridge at 10 a.m., and the Colonial section will be entered at Horsley Towers, near East Horsley, at 11 a.m.

Those desirous of riding, but who are not members of the club, should apply for particulars of membership to the hon. sec., Mr. S. P. L. Brown, 25, Ormiston

Road, W.12.

Future Events.

Jan II.—N.M.C.F.U., Shelfield. Meeting in Rother-ham.

Jan 21.—York and District N.C. Supper and ConJan 22.—Bork and District N.C. Supper and ConJan 22.53.—Bath and West of England M.C.
Tuenty-four Hour Trial to Land's End and
back.

Ech. Special Conditions.

Feb. 25.—York and District M.C.C. Sporting Runstader Colonion' Conditions.

Feb. 25.—York and District M.C. Annual Diance
and A.G.M.

Man 2.—Enling and District M.C.C. Annual

Smith Clar. Aden Restaurant, Hammermith Clar. Aden Restaurant, Hammer-

smith

Dinner, Clar adon Restaurant, HammerMor, Millow Constitue, Clube' Reliability Trial:
Apr. 3.—U.C.C. Javrott Cup Trial;
Apr. 5.—Westmorland, M.C.C. Hill-Climb.
April 5.—Brookloruls & R.C. Tace Meeting
Apr. 3.—Brumingham' M.C.C. Trial,
May 12.—M.C.C. London-kelinburgh ing.
May 12.—Bretpool M.G. Spred Trial,
May 12.—Bretpool M.G. Spred Trial,
May 12.—Brekburn and District M.C.C. HillJuly 16.—Milland C. and A.C. Trial,
July 16.—Milland C. and A.C. Trial,
July 16.—Milland C. and A.C. Trial,
July 17.—Even bridged County M.C.C. Trial,
July 17.—Crew bridged County M.C.C. Trial,
July 17.—Starberland County M.C.C. Trial,
July 17.—Abraham Bach, A.C. Spred Trial,
July 18.—Abraham Bach, A.C. S

Cardiff, and Tredegor Clubs. Joint Hillalimb.
alimb.
alimb.
Brooklans A.R.C. Roe: Meeting.
Ang. —Brooklans A.R.C. Roe: Meeting.
Ang. —Brooklans A.R.C. Roe: Meeting.
Ang. H. Stripphonoch. N. Die byshire,
and Nettinghom Clubs. Joint Speed Trials.
Ang. H. or 21.—Carmarthen and Ystalytra Clubs.
Joint Speed Trials.
Sept. 1.—Tork and District V.C.C. Hill-climb.
Sept. 1.—Bristol M.C.C. Hill-climb.
Sept. 1.—Bristol M.C.C. Hill-climb.
Sept. 1.—Bristol M.C.C. Hill-climb.
Sept. 1.—Bristol M.C.C. Hill-climb.
Sept. 1.—Sectropod M.C. Reliability Trial.
Soyl. 3.—Reddirch, Wolverhampton, and Kidderminster Clubs. Joint Reliability Tide.
And Sept. 1.—Bristol M.C.C. Hill-climb.

B.M.C.R.C.
In addition to the above the B.M.C.R.C.
hold two race meetings in April, and one cac
June, July, August, September, and October. ********************************

East Midland Open Events.

A meeting of representatives of the affiliated clubs in the enlarged East Midland District was held on Saturday evening at the Angel Hotel, Sheffield. Considering the size of the area, the meeting was splendidly representative, delegates attending from Loughborough, delegates attending troin Louginourous, Nottingham, Ilkeston, North Derbyshire, Sheffield, Lincoln, Wath on Dearne, Ilkley, York, and Derby N.F.U. The business, mainly, was to discuss the arrangements for the running of the three open trials allotted by the A.C.U. at the meeting at Olympia. A discussion took place respecting the arrangements made in London. Mr. Myhill, of Ilkeston, considered that, as the largest number of clubs were situated in the southern part of the area, one of the two dates allotted to the northern clubs should be transferred. The arrangements made in London respecting the York and Ilkley clubs were confirmed. It was resolved to allow all other than the York and likely clubs to participate in the organising of the remaining fixture (a speed event). North Derbyshire was

deputed to find and submit a suitable course, the Lincoln club to have the second option. All clubs joining in the organisation of the event to share profits or losses in ratio to their club member ship. It was resolved that the East, Midland Centre Challenge Trophy be competed for in the three open events. three teams of three riders from each club competing for reliability at the Ilkley trial, hill-climbing at the York trial, and speed at the North Derbyshire or Lincoln event. The cup holders, North or Lincoln event. The cup holders, North Derbyshire M.C.C., proposed that new clubs joining up pay an entrance fee of £2 2s., this, as in the past, to cover all entrance fees for all future trials. The proposition was agreed to. It was pointed out that at previous trials the inclusion of the Trophy had ensured the success of the meeting, Doncaster in 1914 having what was probably the largest gate for any event held outside Brooklands. Mr. J. Simmonds, Nottingham and District M.C.C., was elected as the centre representative on the General Committee of the A.C.U. The hospitality of the Sheffield club in providing a substantial tea was much appreciated.

Wanted, a Club for Mansfield.

Mr. G. Mills, 16, Hall Street, Mans field, will be pleased to hear of motor cyclists who would be willing to help in organising a motor cycle club for the district.

A Club for Finchley?

Mr. Bernard Staley Burnage, Victora Avenue, Finchley, N.3, proposes to form a motor cycle club in his district, and asks fellow enthusiasts to communicate with him with a view to forming a com-mittee to discuss the matter.

N.M.C.F.U. (Sheffield).

A meeting in connection with the above will be held in the Y.M.C.A. Boys' Club Room, Talbot Lane School, Rotherham, on Saturday, the 17th inst., to commence 6 p.m. As a result of this meeting it is hoped to form a branch of the N.M.C.F.U. in Rotherham, and all members and other motor cyclists in the district are invited to attend.

Bargoed and District M.C.

A meeting was held at the A1 Re-staurant, Bargoed, on Tuesday of last week, when it was unanimously decided to form the above club. Great interest was manifested by those present, and about eighteen members were enrolled.
The opening run has not yet been arranged, but meetings will be held every Tuesday, at 7.30 p.m., till further notice. All interested are asked to communicate with the secretary, Mr. W. H. Merchant, 60, Park Place, Gilfach, Bargoed.

A Test of an Air-cooling Device.

A Road Test of Mr. Hawley Morgan's Exhaust Cooled Motor Cycle Engine,

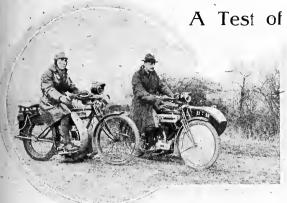
missing the gear, but the machine was immediately taken to the bottom and restarted, the hill being climbed without a falter. A second attempt by out the inventor was entirely successful, and through-out the run the engine showed no signs of dis-tress. The third attempt was made to climb the hill with the Triumph's passenger on the back carrier. The engine, however, was not sufficiently powerful to take the gradient, but it came to a standstill on the steepest portion, half way up the hill, without signs of knocking.

The return journey was also made at a good speed, and certainly it seemed impossible to make the little engine fitted with the cooling device overheat, but it was so extremely cold (a strong north-east wind was blowing) that we should have been more satisfied had the test taken place in really hot weather.

Our readers will remember that Mr. Hawley

Morgan's idea is to surround the cylinder by means of a special jacket in which vertical slots are cut, and to introduce a forced draught by means of an ejectorincorporated in the exhaust system, causing the air to be drawn through the slots in the cylinder fins.

It is very difficult to form a conclusive opinion of a device of this kind in a short run, and a more extended trial is really necessary. A long trial over difficult country and under varying temperatures would be far better. We can say, however, that during the brief test to which we put the machine the system behaved satisfactorily, and the idea is really well carried out. Our photographs will show the excellent protection afforded the rider's legs, but as the day was dry the efficacy of the mudguarding could not be adequately tested.



The 23 h.p. New Imperial fitted with the device, and the Triumph sidecar which followed the test.

N the issue of December 18th we described an ingenious cooling system invented by Mr. Hawley Morgan, and during a recent week-end we took the 23 h.p. New during a recent week-end we took the 23 h.p. New Imperial equipped with his invention for a run of about thirty miles Leading the way on a 4 h.p. Triumph and sidecar, we set the pace to a speed which kept the little solo machine hard put to it, and after covering about five miles a sharp turn to the right was taken up a fairly steep hill. The little engine took the gradient on about quarter throttle, and shortly after that we took it over ourselves and drove it for a further five miles, and then, without the steep went trained to a solon the first transfer and the second was the second with the second was the seco stopping to cool, went straight up a gradient of 1 in 5 on the slopes of the Chilterns. Unfortunately, on the first attempt the machine was brought to a standstill through



Mr. Hawley Morgan making a good ascent of Chaul End Hill near Dunstable.

AUTO CYCLE UNION NOTES.

HE thirteenth annual dinner of the Auto Cycle Union will take place in the Great Gallery of the Royal Automobile Club on Wednesday, January 21st. The Hon. Sir Arthur Stanley, President of the Union, will take the chair. The reception will be at 6.15 p.m. for dimer at 6.45 p.m. Tickets, price 15s. each, may be obtained of the Secretary, A.C.U., 83, Pall Mall, S.W.I.

Paris=Nice Trial, 1920.

The Auto Cycle Union is making every arrangement to facilitate the convenience of members attending or compet-

ing in the trial. The requirements of the French anthorities in regard to Customs formalities are being met in the most expeditious manner, and A.C.U. members will be able to obtain triptychs and other documents which will eliminate several inconveniences to which they would otherwise be subjected.

Intending competitors are reminded that petrol and lubricating oil may not be taken across the Channel with their machines, but the leading firms marketing these commodities have taken steps to ensure a ready supply in

30,000 Miles on a Two-stroke.

The Lightweight Mctor Cycle for Long Distance Utility Work.

SINCE the days when there first appeared on the market the lightweight motor cycle, there seems to have been somewhat of a doubt as to its possibility for really hard and constant work. Even now it is looked on in many quarters as a mere handy

runabout for short journeys and pottering. That the contrary is the truth does not yet seem to strike many, and the experiences I give below may bring home to them how very much can be done with such a machine. In fact, given a good model, it is the equal in all respects to its big brother (bar one thing, namely, for sidecar work), and it has an extra advantage that many riders of big horse-power and heavyweight machines do not recognise, viz., exceptional handiness for storage and convenience on the road.

The writer some four years ago, being very much struck by an article by "Ixion" in The Motor Cycle, bought his first lightweight, taking it as merely an adjunct to a heavy sidecar outfit, which was then doing all his work. At first it was used merely for the purpose that the makers nominally gave as its reason for existence, i.e., short journeys and general handiness for pottering about. For a year the machine was used for such purposes, and was actually sold with the idea that it was not meant for serious and heavy work.

Ligh weights for Business Purposes.

Three years ago, however, having to make a lot of business calls to farms and cottages in a country district, and finding the heavier machine had disadvantages in that direction, I invested in a new Triumph Baby, and the work on which it has been used for 30,000 miles has been to all intents and purposes that of a hard-driven commercial traveller. Day in and day out, in all sorts of weather, through mud, over good, bad, and indifferent roads, over grass tracks on the Sussex Downs, hilly country and plain, the machine has been given every chance of failure.

For three years this little machine has been on the road, it has been taken out and run with no regard to speed, often when in the company of one of the motor cycle riders of a big London daily, and it has been kept hard at work at over thirty miles an hour for hours on end. It has not been merely a question of short journeys, for often it has been on the road-from early morning till late at night. For two years it was used for extra heavy work by a despatch rider of special constabulary, over rough rutty farm tracks, over grass tracks, climbing hills of r in 10 and 1 in 13, etc., over roads full of pot-holes, and over roughly laid country roads full of loose stones.



The Junior Triumph used by the writer on constabulary duties.

It has proved handy in a way that few realise. One can store it in a passage and take it up and down steps quite easily. For constant stopping and starting it has no equal in the big machine, for I have never yet in all this big mileage failed just to get astride it, and walk a few paces and off, on the journey.

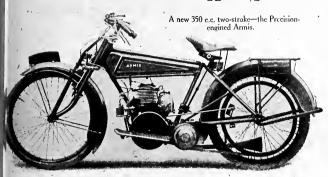
Its running cost has been exceptionally small: an average of ninety-five miles to the gallon for petrol. Very little cost for lubricating oil, one new Dunlop belt, one new set of Dunlop tyres, and one new wire for a brake, are, I find, from my carefully kept cost records, the total expenses for the fine total of 30,000 miles. I find it, too, an exceptionally clean machine to ride. I often go out in my ordinary walking clothes, with a heavy black overcoat as outer costume, and never yet have I had anyone comment on my appearance when I call. Of course, on wet journeys a complete set of oilskins has been used, and I can arrive at the end of a journey, take them off and turn in to my call as clean and tidy as if I had made the journey by train.

Those who are considering the employment of motor cycles for their work should think seriously of the lightweight. Such a machine should be kept clean. Ten minutes' attention on arrival home on a dusty day, and twenty on a wet day, have been enough to keep my machine in good condition. The bearings should be lubricated regularly, and the bright parts vaselined once every month in winter or wet weather. Good sparking plugs are essential. I have used two Lodge plugs only: the last one, an Aero plug, which is very efficient in this engine.

Minimum Attention Necessary,

Finally, it must be remembered that, to obtain satisfaction, the lightweight—or any motor cycle, for that matter—should be kept in trim., Oil and reason must be used. No man spends fifty pounds on a horse, and then leaves it in a shed at night without any attention. If he does, he soon has a dead horse. I have ridden and experimented for pleasure and profit since the first motor cycles were put upon the road; and, though I still cling to the sidecar outfit as the best fun in the line, I think that the lightweight is a serious—aye, a very serious—proposition to be considered when we are all looking at the question of motor cycle utility.

R. C. Measures.



A NEW 350 c.c. TWO-STROKE

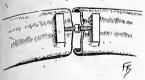
WHEN Messrs. F. E. Baker introduced their new 350 c.c two-stroke engine unit, we expected that it ould attract newcomers to the so-called otor cycle assembling field. The Armis ycle Manufacturing Co., of Heneage treet, Birmingham, is one of these, and the Armis motor cycle is the result. It. a new name so far as motor cycles te concerned, but they men behind it is not new to the motor cycle industry, or Messrs. Harrison and Baker, the rincipals, have long been associated with te Calthorpe Motor Cycle Co.

Having a straight tube frame with iagonal top tube, the machine follows ore or less conventional lines with good undguarding and aluminium foothoards. he forks are of the Saxon type.

The saddle suspension is rather unique, at consists of a laminated leaf spring lipped to the rear tube of the frame in a approximately parallel position. At supper end the saddle is fixed, so that he weight of the rider is carried on the pring in addition to the usual pair of oil springs

A DETACHABLE RIM FOR MOTOR CYCLES:

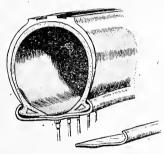
THE fertile brain of Dr. A. M. Low has been responsible for two more inventions in connection with motors. One of these is a detachable rim or high-powered motor cycles which are ow fitted with light car tyres.



The joint of the Low detachable rim.

Referring to the drawings it will be een that one part of the rim carries he spokes. The detachable portion is half-split rim, so that by unscrewing toggle, shown in the small illustraion, situated at the end of the letachable portion, the rim 'can be extended, and thus half the rim can be lifted out of the recess carrying the spokes and entirely removed, allowing the tyre to be slipped off without any trouble. It is probable that the device will be marketed by Rapid Rims, Ltd., 7, Pall Mall, London, S.W.I.

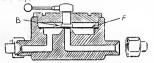
Dr. Low is also responsible for a simple and practical form of petrol tap which is quite suitable for use on motor



Construction of the Low detachable rim.

cycles. The tap consists of a brass casting, into which the top is screwed by means of a peg spanner. In the top there is threaded a small rod to which the lever or tap handle is fitted. When

the handle is screwed down, it forces a steel disc on to the petrol orifice, and a perfect joint is secured. It is difficult to see how any petrol leakage can occur in a tap of this kind, whether open or shut, if the unions are tight, as it is simplicity itself. If necessary, the disc may be welded to the top portion of



A petrol tap of new design.

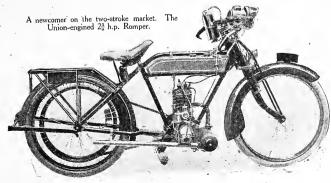
THE ROMPER MOTOR BICYCLE.

A NEW lightweight has been placed on the market which is known as the Romper. It is fitted with a 2½ h.p. Union two-stroke engine, equipped with an Amac carburetter and Rumbaken magneto.

The frame is of somewhat interesting design, as the engine is placed exactly in the centre, with a view to giving a perfect balance to the machine. Special attention has been given to the construction, the head being reinforced, and incorporating lugs for the top tube and the anxiliary tube, it is consequently very strong. The back forks are detachable, and the portion forward of the rear mudguard is designed so that a two-speed gear box can be fitted without difficulty. The machine, as sold, is of the single gear pattern. The back lug casting is similar to that of the head, the same casting having lugs for the top tube and the auxiliary trame tabe.

the auxiliary frame tube.

An unusual fitting is a long brass pipe which is carried underneath the tank for the purpose of conveying acetylene gas from the generator to the rear lamp, thus doing away with the unsightly appearance of loose rubber tubing. Excepting that it has a short wheelbase, standard lines are followed for the remainder of the machine. It has 26 × 2in. wheels, taking 24in. tyres, wide, comfortable saddle, Bowden front brake, and a pedal applied rear brake engaging with the belt rim.





The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

RIDING AT NIGHT.

Sir,-If "J.M.," who wrote about "Riding at Night" in your issue of December 18th, will procure the coiled wine covering of a Bowden cable (Bowden solo) and slip over it an Exonite casing, he will obtain the gastight, flexible, unpinchable, and inconspicuous connection tube he requires for his rear light.

J. C. BENNETT MITCHELL.

FIREWORKS FROM MAGNETO

. Sir,-Some little time back a correspondent in your columns wrote of a firework display from his magneto. I have had a similar experience. On a recent wet Saturday nave and a similar experience. On a recent voet Saturday afternoon I stopped to give another rider a push off, and on running my own 'bus [2] twin Enfield) the magneto terminal sent out a shower of sparks, about 8in. in length and feather sent out a shower of sparks, about out in league and sensitive shaped. I immediately stopped and removed the terminal, wiped it dry, and replaced it. The sparks did not recur again, and the bus went as well as ever. Can any reader explain this? Birkenhead.

T.T. RACES AND THE 1.0.M

Sir,-In view of the large number of motor cyclists who will be visiting the I.O.M. for the T.T. Races, there is a will be visiting the LOAN. for the LL Races, there is a very vexatious and unnecessary regulation which all motor cyclists and car owners have to comply with and, I am sure, would like to see abolished, viz., all motor cycless and car owners must register themselves and motor cycle within twenty-four hours of landing, and if they reside on the island over one month they have to go to the expense and trouble of taking a Manx registration out.

As this unnecessary regulation is not in force in any other part of the United Kingdom, I should like to see this letter published in *The Motor Cycle*, and brought to the notice of the R.A.C., A.A., and A.C.U. with a view to the above vexatious and unnecessary regulation being abolished.

Liverpool.

CLUTCHES ON LIGHTWEIGHTS ..

Sir,-An examination of the latest specifications shows an increased tendency amongst makers to incorporate clutches in lightweight machines. This prompts me to ask—"Is a clutch really necessary on a lightweight motor cycle, and do the advantages which accrue justify the extra expense?"

On several occasions recently here in Edinburgh I have seen motor cyclists held up by the policeman regulating the traffic at the west end of Princes Street. Those cyclists having clutch machines declutched, and kept their engines having clutch machines declutched, and kept their engines ticking over, whilst their clutches brethren stopped their engines. When permitted to proceed, the latter got away quite as quickly as the former, merely by pushing off with their feet, particularly those possessing a certain 23 h.p. flat twin. This machine is extremely popular in this district, and I notice that all the 1920 models are fitted with

Personally, I never considered a clutch necessary on lightweight machines; my first mount was a 1910 24 h.p.

Correspondents are urged to express themselves as concisely as possible, especially in view of the fact that only a small percentage of letters received can possibly be published. Many interesting letters are unavoidably omitted in consequence of their abnormal length.

Motosacoche, and I scrapped the jockey pulley clutch arrangement on this excellent little machine immediately on

taking delivery.
I also notice from recent correspondence in The Motor Cycle that some readers experience difficulty in starting big

single engines from cold.

single engines from cold.

I have at present a B.S.A. combination, which never gives me any trouble in starting. I give the jet about three-quarters of a turn, open the throttle about one-third, and the air just a trifle. I then put the machine into first, and push off. About two yards usually suffice. In very cold weather a few drops of fuel through the compression tap help considerably. I always use equal parts of petrol and benzole.

DAVID W. MUNRO.

A SUBSTITUTE FOR PLATINUM.

Sir,-Perhaps some of your readers would like to hear of a new substance instead of platinum for magneto points. a new substance instead of platinum for magneto points.

I have a Ruthardt magneto, and, through running without a carbon, I burnt the points out and for a new pair at a magneto agent's I was quoted [22, 64]. Der point, a price which I thought too high. Anyway, I went home without the points, but with the expectation of inventing something not so dear as platinum. To begin, I ground all the odd bits of platinum from the spring and screw, and cut out two small pieces of pure nicket, which I soldered on instead of the platinum. After some time of solid hard wear I examined the points and found them prefect, not even examined the points, and found them perfect, not even burnt, notwithstanding I am running without a carbon, might add that the cost of these points would not be one-tenth the cost of platinum points. Perhaps some of your readers will likewise try this, and let us know the results. Belfast.

THE A.C.U. REPORT.

Sir,-May I be permitted to reply to "Lightweight's" one would gather that "Lightweight's" ideal motor cycle is the Henderson, plus another seventy or eighty pounds of water jacket, radiator, and water, bringing the weight right up to approximately 400 lb. solo.

Right here I would hasten to add that I do not go all the way with Mr. Norton, who, of course, is the champion of the "big single," although I ride one myself.

It is well known that the ratio weight horse-power decreases as the number of cylinders increase, and I fancy that motor cycle design will tend to follow this line, a thing supported by the greatly increased popularity of the h.o. twin.

We may or may not get the aeroplane type of engine on the motor cycle. One thing I am certain of, and that is that the motor cycle. One thing I am certain or, and that is water cooling will never enjoy any very great popularity amongst motor cyclists. More, I venture to prophesy that it will eventually die out, even amongst heavy cars. The air-

will eventually die out, even amongst heavy cars. The arcooled cycle car has been with us a long time, and no one would venture to say that the Morgan, for instance, would not comply with "Lightweight's" definition of utility. Anyway, the big single is not dead yet. I have yet to be shown a multi-cylinder bus that will put up with the "brutalising" that mine has suffered and still go anywhere on a 4 to 1 gear fixed engine. When I can, I shall welcome it with open arms, provided that it is light for the power developed. developed.

rmanent for all vehicles.

I know what the unlighted WILBERFORCE DURELL permanent for all vehicles. cyclist is to my cost.

IOW MOTOR CYCLES ARE STOLEN.

Sir,-I regret to say that the machine I recently adverised was stolen by means of the following trick, and if you could give this publicity it might prevent any other adver-

iser being victimised in the same manner.

The thief, a pleasant, well-dressed man, age about 27, reight 5ft. 8in., hair light brown, eyes blue-grey, clean haven, called during the morning, stating that he was a hauffeur, and unable to call after six, as requested in dvertisement, and obtained my business address from my ister. He then called on me, informing me he had seen ay machine, etc., and asked for an appointment that even-ng, and after leaving me seut a forged wire, in my name, o my mother, stating I had seen "Taylor," as he called umself, and might let him try the machine that afternoon, which, unfortunately, she did.

As the affair was apparently carefully planned, it is not unlikely that the trick may be tried again.

J.W.B. Leytonstone.

INBUSINESSLIKE METHODS.

Sir,-I think the following, as an example of post-war business" methods, might be of interest to your readers. From a firm which has a world-wide reputation for highlass motor cycle lighting accessories I ordered an electric lead lamp, after which the sequence of events was thus:

November 6th.—Receipted invoice received.

November 7th.—Lamp received, tested, and lamp holder unit found to be faulty. Lamp holder returned same day,

with request to rectify fault as soon as possible.

November 20th.—"Hurry up" letter sent, having had neeply to my letter of the 7th, and requiring lamp urgently.

November 30th.—Still no reply, so wrote again.

December 10th.—No reply to any of my letters, so handed opies of correspondence to the Automobile Association.

December 12th.—Lamp holder received. No letter.

December 15th.—Letter from A.A. saying lamp holder was using despatched on the 11th inst. Also letter from makers dated 10th), saying holder was being posted "to-night." Vo mention of an apology for non-reply to my letters.

Needless to say, that firm has booked its last order from ne or any of my friends.

I should like to add my testimony to that of the many . others who have found membership of the A.A. a "very present help in trouble." SYDNEY R. ELLIOTT.

CE ON THE ROADS.

Sir,—I should like to give a word of warning to night iders of the condition of the roads at this time of the year.

On returning from Kendal the other night, rather late, or the first ten miles the roads were in quite good condition—in places, perhaps, rather muddy. Without any warning I came upon a stretch of ice, and did two complete spine sefore finally settling down. I had to drag the machine to the side of the road before I could get it on to its wheels igain. After riding in the gutter for a couple of miles, he road apparently became better, so I ventured into the middle of the road, Feeling more confident, I opened out a little, perhaps 15 m.p.h. A policeman, standing at the side of the road, never gave me any warning. Soon ifter I passed him I came upon another stretch. I did one complete spin, and finished with a somersault.

With the policeman's assistance, I got going again. I did not encounter any more ice-in fact, mud was the rule

for the remaining part of the journey.

My machine, an 8 h.p. Zenith, was very slightly injured, due, I suppose, to the weight being carried low and the machine being so strongly built.

J.L.W. Lancaster.

SCOOTERS.

Sin.—I think that if scooters are to become popular they should be cheaper. Just on £50 is too much for these diminutives, It is nearly £10 more than the lightweight that aspires to become the two-wheeled Ford. If they are to appeal to women they must be both simple and cheap. With a valveless engine, one lever carburetter and simple transmission, satisfaction (in starting, upkeep, etc.) is assured to the biggest duffer (mechanically), whether he or she. Mr. Frank Whitworth seems against the "no seat" she. Mr. Frank Whitworth seems against the "no seat" didea. Scooters are generally given a seat to hide the defect of wheels and footboard not being sprung. Another reason for a seat is to use it for a wrong purpose (for long journeys

instead of short trips). The word "scooter" should apply instead of snort trips). The word "scooter" should apply only to those ultra simple seatless machines with whicels up to 16in. Some of the machines now masquerading as scooters are really poor initiations of the Phenix Cob, an open-frame machine, made by Mr. Van Hooydonk seventeen years ago, for elderly riders. Mr. Whitworth has evidently been no seatled seatled to the control of the property of the control done no practical experimenting with scooters, or he would not question the comfort of 10in, wheels, referred to by Major Kennedy. Years ago I made a motor skate with 8in. wheels which was comfortable at ten miles an hour (even with cushion tyres). Any size wheel has its safe speed. 1 think a reliable scooter could easily be made to sell at £35.

Lewisham, S.E. STANOOP.

AN INVALID MOTOR CHAIR.

Sir.—No donbt the invalid motor chair which your correspondent, Jas. Cooper, saw in the Hammersmith Road during the Motor Cycle Show was one of our production, and the one on which our Mr. Garnett, himself an invalid, which the Show on saventh or savent visited the Show on several occasions.



The "Argson" three-speed hand tricycle with Auto-wheel attached.

The chair itself was one of our three-speed gear-driven models, with an Auto-wheel attached, and, as the latter can be removed or replaced in less than five minutes, Mr. Garnett was able to proceed to the Exhibition under power, and, on arriving there, detach the wheel, and "paddle" around the Show by hand.

A speed of anything from 3 to 25 m.p.h. can be main-

tained, and the machine is perfectly steady on the road, and easy to steer and control.

THE ARGSON ENGINEERING CO., LTD.
S. O. NEEDHAM, Director.

SPEEDING-UP THE TRAFFIC

Sir,-In view of the tremendous increase of all motor traffic, an increase which will probably double and treble training an increase which was proceeding to the laws relating to traffic control were thoroughly overhauled?

Obviously the ridiculous twenty mile limit should go-driving to the danger of the public would cover all cases of

road-hogging.

The unwritten law of main road precedence should be made actual law. I would suggest going one further, and having three grades of roads, the higher grade always to have undisputed right of way over the lower. Roads are already classified in this way in most maps, and a standard map could be used as a basis for argument until all entrances to higher grade roads could be marked by sign-posts. Once the public was accustomed to this, an average main road speed of 35 to 50 m.p.h. could be maintained with as much safety as the present-day twenty.

A speeding-up of all forms of transit is the natural form of evolution, and should be catered for rather than hindered. Why, in the name of fortune, should blatant signs order the whole mighty stream of traffic of a great main road to pull up because a carter occasionally drives out of a farm, entrance, or a munitionaire out of his lodge gates?

Granted, the said carter and munitionaire would need much education before speeds previously mentioned would be reasonably safe, but time and fines for breaking such a law would do even that.

In any case, the onus of avoiding accidents is put definitely on to the few for the benefit of the many, which is surely the essence of just law.

Your readers' opinions on this subject would be interesting if you could find room to insert this in your valuable paper. GET A MOVE ON.

Luton.

SIDECAR HUBS

Sir,-This is probably an old complaint, but worth ventilating again. Cannot something be done to persuade manufacturers of sidecars to fit wheels to their chassis which can stand up to the heavy strain imposed upon them? The hubs of most of the wheels are altogether on too small a scale, both cones and balls being undersized, besides the design being unsuitable for a wheel that is liable to severe side strains. Should not all sidecar wheel spindles be supported at both ends, at least for high-powered machines? I have recently been endeavouring to obtain a sidecar chassis for a new heavy 8 h.p. machine, and have tried many firms in and around London, none of whom are in a position to give immediate delivery of what I require, but all offer various makes of chassis with same unsuitable wheel. When I complain that the wheel is of a size totally inadequate for the work they all admit that it is so, but say that customers prefer a cheap model rather than pay a few extra shillings for a good article. This may or may not be true, but it is surely up to the trade to advise their customers as to what design of chassis is suitable to their requirements, rather than to sell an article which they know cannot give anything but trouble. Is it because the manufacture of hubs is practically the monopoly of firms who probably have no experience of motor cycles and sidecars on the road? It is certainly time that motor cyclists could feel that the reliability of an outfit will not be jeopardised by the failure of the cups or cones of their sidecar wheels. One has only to compare the sidecars made by or to the design of motor cycle manufacturers and those made by many firms who specialise in sidecars only. I am. aware that there are one or two sidecar manufacturers who are above reproach, but, judging from what one sees on the road, they are few and far between. STANDARD. London

AN IMPROVEMENT IN AIR COOLING

Sir,-Regarding powerful two-strokes, I think they will serve the rider well if under-driven, i.e., not driven all

out for any considerable distance, that is, as they are constructed at present. . I used one with a light sidecar for about four years, a 318 c.c. belt-driven, three-speed hub, kick starter machine. Passenger ten stone, rider ten stone. Longest run without any stop, forty-six miles, out any stop, lorty-sia miles, and then only on account of arriving at destination. I found it a good climber and comfortable to drive, but it wore out three or four belts during the time I had it. I found the three-point plug the best.

122520112465 January at 1941 THE PERSON AND THE P A suggested improvement in

air-cooling. (See letter from "Rider.")

I like the idea of a cooling jacket by Mr. Hawley Morgan, as shown in your issue of December 18th, 1919, but as 75% of the heat is around the head of the cylinder, I should think it only necessary to cool that portion.

Would it not be better to have the air space around the head of the cylinder the same size throughout, so as to have a clear passage of cold air passing at each impulse?

Enclosed is a rough sketch of the idea. I must admit, however, the spiral core might be a trifle awkward in moulding. RIDER. Warrington.

CAVEAT EMPTOR.

Sir,-Speaking from my knowledge of the motor trade generally, and from my own personal experience, I do not think that motor cycles (and for the matter of that, cars also) were ever being turned out so badly as at present. With the exception of perhaps half-a-dozen makes of machines, which are generally beyond reproach, it seems to be entirely a matter of luck whether one gets a good or a bad motor cycle. We, as motor cyclists, are as a rule handicapped by reason of our not being able to get a trial run before purchasing, therefore it behoves those of us, to whom the present high prices are of consequence, to make a point of carefully examining new machines as far as possible before taking delivery, especially the vital parts,



A PEEP INTO THE FUTURE The first hill-climbing competition on the new "Bump" bicycle depicted by a reader, Mr. H. W. Moss.

such as engines and gear boxes, and to insist on seeing that all parts are properly adjusted, and at least in running order. Unfortunately, manufacturers are in a position to order. Unfortunately, manufacturers are in a possible say, "Take it or leave it," and many agents do not care say, "Take it or leave it," and many agents do not care what they sell so long as they can sell it; but if we want to us to insist on getting properly finished machines, even at the sacrifice of a larger output. Personally, I have always found the chief offenders in this respect to be assemblers of motor cycles; not those who, in the strict sense of the word, manufacture them, but those who buy the various parts and put them together, or stick them together, as the case may be, many of whom cannot even properly build a wheel. After keeping a vow for several years never again to buy a machine of this kind, I was tempted some weeks ago to give an order for another, a so-called lightweight, for which the makers have the impudence to ask nearly the price of a countershaft Triumph. The condition in which this machine was sent to the agents was simply disgusting; some parts of it would not even have done credit to a blacksmith. I will avoid going into details which would encroach even more than I am doing upon your valuable space, and suffice it to say, that I absolutely refused to take delivery. Fortunately for me, I am never without a trusty Triumph, no matter what other machines I may or may not possess; but even if I had not been in this fortunate position, I should still have refused delivery of this machine.

Thanking you for the many happy days this year which your publication has afforded me ENTENTE. London.

GOOD SERVICE.

Sir,-I recently placed an order for a motor cycle accessory Sir,—I recently placed an order for a motor cycle accessory with a leading London firm, and sent a cheque in advance. I received a polite reply and promise of attention, but no goods. After some waiting I placed the order with cheque with another London firm. Result, exactly the same. After weeks of waiting I sent my order to Harrod's, London. Result, goods arrived in due course.

I think that other motorists who may have had similar difficulties to mine may be glad to know of a place where orders get promptly executed.

(REV.) EDWARD W. WILMOTT,

21- 2/2

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle.

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A reliable system for tracing motor cycle faults and of remedying any trouble when found. Fourth Edition

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Mounted on linea. Set of three, complete in case

Obtainable by post (remittance with order) from ILIFFE & SONSLtd., 20, Tudor Street, Loadon, E.C.4, or of leading Booksellers and Railway Bookstalls.

QUESTIONS PREPLIES

A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Sparking in Contact Breaker.

Will you advise me why my Ruthardt magneto sparks at the platinum points? What would you advise me to do, as it will only spark occasionally and then ceases for a time, and so on?—W.E.H. Excessive sparking at the contact breaker platinum points indicates a defective operation of the condenser, and we should advise you to submit your magneto to C. A. Vandervell and Co., Ltd., Warple Way. Acton Vale, W.3, who formerly handled the Ruthardt.

Gear Ratios.

Will you inform me what size engme sprockets I should need to give a 4 to 1 top gear on one machine and 4½ to 1 on another?
Both machines have 20in. belt rims and 8in. pulleys on gear box. Clutch sprocket has 36 teeth. What size belt rim should I need with an 18 T. engine sprocket, 36 T. clutch sprocket, and 8in. gear box pulley?—T.S.

With the sprocket and pulleys already fitted to your machine, you would need a 22 tooth engine sprocket to obtain a 4 to 1 gear ratio, and a 20 tooth sprocket to obtain a 4½ to 1. To obtain a 4½ to 1. To obtain a 4½ to 1 gear, using an 18 tooth engine sprocket, the rear belt rim should be 18m. in diameter.

Wheel Building.

1 am about to fit my 5½ h p. British Excelsior with a 650 × 65 mm. back wheel, therefore 1 should be greatly obliged if you could give me.a. little information that would enable me to build the wheel myself, i.e.; (1.) The correct method of arranging spokes from hub to rim. (2.) Is there any particular way of crossing the spokes? (3.) The general method employed in truing up the wheel?—H.C.S.

(1.) We should recommend you to have the wheel rebuilt by an experienced cycle mechanic, and wheel building is a trade in itself, and if you are not skilled in it, we do not think that the result will be very satisfactory, should you at tempt it yourself (2.) In truing a wheel, the method is alternately to tighten and slacken the spoke nipples until the rim runs truly, both circumferentially and centrally with the bub. When this is completed the tension of all the spokes should be equal. Experience alone can make you an expert in this process.

Removing Timing Pinion.

Will you please inform me if the crankshaft pinion of the 1914 Douglas 23 h.p. engine has a right or left-hand thread?— A.J. C.

The crankshaft pinion on the 1914 Douglas is not screwed on at all; it is a tightly pressed fit on a parallel shaft. Possibly you refer to the retaining screw in the end of this shaft, which has a right hand thread.

Surging in Inlet Pipe.

(1.) Do the unequal periods between the induction strokes of a V-twin cause "surging" of the mixture in the T-shaped inlet pipe, and, consequently, unequal distribution of gas to the two cylinders? (2.) If such is the case, which cylinder is adversely affected—front or rear? (3.) Is it possible to overcome this defect by making use of a special timing for the inlet valve of the cylinder affected? (4.) Can you give particulars of such a timing?—R.F.M.

(1.) You are correct in supposing that the unequal periods between the induc-

tion strokes of a V-twin engine cause surging of the mixture. (2.) Skilful design of the induction pipe and ports will eliminate any bad effects. It is impossible to say which cylinder will be adversely affected, as everything depends upon the design. (3.) Slight variations in the timing of the two cylinders are sometimes adopted, but if this is not done by the makers, the usual form of timing gear prevents it being done subsequently.

Moto-Reve Questions.

I should like your opinion on a twin-cylinder 2% h.p. Moto-Réve, especially as regards maximum speed and ease of starting. Will you give some particulars on starting and running a motor cycle?—A.T.H.T.

Moto-Rève motor cycles were made in Switzerland, and they have not been imported into this country for some years. They were quite well made, but of very light parts. They are capable of about 35 m.p.h. on the level. With the standard carburetter they were not particularly easy to start. They are much improved, however, by having a good modern lightweight carburetter



Flooded roads are now frequently met with in many parts of the country, but waterproof magnetos and chain drive have eliminated the old trouble that attended the passing through flood water.

Charging from Alternating Current.

(I.) Is it possible to charge accumulators from the switch terminal of a magneto by using terminal of a magneto by using terminal of a magneto by the Noden chemical rectifier which converts alternating current to direct current? (2). What is the approximate voltage of the A.C. current generated by a Bosch magneto, a Labella hours to transform down as I should have to transform down to the necessary voltage? (3.) Would it be detrimental to the magneto, and what effect would it have on the spark at the plugs?-H.S.

(1.) It would no doubt be possible to charge an accumulator from the low-tension circuit of the magneto, by using the Noden valve. (2.) The maximum voltage is approximately six. (3.) It would not harm the magneto, but the spark would be considerably weakened at low speeds, and you would not be able to start with the battery in circuit.

Two-stroke Efficiency.

(1.) Is it possible and practi-cal to make a diagram, on crankshaft degrees, showing opening, and closing of the ports in a two-stroke engine? (2.) Why is the explosion of a two-stroke engine is the explosion of a two-stroke engine less powerful than that of a four-stroke engine of similar capacity? (3.) Which of the following types of engine is theoretically the most efficient, and which suffers the least from heat losses, provided that the bore and stroke are similar in all cases: (a) A two-stroke are similar in all cases: (a) I with Scott type of stroke are similar in an eases: [a] A two-stroke engine, with Scott type of piston; (b) a two-stroke engine, with Connaught type of piston; (c) a four-stroke engine, with overhead valves inclined to one another; (d) a four-stroke engine, with side by side stroke engine, with side valves?—F.M.A.

(1.) A timing diagram can be made to apply to the two-stroke engine quite as easily as to the four-stroke type. (2.) The maximum effective pressure in a two-stroke engine is less than that of a four-stroke of similar capacity, because the volumetric efficiency of the former type is not so great as in the latter. In all such comparisons it is assumed that all such comparisons it is assumed that compression ratios and other details bear a reasonably close relationship in each case. (3.) Theoretically, the four-stroke engine, with overhead valves inclined to each other, is the most efficient type, since the volumetric efficiency is greater and the heat losses smaller than in the other designs you mention.

Hub Gear, Magneto, and other Queries.

(1.) How can I adjust clutch and gears of a 1914 T.T. three-speed Mark VII. Armstrong motogear for 8 h.p.? The clutch will not work at all. I start in low and change to middle all right, but cannot change to high or down again to low without stopping. (2.) How should I test a Bosch magneto, type DA2, and where can I obtain any handbook concerning it? (3.) Is it possible to increase compression of a 3½ h.p. J.A.P. engine? It turns quite easily by hand with valve lifter down. (4.) What alteration is necessary to a Senspray carburetter to use benzole, and what make of benzole would you recommend ?-A.L.

(1.) It your gear is of the correct T.T. pattern no clutch is fitted. The gears are adjusted by securing the control lever in the position marked "adjusting" on the quadrant. The road wheel should then run freely and without noise, while the belt rim is stationary. If it does not do so, tighten or slacken the milled adjuster on the control rod until the necessary free running is obtained. [2.) You do not say to what particular tests you wish to subject your magneto. If you merely require to know its working efficiency a good spark at the plug will be sufficient evidence. (3.) Evidently the engine is in poor condition, and it will probably need new piston rings, and the valves will also require griding in (4.) probably freed new piscon rings, and valves will also require grinding in. (4.) Slightly lower the petrol level, also fit a jet two sizes smaller. Benzole which conforms to the N.B.A. specification can be thoroughly recommended.

[] >>>>>>>>> THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

The Autocar

the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally. accepted as the representative British motoring journal.

Flooding Carburetter.

(1.) My machine is a Big Four Norton and sidecar. Until a few days ago I could do 70 miles per gallon, and now can-not do more than 20. The engine eight strokes at low speed, but has great power, as I have not yet seen a hill which cannot be taken on seen a min which cannot be taken on top gear. If the engine is running even with the pilot jet the whole air must be given. Controls seem to be all right. If I am using the pilot jet on the level or down hill it misfires and eight strokes continually, but if a small right agreement carry. small incline appears as soon as I go uphill the engine picks up and runs much hetter. I quite understand that too much petrol is passing to the engine, but not being acquainted with the B. and B. carburetter I do not see the way to remedy it. (2.) The machine is fitted with the Sturmey-Archer gear When low gear is Archer gear When low gear is engaged for a few minutes, for traffic work, it begins to race and the clutch gear slips. This slipping is not felt when going on second or third speeds.—J.U.

(1.) Apparently your carburetter is flooding. This is rather unusual on the top feed B. and B., and may be caused by the collar on the needle having altered its position, or by a small obstruction in the valve seating, which prevents the needle closing the orifice completely. A further possible cause may be that the float is punctured and weighed down with petrol. You can ascertain this by removing the float and shaking it, noticing if you can hear the (1.) Apparently your carburetter is flooding. This is rather unusual on the shaking it, noticing if you can hear the petrol inside. (2.) It seems almost im-possible that the clutch should slip on low gear if it does not do so on top. In all probability you are mistaking the fact that the engine is racing on a light load for symptoms of clutch slipping.

READER'S REPLY. Belt Trouble.

Re queries on belt trouble and your reply in the issue of December 18th. Might I suggest, from my own experi-ence, that belt wear is also very much accentuated by changing the direction in which the belt runs. With a Rudgewhich the belt runs. With a Rudge-Multi I find belts wear well until, through oversight, perhaps after shortening, the belt is put on again the opposite way round from which it was taken off. To avoid this I now mark an, arrow on the top pointing towards the engine pulley to ensure replacing the belt always in the same direction after taking it off for any purpose.—H. W. Jessor.

RECOMMENDED ROUTES.

ELLESMERE TO LOUGHBOROUGH .- J. P.B. Ellesmere, Whitchurch, Woore, Stone, Uttoxeter, Burton, Ashby-de-la-Zouch, Loughborough.

LAUNCESTON TO WADEBRIDGE.—E.H.
Launceston, Piperspool, Davidstow,
Camelford, St. Kew Highway, Wadebridge. Return same way, or over Bodmin Moor, via Bodmin.

CHESTER TO DUFFIELD.—A.R.M.
Chester, Tarvin, Middlewich, Holmes
Chapel, Congleton, along Brixton Road five miles, turn right to Leek, Ashbourne, Turnditch (Belper Road), Duffield. The direct route is by Nantwich, Newcastle, and Uttoxeter, and passes through the Potteries.

LAUNCESTON TO BIDEFORD AND BRISTOL. -E.H.

Launceston, Tower Hill Station, Holsworthy, Monkleigh, Bideford, Barnstaple, Swimbridge, South Molton, Bampton, Wiveliscombe, Milverton, Bridgwater, Highbridge, Cross, Red Hill, Bristol.

CHICHESTER TO PLYMOUTH.—L.J.H.
Chichester, Emsworth, Havant, Cosham, Fareham, Burgledon, over Northern Bridge for Southampton, Totton, Lynd-hurst, Bournemouth, Constitution Hill, follow Wimborne Road to Fleet's Corner, and then branch left over railway bridge for Lytchett Minster, left for Wareham, Wool, Warmwell Cross, Dorchester, Winterborne Abbas, Bridgort, Charmonth, bear right for Hunter's Lodge Inn, Axminster, Honiton, Exeter, Chudleigh, Ashburton, Buckfastleigh, Ivybridge, Plymouth. Distance, 190 miles. Ivybridge,

A.J.S.

19 9 5-6h.p. A.J.S., complete with sidecur, space wheel and Y.A.J.S., complete with sidecur, space hors (27/6), sidecul hang (17/6), Lucus hang (27/6), Lucus an ew: £190.—Penreey, Groeer, Weetham, Weymeuth, 19 19 A.J.S. 6h.p. and Milliord reachbuilt sidecur, delicited Oct., splendid condition; any trial Lucus lamps, Klaxan, tools, and extra large leg shields; £190.—Secura, 21, thoward ltd, Southwile, 17/78-30.

A J.S., new Nov., 1919, hood, Luca hook, hord, bruch watford trip (all-black), sparse; cost £225 (receipts shown), including insurance: first cheque £210 secures; owner bought car.—Letters, F. Holmes, Post Office, Exeter.

J.S. Combination, 1919 (Nov.), Ace disc wheels, spare wheel (unused), Lucas equipment throughout, A.J.S. short bars, handle-hear mufts, watch, etc.; this machine is in new condition, tyres and enamel uncerticided; 219.5—Bicknell, Wodpuck, Warrick (K.2682

Alldays.

A LLONS at Blackburn and Sons, Station Gnrage, Spalding. Early deliveries. [7916

ALLDAYS Allon, latest model, as new.-95, Cavendish Rd., Higham's Park, Essex. [7938]

ALLON, 1920, 2-speed, kick, clutch; best deliveries, Clifford Motories, Eastwood, Notts. [8082] HONOR Oak Motor Mart.—Immediate delivery Alldays Allon.—129 Brockley Rise, S.E.23, [7732

A LLDAYS Allon, 2-speed, clutch, condition as new; £53, or near. - 36, Bromfield Rd., Redditch, 17583

19¹⁶ Alldays 31/h.p., perfect condition; cash only £60, or mear offer.—Boarer, 3, Mariae Terrare [X2635]

JONES' Gringe, special agents for Alldays Allon, Broadway, Muswell Hill, N.10, and Woodside Parade, North Finchley.

1920 Allon 2-speed, kick-start end clutch, un scratched and as new, perfect, very reliable £72.—West, Popeswood, Binfield, Berks. [7938] [7938

A LLDAYS Allon 1918.19 -2-stroke, 2-speed, lamps, etc., only done 2,000 miles; best offer over £59 seen near Loadon.—Box 6,673, c/o The Motor Cycle. [787] ALLON, new, latest model, 1919, 234h.p., 2-speed Ociutch, lamps, horn, tools, legshields not done miles; £65.—43, Grove Rd., Sparkhill, Birming

A LLDAYS Matchless, fitted with 1919 Villiers 2), b.p. 2-stroke eagine, electric lighting, just re-enam elled; write, or see Saturdays.-5, Elmfield Park Bromley, Kent. (X256)

A LDAYS Allon, 2-stroke, 1918, 2-speed, clutch kick start, lnmps, horn, leg shields, tools, just over huled, perfect coadition; best offer over £55 secures,—lball, 216, Derby St., Burton-on-Treot. [778:

ALDAYS Allon 2-stroke, new Aug., 1919, 2-speed, clutch, K.S., electric lamps, tools, born excellent condition, low milenge, tyres ununcetured; burgain, £56, no offers.—Boy 6,625, c/o The Motor Cycle. (D), (254)

Ariel.

ARIEL, just arrived, 3½h.p., 3-speed, countershaft model.—Moss, Wem. [X2653]

CROW Bros., High St., Guildford, Ariel agects. [X7944 CYRIL WILLIAMS, for early delivery of Ariels.—
Chapel Ash Depot, Wolverhampton. [X8625]

19 20 Ariel Combination. 6h.p. twin, brand new, still in crate; £158 cash.—Box 6,683, c/o The Motor Cycle.

ARIEL 3½h.p. magaeto, spring frame, 28 gos— Waadsworth Motor Exchange, Ebner St., Wands worth.

JONES' Oarnge, special agents for Ariels, Broad Way, Maswell Hill, N.10, and Woodside Farade North Flachley.

1918 Ariel Combination, 31/2h.p., 3-speed, splendic condition, all accessories, any trial; £110, or offers.—Neale, 129, Walton Rd., East Molesey. [8008]

ARIEL, 31/2h.p. nad 6h.p.; early deliveries; all spare parts stocked. - F. Speakman, Ariel Expert. 7, Rochdale Rd., Harpurhey, Manchester. [4020]

Pert. 7, Roengale Rd., Ruspunce, Johnson Street Conditions of the Ariel Conch Combination, 3-speed counter-shart, disc wheels, running order, best offer.—Humphrey, Ring Egbert Rd., Totler Rise, Shetfield.

(X254) 1920 Model 3½h.p. Ariel, spring seat-pillar, Szecia chow finish. Montgomery sidecar; bought December, not used; £115, or nearest.—Box 91, c/o The Moto Cycle.

A RIEL 6-7h.p. Twin, late 1919, 3-speed, kick, E.I.C., Amac, Duclops, very fast, low mileage, condition as new; best over £110.—Bracey, Beauington, Herts.

ARIEL 1920 31/h.p. Coachbuilt Combination, new, in stock: £150; this model won two gold medals in London-Exeter run-Edwards, 7, Exhibition Rd., Bouth Kensington, S.W.7.

Auto-Wheels

AUTO-WHEEL, attached B.S.A. cycle, perfect; £21, offer.-102, Kecyon St., Fulham, S.W.S.

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SOLO MACHINES.

NEW RYDER, 1919 27 h.p. J.A.P.

RUOGE, 1914, 3½ h.p., multi gear...

RUOGE, 1914, 3½ h.p., multi gear...

RUOGE, 1914, 3½ h.p., beged, 2-speed

LAME, 25 h.p., 2-speed, lamps, etc.

TRIUMPH, 1913, 3½ h.p., 3-speed, hub
gear

gear gear forman services of the services of t

SIDECAR COMBINATIONS

SIDECAR COMBINATIONS.

ARIEL, 1915, 3½ h.p., 3-speed. ... £115
INDIAM, 1916, 7-9 h.p., Powerplus. ... £115
SUNBEAM, 3½ h.p., 3-speed, spring £170
JAN Silecar. ... £10
SUNBEAM, 1914, 3½ h.p., lamps, speeds
meter ... £100

 SUNBEAM, 1914, 3½ h.p., lamps, speedoneter

 nieter
 £110

 REX, 1914, 6 h.p., twin, 2-speed
 £84

 ROVER, 34 h.p., r-speed, Millford sidecar
 £99

 .ARLEY-DAVIDSON, 1916, 7-9 magneto
 £150

 SUNBEAM, 1919, 34 h.p., Swan sidecar
 £170

 BRADBURY, 1919, 6 h.p., fully equipped
 £130

 RUDGE, 1913, 34 h.p., multi gear
 £55

 B.S.A., 1912, 32 h.p., 2-speed, Millford
 £68

Maudes' Motor Mart 100 Great Portland St. London W. 1. 100. Paris St. Exeter.

Telegrams:
"Abdicate, Wesdo,
London." Telepbone Museum 557. Telegrams:
"Combustion, Exeter.'
Telephone: Exeter 933.



MOTOR CYCLES FOR SALE.

Auto-Wheels.

A UTO-WHEEL, nearly new; £12,-Clifford Wilson Mig. Co., 70, Royal Hospital Ed., Chelesa, S.W.3, WALL Andy-wheel, asent gunrantees perfect running order; 12 gns.-Howard, Bank Rouse, 17552 17652

A UTO-WHEEL, 1920, Model de Loxe; £25; in stock, brand new.—Wilkins, SImpson, and Co., piposite Olympia, London. [6852]

A UTO-WHEEL and Rover Cycle, both in good condition, ready to ride away; £15, ac offers.—Montgomery, 35, Mill Rd., Maldon, Essex. [7936]

A UTO-WHEEL, good condition, attached to nearly new cycle, tyres all new (Dunlops), spring forks; £25.—83, Diggon St., Stepney Green E.1. [7926]

B.S.A. Anto-wheel, adapted for use on hand tricycle, with head table and forks attached, new cylinder, piston, valves, etc., litted, easily detached for cycle use; £12.—R. Panic, Beechwood, Sandecotes Rd., Parkstone,

Rat.

SOLE Birmingham Bat Agents, The Premier Motor Co., Aston Rd. 'Phone: Central 4310. [7706]

BAT-J.A.P. Coachbuilt Combination, 6h.p., countershaft, 2-speed; bargain, £47/10.—Kington, 2, King Edward Parade, Norbury, S.W. [8129 8 h.p. Bat-Jap, N.S.U., 2-speed, spring frame model, and double-seated cane sidecar, excellent condition; £65.—Sealey, 83, Prince's Av., Watford. [X2542]

B ATJ.A.P. 1913 6b.p. Twia, 3-speed Armstrong gear, coachbuilt sidecar, good condition and good tyres: price £50.—Taroada Syndicate, 9, Victoria St., S.W. Tel.: Victoria 6852.

BATJA.P. Combination, C.B., 7h.p., 1915, 3-speed Armstrong genr, clutch, kick start, lamps, horn, n splendid condition; £85.-65, Ethelred St., Kenning-ton Cross, London, S.E.

BATJA.P. Combination 9135 6h.p. lamps. 2 rect speed for the state of trial. At 5 packs of the state of trial packs of the state of trial packs o

DATJ.A.P. 6.8hp. Combination, countershaft, chale drive, fully equipped, many spares, Canoelet sidecar, in perfect order; nearest cffer to 280 secrest this burgain.—46, Cronwell Rd., Walthaustow. [8032]

Compared to the control of the contr

Beardmore.

L ANCASHIRE (West) and Cheshire.—Beardmore Precision, the most advanced and practical motor cycle yet designed.—Enquiries invited by J. Blake and Co., 110, Bold St., Liverpool.

Blackburne.

CROW Bros., High St., Guildford, are old Black-burne agents, and javite enquiries. [X7945] STANLEY RUSSELL, Newport, sole Isle of Wight agent for Blackburne motors; early delivery. [5297

BLACKBURNE.—Place your order now for early delivery.—Egertous, Northgate St., Ipswich. [7639 BLACKBURNE, new 1920, 4h.p., cshaia drive, in stock; £115.—Edwards, 7, Exhibition Rd., South Keasiogton, S.W.7.

JONES' Garage, special agents for Blackburnes, Broadway, Muswell Hill, N.10, and Woodside Parade, North Finchley [0029]

WE Are Agents for Blackburne. Place your order with us to secure good delivery.—Apply, King and Harper, 6, Bridge St., Cambridge. [7665]

BLACKBURNE.-New 1920 4h.p. models actually in stock: ao premium required.-Chandler, Reyre aod Williams, Hitchin. Herts 'Phone: 185 Hitchin.

BLACKBURNE 4h.p., 1920, actually in stock, complete with Graddlay sidecar; £135.—P. Ellis and Co., 360-364, Lullie Rd., Fulhau, Loodon, S.W. Phone: Hammersmith 1553.

Blumfield.

BLUMFIELD Twin, 5h.p., tools, new tyres, in good condition.—Armstrong, Hospital St., Tamworth, [X2635]

Bradbury.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, -4h.p. Bradbury, 1911 model; £40. [8287

BRADBURY 31th.p., belt drive, ia going order: price £25.—Tarouds Syndicate, Ltd., 9, Victoria St., S.W.1. Tel.: Victoria 6851.

BRADBURY.—For the earliest possible deliveries of 1319 models.—The Walsall Garage, Wolverhamptoo St., Wal-all. Tel. 444. [9575

Charging from Alternating Current.

(1.) Is it possible to charge accumulators from the switch accumulators from the switch terminal of a magneto by using the Noden chemical rectifier which converts alternating current to direct current? (2.) What is the approximate voltage of the A.C. current generated by a Bosch magneto, as I should have to transform down to the necessary voltage? (3.) Would it be detrimental to the magneto, and what effect would it have on the spark at the plugs?-H.S.

(1.) It would no doubt be possible to charge an accumulator from the low-tension circuit of the magneto, by using the Noden valve. (2.) The maximum the Noden vaive. (2.) The maximum voltage is approximately six. (3.) It would not harm the magneto, but the spark would be considerably weakened at low speeds, and you would not be able to start with the battery in circuit.

Two-stroke Efficiency.

(1.) Is it possible and practi-cal to make a diagram, on crankshaft degrees, showing opening and closing of the ports in a two-stroke engine? (2.) Why two-stroke engine? (2.) Why is the explosion of a two-stroke engine less powerful than that of a four-stroke ess powerful than that of a four-stroke engine of similar capacity? (3.1) Which of the following types of engine is theoretically the most efficient, and which suffers the least from heat losses, provided that the bore and stroke are similar in all cases : (a) A stroke are similar in all cases: (a) A two-stroke engine, with Scott type of piston; (b) a two-stroke engine, with Connaught type of piston; (c) a four-stroke engine, with overhead valves inclined to one another; (d) a four-stroke engine, with side by side valves?—F.M.A.

(1.) A timing diagram can be made to apply to the two-stroke engine quite as easily as to the four-stroke type. (2.) The maximum effective pressure in a two-stroke engine is less than that of a four-stroke of similar capacity, because the volumetric efficiency of the former type is not so great as in the latter. In all such comparisons it is assumed that compression ratios and other details bear a reasonably close relationship in each case. (3.) Theoretically, the four-stroke engine, with overhead valves inclined to each other, is the most efficient type, since the volumetric efficiency is greater and the heat losses smaller than in the other designs you mention.

Hub Gear, Magneto, and other Queries.

(1.) How can I adjust clutch and gears of a 1914 T.T. three-speed Mark VII. Armstrong motogear for 8 h.p.? The clutch will not work at all. I start iu low and change to middle all right, but cannot change to high or down again to low without storager (2) How to low without stopping. (2.) How should I test a Bosch magneto, type DA2, and where can I obtain any handbook concerning it? (3.) Is it possible to increase compression of a 3½ h.p. J.A.P. engine? It turns quite (A) by hand with valve lifter down. (4.)
What alteration is necessary to a Senspray carburetter to use benzole, and what make of benzole would you recommend ?-A.L.

(1.) It your gear is of the correct T.T. pattern no clutch is fitted. The gears are adjusted by securing the control lever in the position marked "adjusting" on the the position marked "adjusting" on the quadrant. The road wheel should then run freely and without noise, while the belt rim is stationary. If it does not do so, tighten or slacken the milled adjuster on the control rod until the necessary free running is obtained. (2.) You do not say to what particular tests you wish to subject your magneto. you wish to subject your magneto. If you merely require to know its working efficiency a good spark at the plug will be sufficient evidence. (3.) Evidently the engine is in poor condition, and it will probably need new piston rings, and the valves will also require grinding in. (4.) Slightly lower the petrol level, also fit a jet two sizes smaller. Benzole which conforms to the N. R. A. proceifections. conforms to the N.B.A. specification can be thoroughly recommended.

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

The futocat Every 3d.

the forerunner of all motoring. journals. Founded in 1895. it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

Flooding Carburetter.

Flooding Carburetter.

(1.) My machine is a Big Four Norton and sidecar. Until a few days ago I could do 70 miles. per gallon, and now cannot do more than 20. The engine eight strokes at low speed, but has great power, as 'I have not yet seen a hill which cannot be taken on top gear. If the engine is running even with the pilot jet the whole air must be given. Controls seem to be all right. If I am using the pilot jet on the level or down hill it misfres and eight strokes continually, but if a small incline appears as soon as I go small incline appears as soon as I go uphill the engine picks up and runs much better. I quite understand that too much petrol is passing to the engine, but not being acquainted with engine, but not being acquanted with the B. and B. carbunetter I do not see the way to remedy it. (2.) The machine is fitted with the Archer gear When low gear is engaged for a few minutes, for traffic work, it begins to race and the clatch line. This clays is not file within slips. This slipping is not felt when on second or third speeds.—

(1.) Apparently your carburetter is flooding. This is rather unusual on the top feed B. and B., and may be caused by the collar on the needle having altered its position, or by a small obstruction in the valve seating, which prevents the needle closing the orifice completely. A further possible cause may be that the float is punctured and watched down with nearly may be that the float is punctured and weighed down with petrol. You can ascertain this by removing the float and shaking it, noticing if you can hear the petrol inside. (2.) It seems almost impossible that the clutch should slip on low gear if it does not do so on top. In all probability you are mistaking the all probability you are mistaking the fact that the engine is racing on a light load for symptoms of clutch slipping.

READER'S REPLY. Belt Trouble.

Re queries on belt trouble and your reply in the issue of December 18th. Might I suggest, from my own experience, that belt wear is also very much accentuated by changing the direction in which the belt runs. With a Budge-Multi I find belts wear well until, through oversight, perhaps after shortening, the belt is put on again the opposite way belt is put on again the opposite way round from which it was taken off. To avoid this I now mark an arrow on the top pointing towards the engine pulley to ensure replacing the belt always in the same direction after taking it off for any purpose.—H. W. Jessor.

RECOMMENDED ROUTES.

ELLESMERE TO LOUGHBOROUGH .- J.P.B. Ellesmere, Whitchurch, Woore, Stone, Uttoxeter, Burton, Ashby-de-la-Zouch, Loughborough.

LAUNCESTON TO WADEBRIDGE.-E.H. Launceston, Piperspool, Davidstow, Camelford, St. Kew Highway, Wade-bridge. Return same way, or over Bodmin Moor, via Bodmin.

CHESTER TO DUFFIELD.—A.R.M.
Chester, Tarvin, Middlewich, Holmes
Chapel, Congleton, along Brixton Road
five miles, turn right to Leek, Ashbourne,
Turnditch (Belper Road), Duffield. The
direct route is by Nantwich, Newcastle,
and Uttoxeter, and passes through the Potteries.

LAUNCESTON TO BIDEFORD AND BRISTOL.

Launceston, Tower Hill Station, Holsworthy, Monkleigh, Bideford, Barnstaple, Swimbridge, South Molton, Bampton, Wiveliscombe, Milverton, Bridgwater, Highbridge, Cross, Red Hill, Bristol.

CHICHESTER TO PLYMOUTH.—L.J.H.
Chichester, Emsworth, Havant, Cosham,
Fareham, Burgledon, over Northern
Bridge for Southampion, Totton, Lyndhurst, Bournemouth, Constitution Hill,
follow Wimborne Road to Fleet's Corner, follow Wimborne Road to Fleet's Corner, and then branch left over railway bridge for Lytchett Minster, left for Wareham, Wool, Warmwell Cross, Dorchester, Winterborne Abbas, Bridport, Charmouth, bear right for Hunter's Lodge Inn, Axminster, Honiton, Exeter, Chudleigh, Ashburton, Buckfastleigh, Ivybridge, Plymouth. Distance, 190 miles.

A.J.S.

A.J.S.

19 19 5-6h.p. A.J.S. complete with sidecur, space wheel and type (£4/17/6) Lineas lamp (27/6), Lineas horn (27/6), sidecan horn (17/6), Lineas and (27/6), sidecan horn (17/6), Lineas and Linea, at each case, constant weyment to each case, constant weyment to each case, and the constant of the constant case and case and extra large leg shields, 2130.—Sterens, 21, Howard Rd., Southville, Hiptod. 4.1.8. new Nov. 1919, hood, Lacas hungs, burn.

A J.S., new Nov., 1919, hood, Lucas lumps, horn. Wittend trip (all-black), sparces; cost £225 (recepts shown), including insurance; first cheque £210 secures; owner bought car.—Letters, F. Holmes, Post Office, Excels

A.J.S. Combination, 1919 (Nov.), Ace disc wheels, spare wheel (nunsed), Latens equipment throughout.
A.J.S. short bars, handle-bar muris, watch, etc.: this machine is in new condition, tyres and channel unscratched; 2195.—Birkhell, Woodpack, Warwick, (X268)

Alldays.

A LLONS at Blackburn and Sons, Station Garage, Spalding. Early deliveries. [7916

ALLDAYS Allon, latest model, as new.-95, Caven dish Rd., Higham's Park, Essex. [7938]

ALLON, 1920, 2-speed, kick, clutch; hest deliveries -Clifford Motories, Eastwood, Notts. [808]

HONOR Oak Motor Mart.—Immediate delivery Alldays Allon.—129 Brockley Rise, S.E.23. [7732 A LLDAYS Allon, 2-speed, clutch, condition as new; 253, or near.—36, Bromfield Rd., Redditch. [7583

1916 Alldays 31/2h.p., perfect condition; cash only 260, or near offer.—Boarer, 3, Marine Terrara [X2635]

JONES' Garage, special agents for Alldays Allon, Broadway, Muswell Hill, N.10, and Woodside Parade, North Finchley. [0027]

19²⁰ Allon 2-speed, kick-start and clutch, un scratched and as new, perfect, very reliable £72.—West, Popeswood, Binfield, Berks. [7938] 17938

ALLDAYS Allon 1918.19 2.stroke, 2-speed, lamps, etc., only done 2,000 miles; best offer over £59 seen near London.—Box 6,673, c/o The Motor Cycle. ALLON, new, latest model, 1919, 25th.p., 2-speed clutch, lamps, horn, tools, legshields not done miles; £65.-43, Grove Rd., Sparkhill, Birming KX263s

A LLDAYS Matchless, fitted with 1919 Yilliers 29, h.p. 2-stroke engine, electric lighting, just re-enam elled; write, or seen Saturdays.—3, Elmfield Park Riomley, Keat. (X2565)

ALDAYS Allon, 2-stroke, 1918, 2-speed, clutch kick start, lamps, hore, leg shields, tools, just over housed, perfect condition; heat offer over £55 secures.—Ball, 216, Derby St., Button-on-Trent. [778:

ALDAYS Allon 2-stroke, new Aug., 1919, 2-speed, clutch, K.S., electric lamps, tools, horn excellent condition, low mileage, tyres unpunctured; burgain, 256, no offers.—Boy 6,625, Vo The Motor Cycle. [12]

Arlel.

ARIEL, just arrived, 3½h.p., 3-speed, countershaft model.—Moss, Wem. [X2653

CROW Bros., High St., Guildford, Ariel agents. X7944

CYRIL WILLIAMS, for early delivery of Ariels.— Chapel Ash Depot, Wolverhampton. [X8625]

19 20 Ariel Combination, 6h.p. twin, brand new, still in crate; £158 cash.—Box 6.683, c/o The Motor Cycle. ARIEL 3½h.p. magneto, spring frame; 28 gns-Wandsworth Motor Exchange, Ebner St., Wands worth.

JONES' Garage, special agents for Ariels, Brond way, Muswell Hill, N.10, and Woodside Farade 10028

1918 Ariel Combination, 314h.p., 3-speed, splendic condition, all accessories, any trial; £110, or offers.—Neale, 129, Walton Rd., East Molesey. [8008]

ARIEL, 31/h.p. and 6h.p.; early deliveries; all spare parts stocked. - F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [4020]

pet. 7, Rochagie Rd., Rasputney, Sudicionals, 221h.p. Atiel Couch Combination, 3-speed counter-22 shaft, disc wheels, running order, best offer.— Rumphrey, King Egbett Rd., Totley Rise, Sheffield.

1920 Model 31/sl.p. Ariel, spring seat-pillar, special abow finish, Montgomery sidecar; bought December, not used; £115, or nearest.—Box 91, clo The Moto Cycle.

A RIEL 6-7h.p. Twin, late 1919, 3-speed, kick, E.I.C., Amac, Dunlops, very fast, low mileage, condition as new; best over £110.—Bracey, Bennington, Herts.

ARIEL 1920 31/h.p. Coachbuilt Cambination, pay, in stock; £130; this model won two gold medals in London-Exeter run.—Edwards, 7, Exhibition Rd., Sonth Kensington, S.W.7. [8212

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AUTO-WHEEL, attached B.S.A. cycle, perfect; £21, offer.-102, Kenyon St., Fulham, S.W.6.

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NEW RYDER, 1919 23 h.p. J.A.P. NEW RYDER, 1919 21 h.p., p. 2-speed RUDGE, 1914. 3½ h.p., multi gear . DOUGLAR, 2½ h.p., W.D. model, 2-speed JAMES, 1914. 2½ h.p., 2-speed. . IVY, 1919. 2½ h.p., 2-speed, lamps, etc. TRIUMPH, 1913. 3½ h.p., 3-speed, hub

gear gear formal filter formal filter formal filter formal filter formal filter formal filter filter

SIDECAR COMBINATIONS

 SUNBEAM, 1914, 3½ h.p., kamps, speedometer
 \$110

 REX, 1914, 6 h.p., twin, 2-speed
 \$82

 ROVER, 3 h.p., 3-speed, Mill ford sidecar
 \$93

 .ARLEY-DAVID50M, 1916, 7-9 magneto
 \$150

 SUNBEAM, 1919, 33 h.p., Swan sidecar
 \$170

 BRADBURY, 1919, 6 h.p., fully equipped
 \$182

 PUOGE, 1913, 3½ h.p., multi gear
 \$25

 B.\$A., 1912, 3½ h.p., 2-speed, Millford
 \$68

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Telegrams : "Abdicate, Wesdo, London." Telephone Museum 557. Telegrams:
"Combustion, Exeter.'
Telephone: Exeter 933.



MOTOR CYCLES FOR SALE,

Auto-Wheels.

A UTO-WHEEL, 1920, Model de Luxe; £25; in stock, brand new.—Wilkins, SImpson, and Co., opposite Olympia, London. (6852

A UTO-WHEEL and Rover Cycle, both in good con-dition, ready to ride away; £15, no offers.—Mont-gomery, 35, Mill Rd., Maldon, Essex. [7936

A UTO-WHEEL, good condition, attached to nearly new cycle, tyres all new (Dunlops), spring forks; £25.—83, Diggon St., Stepney Green E.1. (7926)

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Rat.

SOLE Birmingham Bat Agents, The Premier Motor Co., Aston Rd. 'Phone: Central 4310. [7706]

BAT-J.A.P. Coachbuilt Combination, 6h.p., countershaft. 2-speed; bargain, £47/10.-Kington, 2, King Edward Parade, Norbury, S.W. [8129

Sh.p. Bat-Jap, N.S.U., 2-speed, spring frame model, and double-seated cane sidecar, excellent condition; £65.—Sealey, 88, Prince's Av., Watford. [X2542]

DATJA.P. 1913 6h.p. Twin, 3-speed Armstrong gent, concluding sidecar, good condition and good tyres; price £60.—Taroads Syndicate, 9, Victoria 8t., S.W. Tel.: Victoria 685., [7600

Batt-J.A.P. Combination, C.B., 7h.p., 1915, 3-speed Armstrong gent, clutch, kick start, lamps, born, n splendid condition; £85.-65, Ethelred St., Kenning-ton Cross, London, S.E.

BAT.J.A.P. Combination, 1913, 6h.p., lamps, 2-speed, kick start, any trial, after 5 p.m. or week-ends; £68.—Wark, 2, Kenilworth Villas, Bedonwell Hill, Belvedere, Kent. [7814]

PATJA.P. 6h.p. Twia, 1913, 2-speed countershaft gear, chain drive, spring frame, torpedo wicker siderar, good order; price £80.—Taroads Syndicate, 9, Victoria 8t., S.W.I. Tel.: Victoria 6851. [7598

PATJ.A.P. 6.8hp, Combination, countershaft, chair drive, fully equipped, many spares, Cancelet sidecar, in perfect order; nearest after to 280 sectres this bargain.—46, Cromwell Rd., Walthamstow. (8032)

this bargain.—48, Cromwell Rd., Walthamstow, 18032

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L ANCASHIRE (West) and Cheshire.—Beardmore Precision, the most advanced and practical motor cycle yet designed.—Enquiries invited by J. Blake and Co., 110, Bold St., Liverpool.

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CROW Bros., High St., Guildford, are old Black-burne agents, and invite enquiries. [X7945 STANLEY RUSSELL, Newport, sole Isle of Wight agent for Blackburne motors; early delivery. [5297

BLACKBURNE.-Place your order now for early delivery.-Egertons, Northgate St., 1pswich. [7639 BLACKBURNE, new 1920, 4h.p., cshain drive, in stock; £115.—Edwards, 7, Exhibition Rd., South Kensington, S.W.7.

JONES' Garage, special agents for Blackburnes, Broadway, Muswell Hill, N.10, and Woodside Parade, North Finchley

WE Are Agents for Blackburne. Place your order with n3 to secure good delivery.—Apply, King and Harper, 6, Bridge St., Cambridge. [7665]

BLACKBURNE. New 1920 4h.p. models actually in stock: no premium required.—Chandler, Reyre and Williams, Hitchin. Herts 'Phone: 165 Hitchin.

BLACKBURNE 4h.p., 1920, actually in stock, complete with Gradlay sidecar: £135.-P. Ellis and Co., 360-364. Lallie Rd., Fulham, London, S.W. Thone: Hammersmith 1553.

Blumfield.

BLUMFIELD Twin, 5h.p., tools, new tyres, in good condition.—Armstrong, Hospital St., Tamworth.

Bradbury.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, -4h.p. Bradbury, 1911 model; £40. [8287

BRADBURY 31th.p., belt drive, in going order; price £25.—Taroads Syndicate, Ltd., 9, Victoria St., S.W.1. Tel.: Victoria 6851. [7601 BRADBURY.—For the earliest possible deliveries of 1519 models.—The Walsall Garage, Wolverhamoton St., Wal-all. Tel 444. [9575

Bradbury. 4 h.p. Bradbury Coachbuilt Combination, kick start, accessories, guaranteed; £49, or exchange solo and cash.—49, Well St., Hackney. [7660

cosh.—49, Well St., Hackner. [7650]

BRADBURY 4h.p. Combination, 2-speed, free engine, clutch, starter, guaranteed perfectly reliable; 48 gas.—14, Arundel Ed., Croydon. [8207]

BRADBURY 4h.p. Combination, 2-speed, K.S., all-chain countershaft, he. clutch, Bosch, B and B., disc wheels; any trial gree; first £80 secures.—Tweeddle, Machure & R., Rochdule

SALE, 4(h.p. Bradbury, with 3-speed, business combination, overhauled, replated and enamelled, splendid hargain; £85; stamps for reply for particulars,—Gray, Green Lane, Barnstaple. [7494]

BRADBURY, 1920, 4h.p., 3-speed conotershaft, kick starter, chain drive, Canoelet sidecar, storm apron. brand new at maker's price; £14715.—Wilkins, Simp-son, and Co., opposite Olympia, London. [6847

4 h.p. Bradbury Coachbuilt Combination, 1914, 4 stored throughout war, 2-speed countershaft, clutch, lamps, recently overhauled and reupholstered; £80.—Seen at Southern Motor Exchange, Bromley &Ad, Cattord, London.

BRADBURY 3½hp., 1913, 2-speed, F.E., Spitdorf lamp, horn, warring signal, coachhuitt sidecar, new hode, new wind seren, lamps, luggage carrier, smart turnout; £55; exchange runabout.—Beestou, Wood Villa, Wellington St., Stough.

Brough.

SOLE Birmingham Brough Agents, The Premier [7707

5 h.p. T.T. Brough, promised next week: what offers -Box L6,548, c/o The Motor Cycle. [7486]

MY Brough Combination due this month, Unable to purchase. What offers?—Box L6,547, c/o The Cycle. [7485]

1916 Blough 3½h.p., 3 speeds, clutch, kick starter, Ovington Gardens, S.W. [8007] SOUTH Lancashire, North Cheshire, and Isle of Man only.—Brough enquiries.—J. Blake and Co., Official Dealers, Liverpool and Manchester. [6588

1916 Brough 3/5h.p. Flat Twin, 3-speed Sturmey-Archer countershaft gear, clutch, and kick starter, very fast; £82.—Elce and Co., 15-16, Bishops gate Av., Camomille St., E.C.3.

FOR Sale, Brough Combination, 3-speed, free engine, kick start, Cancelet concludit sidecar, everything in splendid condition; reason for selling, buying new car.—C. Beunett, Hale Farm, Honton, Decon. 7680

Brown.

31h.p. Brown. 2-speed, disc wheels, large copper exhaust; £28.-21, Louvaine Rd., St. John's Hill,

Clapman sunction.

PROWN 31/4b.p., Bosch, B. and B., clutch, in perfect running order; £25, or exchange higher power.—Sharp, 39, Langdon Rd, Highgate, N. After 6.

B.S.A.

BRAND New B.S.A. Model K. in stock.—Brook Bros., [6820 B.S.A., 4¼h.p., Bosch mag., splendid coodition; £40. -7, Bellenden Rd., Peckham, S.E. [7904]

B.S.A., 414h.p., W.D. model, wants slight attention; £65.—Collier's Motories, Union St. South, Hallfax.

B.S.A., 2-speed, clutch, excellent condition, and complete; 250.—Brunswick Lodge, Thames Ditton.

B.S.A. Sole District Agents; book now.—The Waisar Garage. Wolverhampton St., Walsall. Tel: 444 7686

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 1914 41/4h.p. B.S.A., 3-speed gear box, kick starter;

19 16 B.S.A. Combination, countershalt, 3-£90.-Barnett, Llandore Garage, Stratte Avon.

Avon.

19 20 B.S.A. Combination, all-chain; delivery this mooth; £140.—Box 6,729, c/o The Motor [8262] B.S.A., foot start, clutch, lamps, horn, tools, good condition; £52.—William, 54, Dundouald Rd.,

[7615 JONES Garage, special agents for B.S.A. Broad-way, Maswell Hill, N.10, and Woodside Parade, [0030]

19²⁰ B.S.A. (4)4h.p. chain drive), just del vered; £105 spot cash.—W., 28, Cranheurns Terrace, Stockton-on-Tees. [7928]

B.S.A., 1915, 4½h.p., countershaft, 3-speed, and sidecar; £60.—Speechley, 1, Gunnershury Lane, Acton Hill, W.3. [8017]

B.S.A., 1911, line condition, numeral 4 years, new tyres, tubes, and belt; accept £35.-Welch, 135, Edgware Rd., W.2.

B.S.A., 1920, new Model K, never been ridden; best cash offer over £100; London.—Box 6,715, [3249] ridden;

The firm that makes the pace!

I have now in stock, all ready for you to ride away, the tamous

CYCLE. Powerful, Comfortable, Reliable, Strong, and Durable.



7-9 h.p. 1920 Powerplus spring frame model, complete with dynamo lighting set, electric horn, and speedometer.

£158 Combination

Don't delay your order for the 4 h.p. Scout Model.

Solo Combination

Be in the first flight for quick delivery!

The Birmingham House for Motorists

87 to 91, JOHN BRIGHT ST., BIRMINGHAM.

Telegrams: "Lytear, B ham,"

MOTOR CYCLES FOR SALE.

B.S.A.

B.S.A. 4h.p. Model, with special sidecar, equippe Lucas spares trial or examination.—Parker Bradshawgate, Bolton.

B.S.A., 41/h.p., 1919 model, Henderson sporting side car, acetylene lighting, in perfect running order £120.—Gill, Earlsheaton, Dewsbury.

B.S.A. 1919 Model K, P. and H. lamp set, mechan cal horn, tyres excellent, machine in perfet order; £100.—Bird, Metton, Norwich.

19 13 B.S.A., 3½h.p., Philipson pulley, fully equippe tools, spares: must sell; £45, or best offer— Pearson, 10, A.A.P., Brooklands, Surrey. [X250]

B.S.A., Model K, in stock, list price; also B.S. sidecar to match.—Newnham Motor Co., 2 Hammersmith Rd., W.6. Phone: Hammersmith 80 B.S.A. 1919 Model H, mileage under 1,000, con dition as new, with sidecar, coachbuilt, unused nearest offer, \$130.—Clark, Blackford, Cowes, I.W.

B.S.A. Specialists.—All replacements in stock: R.S.A. Specialists.—All replacements in stock: R.S.A. Specialists.—The County Cycle and Mot. Co., Broad St., Birmingham. T.A.: Comocyco, Birmingham.

mingham. 1915 B.S.A., 3-speed countershaft, kick start, 2005 good order, with Mills-Fulford coachbuilt sidecate. Less.—Waterhouse, Briarfield, Barrington Rd., Altribean, Cheshire.

19¹⁶ 4h.p. B.S.A., all-chain, 3 speeds, thorough overhauled, £80; also 1914 3½h.p. B.S.A., Tumph engine, clutch model, fine solo, £55.—Walto umph engine, clutch i Dawson Sq., Burnley.

19¹⁹ 4½h.p. B.S.A. Motor Bicycle and sidecar, a chain drive, just delivered, done about 100 mile Lucas lamps and horn, condition new; £145.—Daniel Lightpill, Strond, Glos.

1 hp. B.S.A., late 1916, all-chain 3-speed, recent overhauled by Army and Navy Stores, perfectorder: £85, or nearest offer for quick sale.—Write Horm 14, Brunswick Sq., W.C.I. Seen by appointment. [761]

B.S.A. Combination, 3½h.p., 2-speed, kick starte countershaft, tyres, belt nearly new, hamps, horn and spares, had hittle use, in new condition; great ha sain, £62; first cheque secures.—Barker, Salishur Villas, Shodley, Ipswich.

19 B.S.A. 44(h.p., 3-speed clutch kick started up to complete with coachbuilt sidear, fitted with Earling wind screen, Klaxou horn, A.K. kneegrips, lamp and tools, also full insurance policy, perfect conditions, Mostyn Cescent, Llandudoo. (778)

19 16 44h.p. B.S.A., Model H. Cancelet sideca specially sprung, electric light, bulb and Klaxo horns, Stewart trip, extra mud flaps, handle-bar mufi-oversize Dunlops, recently overhauled, condition exce-lent, not used 1917-18: noy trial or examination; 271 —Box 6,647, clo The Motor Cycle. [763]

1977 dh.p. B.S.A. 5-speed countershaft, chich as a back lamp set, both burnd new tyres, 1919 (Aug. sideen, Ibrely upholstery, unscratched, new tyre, nemeral lamps, apron, mat, etc., both runganteed in percendification; only reasonable trial nilowed; price \$1185-58trange's Garange, Wootton Bassett, Witts. [175]

Calthorne.

WAUCHOPE'S, 9, Shor Lane, Fleet St., London -2%h.p. Calthorpe-Jap, 1914 model; £48. [8288 CALTHORTE-PRECISION, engine No. 13324, 2 speed, variable pulley, new Dunlops; £27.-Noyee Bracknell. [X254]

CALTHORPE-J.A.P. 25/b.p., 1915, Enfeld gear Rd., Brixton.

19 16 Calthorpe 2-stroke, 2-speed, splendid color, mechanical horn, drive away; £38.-Well St., Hackney E.

CALTHORPE 2-stroke, 2½h.p., Enfield 2-speed, brandonew, at makers' price; £64/1.—Wilkins, Simpson, and Co., opposite Olympia, London. [6845]

CALTHORPE-J.A.P., 2%h.p., Enfield 2-speed, brandonew, at makers' price; £65/2.—Wilkins, Simpson, and Co., opposite Olympia, London. [684]

CALTHORPE Janior, 1914, 2-speed gear, Precision engine, B. and B. carbaretter, Dunloy belt, is good order; £20.-P. D. Mitton, Rectory, Kirkham, [X2524]

CALTHORPE-J.A.P. 25th.p., Enfield 2-speed, P. and H. lamp, electric rear light, nearly new; delivered February, 1919; £45.-4, Hanover St. London, W. 18270

Campion.

19 16 8h.p. Campion Jap Combination. lamps, hose speedometer; sccept £100; ordered car.—Bak 16, Lavington Rd., Ealing. [75]

CAMPION-J.A.P. 1918 4b.p. Combination, not done 800 miles, a real posh lot; £120.—Bunting Motor Exchange, Wesldstone. [7824]

CEDOS.—The finest 2-stroke ever produced; ladies of gentlemen's; order now for spring delivery.—J. Blake and Co., Lancashire's leading motor cycle dealers, Liverpool and Manchester. [6576

BIS All letters relating to advertisements should anote the number at the end of each advertisement, and the date of the issue.

Douglas.

DOUGLAS (Oct., 1918) 4h.p. Combination, 3 speeds, clutch, kick starter, electrically equipped, Riaxon, new condition; £118.—Lt. James, 72, Longridge Rd., Earl's Court. Western 1344. [7905]

DOUGLAS 2%h.p., 2-speed, 1913, ensured and platting good, engine in perfect condition, tyres good, speed-ometer, lamps, toolbags, mirror, horn: £50; evenings or Saturday.—18, Chewitton Rd., Fullmun. [7896]

19 15 2% h.p. Douglas, Lucas King of the Road lamp set, Lucas horn and tail lamp, aluminium disc wheels and chain cover, long exhaust pipe, condition as new.-J., 54, Malvern Rd., Dalston, E.S. [7781]

4 h.p. Douglas, late 1916, just overhauled, new dutch lates insacts, C.A.V. mar., as new, new accessories, tyres nearly new, conchlunt is sideen complete, just unpacked:

Bearest £100.—Hutchnsson, Constantine, Cornwall,

DOUGLAS 25/th.p., 2-speed, fully equipped, new Pal-h.p., 2-speed, very tast, all necessories, 460.—Burgess Hill Auto Works, London Rd., Burgess Hill, Sussex.

4 h.p. Douglus Combination (not run 50 miles), com-plete with storm aprior, prices and extended par-ment terms on application.—Harrois Motor Showtooms, 116-118, Brompton Rd., opposite Main-Building, Lon-don, S.W.1.

don, S.w.1.

T Appenrs Ridienlous to Advertise when you have no steek, but we are giving deliverles to the early blids. Place your order of once if you want delivery—Eli Clark, Douglas Ageot, 198, Chelteahom Ed., Bristol.

25.—Douglas 4h.p. Combination, 3-speed, clutch, kick starter, new magneto fitted, 3 lamps, mechanical horn, in absolute perfect condition; or exchange for car.—234, Earlsfield Rd., S.W.18, Phone: 570.

DOUGLAS 25th.p., 2-speed, 1916 T.T. model, excel-leut condition throughout, like new, perfect engine, Bosch umg., fast and quiet, horn, punp, toolbags, etc.; tide 50 miles; bargain, 265.—Burch, 178. Gipsy Rd., West Norwood, S.E.

1920 2³th.p. Douglas, 3-speed gear (no clutch), latest type forks and tank, undershield, etc., in stock for immediate delivery £86, plus carriage—Robinsou's Garage, 32-35, Green St., Cambridge, Phone: 995. Telt. Bicycles.

DOGLAS, W.D., 1917-18, 25/h.p., 2-speed, perfect condition, tyres as new, all accessories, large P. and H. front lamp, rear lamp, Worlford speedometer, watch, etc.; bargam, \$30.—Apply after 5 p.m., 58, Chunch Rd., Toril, Maidstone. (X2471

19 19 4hp. Douglas Combination, Binks, Klaxon, Orto sersen, 5 P. and H. Imms, 2 speciators, 225h, beck over and the bett, 2 tubes, valve, bett farteners; 245h, beck over and the first instance.—South astronomy, 34, Gover 19 loce, W.C.

DOUGLAS 23th.p., 2-speed, T.T., Besch mag., Douglas carburetter, footboards, lamps, horn, pump, tools, spares, and 2 Hutchinson passenger studded tyres almost new; private; bargain, £45, no offers; West London.—Rox 5.627, eto The Motor Cycle.

19²⁰ 4h.p. Douglas Combinations, latest sidecar, finished in saxe blue, absolutely new, on the premises for immediate delivery: £145, plus crate and carriage.—Robiuson's Garage, 32.55, Green St., Cambridge. Thome. 995. Tel.: Bicycles.

bridge. Phone. 995. Tel.: Bicycles.

DOUGLASES, 1920 models.—The nofed house in the South for early deliveries. We are specialists and stockists for Douglas machines only -lor over 11 years.—Sole District Ageuts, Thompson and Co., 40g, Commercial Rd., Portsmouth. Phone: 7105, 40g, Commercial Rd., Portsmouth.

19¹⁹ 4h.p. Douglas Combination, eugine prefers siderar unscratched, accessories as under, if required, large Luicas head lamp, electric tail and alderar. Watford speedometer, Luicas horn, nearest 2150—Lt. Roberts, Airstores, Steventon, Berkshire.

1908 Chitch, kick starter, latest type forks and tank, undershield, etc., in stock for immediate deliver; £90, plus carriage.—Robinsen's Garage, 32-35, Green St., Phorn: 99-7 Phorn: 99-7 (2 lines). Etc. Bicpeles.

1019 4h.p. Donglas Combination, 19 19 4h.p. Douglas Combination, just overhauled, with special case, crank case poished bright, oil pires, cathureter, etc., plated aluminium discs, T.T. burs, Feder griss, new trip specdometer at zero, dissolved actrible linking outlit, horn, watch, very smart, certest £135; will jide anywhere oeur London to tiem.—Thouse: Kingston 225.

DUZMO 3½h.p. Single and 8h.p. Twin. Orders in strict rotation. Deliveries commence All Lancashire and Cheshire enquiries to Each and Seed, 16, John Dalton St., Manchester.

Edmund.

EDMUND 25(h.p., 2-speed gear, latest model, sprung frame, not run 20 miles,—Feuwick, Dalston, Cumberland. [X2535]

We are actually the largest buyers and sellers of first-class machines in London. If you are in need of a really first-class 1920 model, call on us, and you will get a quicker delivery than elsewhere. Every machine quoted below is for immediate delivery.

COMBINATIONS.

20 MATCHLESS Combination. Just delivered. Spare wheel, wind screen. Offers 1920 8 h.p. ENFIELD Combination. Just

1920 to h.p. HENDERSON Combination, sporting Sidecar, T.T. bars, disc wheels, electric lighting Offers

1920 6.h.p. ENFIELD Conabination, Lucas dynamo lighting set, wind screen

1919 3 h.p. SUNBEAM Combination, complete with electric lamps and . . Offers

...... £16S 1918 HARLEY Combination, fitted with 1920 dynamo lighting set. T.T. bars, sporting Sidecar. Real hot lot . . . £165 r6 6 h.p. ENFIELD Combination, Lucas dynamo lighting set £135

Brand New BLACKBURNE, 4 h.p. List price 1920 Brand New 4 h.p. twin horizontally opposed HARLEY List 1920 7-9 h.p. electrical model HARLEY.

1920 TRIUMPH, countershaft model ... Offers 1913.3 h.p. twin ENFIELD, speedometer,

lamps, and horn, original tyres, ex-ceptional condition 1919 3th.p. sporting SUNBEAM, racing cams, specially tuned by Sunbeams. Offers 1917 3 h.p. SUNBEAM, lamps £75

1920 DIAMOND, 24 h.p. J.A.P. engine, Enfield 2-speed gear List price 1917 8 h.p. ZENITH, countershalt model, excellent condition £87

CALTHORPE, 10 h.p., special racing Brooklands model, almninium body, bucket seats, Brolt dynamo lighting set, exceptionally smart-little car ... £453 1916 Baby PEUGEOT, limousine, interior drive, upholstered Bedford cord, 3-sp. model, electric lighting £28)

We are London Agents for the famous CASTLE 3-wheeler, complete with dynamo lighting set, £259. Early deliveries guaranteed. We are also London Agents for the HEN-DERSON Elite Sidecar. Deliveries commence this month.

J. SMITH & CO.,

16, HAMPSTEAD ROAD, LONDON, N.W.11.

MOTOR CYCLES FOR SALE.

Enfield.

E^{NFIELD} 1914 Combination, splendid condition; £110.—Holden, West Wickham, Beckenham, Kent. [5787

ENFIELD, 3h.n., 2 speeds, kick starter, good tyres, reliable machine; £38.—72, The Chase, Chaphan. ENFIELD 1916 3h.p. Combination, fully equipped \$275.—Stevens, 38, Endlesham Rd., Balham

ENFIELD Combination, 1913, recently overhanded, Explended condition; £85.—85a, Temple Rd., Chekbergood

JONES' Garage, special agents for Enfields, Browney Muswell Hull, N.10, and Woodsde Para North Finchley.

ENFIELD Combination, 8h.p., 1916, as new, little used.—George Smith's Motor Cycle Depot, Chap-ham Junction, S.W.

ENFIELD, brand new, 2-stroke, 24/h.p., 2-speed, makers' price; £63.-Wilkins, Simpson, and opposite Olympia, London.

3 h.p. Enfield, 2-speed, kick start, lamps, horn, splendid vondition: 60 gns.—Beeden, 12, Coronation St., Darfield, near Barnsley. [7675

ENFIELD Combination, 1916, as new, £10 accessories; £128: exceptionally powerful, Bosch.—4, Nursery Walk, Worester.

19 Royal Enfield, 2-struke, 2-speed, perfect conditions of £58; first cheme secures.—Vincent, 82, Westlode St., Spalding, Lines.

Rentique St., opinning, Liurs.

ENFIELD 2²(b.p. Trin, Boach, looke like new; must sell; £30.—Letters, L. Housley, c/o Mrs. Smith, Brinsley, acer Eastwood, Notts.

ENFIELD Combination, 5h.p., late 1916, Lacque dynamo lighting, 3 lamps, excellent condition; £135.—Lyons, 136, Lombeth Wolk.

19¹⁷ 8h.p. Twin Enfield and siderar, complete with lamps, good condition: any reasonable trial: £135.

—de Meric, c/o Dan Guy, Weymouth. [X2518]

Enfield 1912 25th.p. Twin, chain drive, not used for 4 years during war, splendid coadition; £30, no offers.—Hurdy, Teviot-Dale, Stockport. [7691

5-6h.p. Eafield, fitted with conchbuilt sidecar, combination in nice running order; £160.—Apply, King and Harper, 6, Bridge St., Cambridge. [6885]

Enfield 6h.p. Combination, appearance as new, ready for any tour; £100.-56, High St., Tooting. [7992

ready for noy tour; \$100.-55, Ingn 51, 100.000.

ENFIELD Sh.p., 1916. 2, speeds, K.S., new tyre, horn, gear chains, saddle, as new; £56, or near ofter.—Andrews, Wingfield, Penn, Wolverhampton.

ENFIELD Combination, 6h.p., late 1913, 5ciles, seat in sidecar, Lamps, horn, and tools, excellent condition; £85.-120, Estcourt Rd., South, Norwood, 100.000.

ENFIELD 1920 Braud New 6h.p. Combination, never ridden, exchange late Morgan, or sell; offers.—C.S., 14, Swaton Rd., Bow, E.3. Tel.: E3155.

ENFIELD Combination, 8h.p., Nov., 1918, only does 400 miles, as new, complete with lamps, tools, etc.; £140, no offers.—Jones, Cardigon House, Garsei-

ENFIELD Combination, 1914, in perfect order, new Dunlop, lamps, spares, sidecar repainted; £95, or near; seen any time.—Box 6,669, c/o The Motor Cyale.

ROYAL ENFIELD 25th.p. Twin, chain drive, Bosch nag., B. and B. carburetter, ready for the road; £25.-W. T. Owen, Glascoedisuf, Llanarthney, Car-

ROYAL ENFIELD, 3h.p., and Watsonian sidecar, 2 speeds, kick start, new tyres, smart combination, recently overhauled; 64 gns.—Larkhall Brewery, [8034]

ENFIELD 1914 6h.p. Combination, excelled condi-tion, laid up 3 years, launs, born, tools, spares, extra cover and tube; £120.—Arscott, Eastway Farm, Witheridge, Devon.

WAUCHOPE'S, 9. Shoe Lane, Fleet St., Loudon, —1918 8h.p. Royal Enfield combination, £165; 1917 combination, £155: 1913 or 1914, £87/10; 1919 8h.p. combination, £167/15.

ENFIELD, 1916, 3h.p., 2-speed, kick start, lamps, lorn, tools, mirror, stored, appearance and condition as new, coly done 500 miles, ride away; 60 gns.—Taylor, 96, Wellington St., Gravesend. [7861] Dh.p. T.T. Eofield, 1915, 2-speed (unused 5½ years during war), complete with lumps and tools, etc., perfect condition, verr sporty model; 55 gas.—E. Ruti-ren, Beausite, c'n Sussex Rd., Sideup Hill, Keut. [7591

ENFIELD Tandem Sidecar and bood, pillion seat, specdometer, 700×50 tyres, Iully equipped, and just overhanded and rebushed, outh in prefet condition: \$152/10.-764, Seven Sisters Rd, N.15. (7608

belland. Enfield. (X253)

Enfield. (X253)

Engine—Moss, Wen. (1909)

Enfield. (X253)

Phone No.: Museum 3419

The spine—Moss, Wen. (X253)

19 18 shp. Royal Enfield Combination for sale; (X254)

19 18 shp. Royal Enfield Combination for sale; (X254)

Enfield. 2-troke, engine overhauled, owe piston and free shifts and f

Excelsior.

19 20 British Excelsior 6h.p. Combination, 3-speed, countershaft, in stock; £150.—C:ifford Motories, Eastwood, Notts. [8080

2 3h.p. Excelsior, mechanically, sound, wants new tyres, 24 belt, and accumulator; £7 for quick sale—Barredt, Swavesey, Cambs. [22503]

A WERICAN Excelsior. New Model 19 and 19E. new on view—Sole Midland distributers, The Premier Motor Co., Aston Rd. Birmingham.

L'ANCASHIRE, Cheshire, North Wales, Isle of Man odly.—American Excelsior; eqquiries.—J. Blake and Co., Official Dealers, Liverpool-Manchester. [6586 and Co., Ollician Dealers, Liverpoor-Marchessen, Loud-A MERICAN Excelsion 1915 C.B. Combination, A 7-9h.p., clutch, kick start, electric lights, plate glass wind screen, step to sidecar, excellent condition; £125.—Hawkes, 77, West Green Rd., Toticahara,

THE New 1920 American Excelsior represents the best value for money on the market. Book now for early deliverys, fitted with Swan de Luxe sidecar.—Edwards and Purry, 4. Bleaheim St., Bood St. Maytair 2666.

BRITISH Excelsior.—We can give delivery from stock of the British Excelsion 2-etroike, 2-speed, like starter, hand-controlled dubth model; £69174, Austrian Excelsion 7-9h.p. in January.—For field Motors, 11.12, Fordfald Pince, Leanington Spr. (122649)

A MERICAN Excelsor 1916 Combination. 7-9h.p., raccha's speeds hand and foot clutch, kick starter, raccha's speeds hand and foot clutch kick starter, raccha's speed hand foot clutch kick starter, raccha's speed hand foot clutch kick speeds hand foot clutch kick starter, raccha speeds hand foot clutch kick speeds hand foot clutch kick speeds hand foot clutch kick speeds h

YOUR Name can be first on our waiting list for the 1920 British Excelsion. We have just started businesses. The started businesses with the started businesses with the started businesses. The first cheque for 25 we receive and deposit will secure the order for the very first machine we receive, and all applications dealt with in strict rotation; any model.—Hubert Turner and Co., 4-5, Crawford Passage, Faringdon Rd., E.C.1.

E.N. 24; F.N. 3½h.g., ciutch, fast, good order throughout, ride away.-103a, High St., Waadsworth,

N., 2½h.p., 2-speed, just overhauled and rebushed, tyres good; £30.—Keen, 101, The Avenue, West [8044 Ealing. F.N. Show Models on view, the 4-cyl. model £135, and the 234h.p. £85.—Frank Whitworth, Ltd. 139, New St., Birmingham.

7 h.p. F.N., 4-cyl., and 2½h.p. 2-speed, new 1920 models. Orders now booking Binningham only.— The Premier Motor Co., Aston Rd., Birmingham. [7709

T.T. 5-6h.p. 4-cyl. F.N., sloping top tube, large tapered tank, long exhaust, all red, gold lining, hot stuff mount; £40.-2, Bleaheim Gardeas, Wallington. [8114

F.N. 2½h,p., new C.A.V., Amac, and horn, new Dunlop on back, new A.B.C. lamp set, good crder, ride away; £26.—Murray, 42, Myrtle St., Bedminster, Bristol.

F.N. 5h.p. 4-cyl. cycle with new coachbuilt sidecar, 2-speeds, plate clutch, shaft drive, 2 drum brakes, speedometer, 4 covers, 5 tubes, all unpunctured; machins was practically rebuilt last August by the makers, and is in perfect order; £80. Seen by appointment only.—Hall, The Tyrrells, Great Hockham, Surrey.

Barley-Davidson

Harley-Davidson.

JACK HEALY, Cork, official Harley agent-tational delivery. No premiums accepted. [6 19 19 Harley-Davidson, electric equipment, excellent condition; £140.—C. E. Lovick, Crowthorne, [X2510]

Berks.

HARLEY-DAVIDSON, Model F, solo, ia stock: list
price; carliest delivery of complete combinations.—Edwards, 7, Exhibition Rd., South Kensington.
[5760]

HARLEY-DAVIDSON Combination, 1915, in except lent condition; 2106 for quick sale, spot cash.—
The C.G.L. Engineering Co., Swanley Junction, Kent. (7973)

NEW 1920 Sporting Harley-Davidson Combination, Price 2210.—Seen, Middlesex Autocar Car, Co., Golders Green.

Green.

ARLEY-DAVIDSON Combination, late 1915, bulbous back sidecar, hood, screen, lamps, corn, etc., perfect order; £120.—Fox, 41, Greencoxt Place, Westminster.

HARLEY-JAVIDSON Combination, 1915 electric model, 3 electric lumps, electric horn, disc wheels, 1915, Brown, 7, Manor Park Parade, High Rd., Lee, S.B. HARLEY-DAVIDSON 1920 Model, F.S. mag, in stock, fitted with speedometer, lamps, Klaxon; second-hand Triumphs wanted.—Goodwin and Cragg, Stafford St., Berby.

[X2593

10 18 (late) Harley-Davidson and Right-hand Signature tyres 3 weeks ago; combination £155, solo £155, solo £155, perfect order.—123, Amesbury Av., Streatham [Hill.]

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"Elite Rivetless Soles."

Soles STUCK ON-NO TOOLS REQUIRED

These Soles are specially prepared with an adhesive surface and fixed with Elite Sol-fix Solution. WE GUARANTEE THEM TO HOLD AS FIRM AS RIVETS OR SEWING. The process of fixing

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H.B., 1920, brand new, 25th.p., 2-speed, with Black burne engine.—Moss, Wem. [X2651

H.B. 1920, 23/thp. Blackburne engine, 2-speed, kiel starter, 85 gns.; early delivery from sole district agents, Joseph Devey and Co., 50, Darlington 8t, Wolverhampton. Tel.: 606.

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L ANCASHIRE, Cheshire, North Wales, and Isle o Man-Enquiries for Henderson 4-cyl. wanted.

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23h.p. 1915 Hobart-Villiers, 2-stroke, 2 speeds, fully equipped, and in splendid condition; lowest £38 -24, Manby Rd., Newtown, Stratford, E.15. [7526]

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Thomson-Bennett, Anuc, kupps, horo, excellent condition; £39; any trial; approval.—Gibbs, 58,
Ashd.wn Rd., Worthing. [7810]

Humber.

L ATE 1919 Twin Humber, Z-speed, as new, 23 Cower, Millers lamps, tools: £95.—Allens, Ledbury. [X2438 HUMBER 31/2h.p., grand machine; £37; approva

WAUCHOPE'S, 9, Shoe Lane, Fleet St., L. -8n.p. Humber combination, twin, 1919;

HUMBER Lightweight, good condition, ru order; £20; after 6 p.m.—96, Belgrave Ed., stend, E.11.

stead, E.11. [7650]

H UMBER, 1914, 3-speed clutch, bick start, large, the start of condition excellent, 245.—Write, Geoch, Kenilworth, Newburgh Rd., Acton. 17606

H UMBER 3½hp., 2-speed, handle start, semi-T.T. hars, new reur Danlop, fice condition; ride away; nearest 245.—168, High Futter, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1970, 1

1917 335h.p. Flat Twin Humber, mileage guaranteed under 1,500, condution as new: £85; reason for selling, have bought sideour machine.—Mrs. Knowles, Gissing Hall, Diss.

HUMBER Combination; 1914, 3½h.p., bandle start; 2-speed, complete with lamps, speedometer, tools, and spares, all guaranteed; £70 quick sale.—Hansford, 11, Bechive Cottages, Wickham Rd., Fareham. [3016]

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INDIAN 1920 7-9h.p., dyname lightiag, Indian best siderar, new, in stock, not ridden; offers.—29, St. Leonard's St., Bromley-by-Bow. [8182]

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all necessives and quantity spares, sponting model sidecar filted Orto head, side cuttains, Orto screen, side
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[752]

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IXION, 1915, 2-speed, lamps, horn, speedometer, tools, tyres good; £45.—Ring up Bromler 1930.
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James.

A LL James Models at Blackburn and Sons, Station Garage, Spalding, Early delivery. [7918] H ONOR Oak Motor Mart.—Immediate delivery James models.—129, Brockley Riee, S.E. 23. [7733

5-6h.p. James Sporting Outfit, new Aug., discs, screen, etc.; seen appointment.—Wills, 2, Denning Rd., Hampstead. [7771

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JAMES New 1920 314h.p. Twin in Stock, 3-s.
all-chain drive; £115.—Edwards, 7, Exhib
Rd., South Kensington.

JAMES 314h.p. Twin Motor Cycle, 3-speed, clutch, kick start, just delivered; list price £115/10.-E. J. Gittius, Ltd., Oswestry. [7533

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JAMES, 4½hp., 2-speed, countershaft, chain drive,
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JAMES Combination, 1915, 4h.p., 3-speed, pedal start, new Dunlops, C.B. sidecar, accessories, cools, etc., splendid turnout, must sell; £80, or offer, 1, Melrose Terrace, W.6.

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James.

4 h.b. James and Sidecar, 1916 model, 5-speed, furth, kirk starter, Earling wind setten. Steward speed, speed to the start speed of the start spee

5 6h.p. Twin J.A.P., 3-speed, 1916 J.A.P. engine, just overhauled, speedometer, horn, nearly new tyres, the whole in perfect running order, painted red; £85.—Tupling, The Bars, Chester. [X2022]

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LEVIS Popular, 1916, perfect running order; as new. —George Smith's Motor Cycle Depot, Clapham Junction, S.W. [8223

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L.M.C.

2 h.p. L.M.C. Motor Cycle, mag., running orde 2 £23.—Retcliffe, Gt. Holland, Essex. [815

19 19 41/h.p. L.M.C. Combination, used 42 miles cost £123, accept £115; correspondence invited. Box L6,559, c/o The Motor Cycle. [747]

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MATCHLESS Combination, 1914, 3-speed, ir god condition; £80 for quick sale.—Davey, 16, Hfg St., Brentwood.

JONES Garage, special agents for Matchless, Brot way, Maswell Hill, N.10, and Woodside Para North Finchies. [00]

MATCHLESS Combination, 1913, 8b.p., 2-speed just overhauled, complete with lumps, etc., £80-Slingo, 11, Hythe Bridge St., Oxford. [X258

REX G. MUNDY, Matchless expert, now be orders for early delivery at list price of famous combinations.-10, Dean St., W.1.

MATCHLESS 1920 Model H Combination, new, i stock, list price, no premium; £176; order nov -29, St. Leonard's St., Bromley-by-Bow. [818]

WE Are Accids for the Matchless. Place for coder with ns to secure good delivers.—Appl. King and Harper, 6, Bridge St., Cambridge. [766] MATCHLESS 6-8h.p., o.b.v., single sear. T.T. mod long exhausts, lamps, tools, new Dunlop bac sporting mount; 245.—Seen Woottens Garage, High S Oxford.

MATCHLESS, 1913, 6-8h.p., free angine, 2-spec th hub gear, just overhauled by makers, tyres, belt etc., in good condition; £60, or effer.—7, Bellende Rd., Peckham, S.E.

19 20 Model H Matchless (two combinations), deliver Jan, and Feb., standard equipment; advertise first on agent's list; 180 gns. each.-4, Napier R Weimbley, Middlesex. [772]

B24 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Matchless.

MATCHLESS Combination, 1916, 8-10h.p., Bosch, Amac, Matchless viniable gear, very last and poundful, mechanically perfect, torpedo body sideent; 290.—Cardy, 39h, Broad St., Canterbury. [7787] .. Bosch,

MATCHLESS 1920 Model II Combination.—We are now booking orders for very early delivery. Call and see the model in our showroon.—Wilkins, Simpson, and Co., opposite Olympia, Loudon. [6855]

MATCHLESS.J.A.P. Combination, Sh.p., 2-speed, coachbuilt, lamps, horn, apron, wind serven, speedometer, very good tyres, real bargain; 250, for quick sale,—Howe, 19, Park Avenue Senth, Grouch End, N.S.

MATCHLESS Model II Combination, dynamo Right-ing, fully equipped. Book now for early delivent. —Authorized Loudon agents, Vivian Hardie and Lame, Ltd., 23, Woodstock St. (off Oxford St.), Bond St., Wil-Pilmone: Mayfair 6559.

1914 Matchless-Jap, 5-6h.p., latest Zenith earbu-retter, Bosch, fully equipped, spare tube, drip lahirator, tank re-enamelled makers, good sporty looking Fike, fast and cound; 255, or best offer-thomestead, Birchington.

MATCHLESS.—We held a large contract for the Model H spring frame combination, so can give good deliveries. Note London-Exeter results—7 gold and 3 silver medals; book now for spring delivery.—Edwards, 7, Exhibition Rd., South Keasington. [8219

MAYCHLESS Combinations—Book your orders only from T. J. Ross, 66. High Rd. Lee, S.E., for 1200 apring frame 8h p. Matchless combinations; a H model always on view at above address. Deliveries guaranteed strictly as per order received. Retail price as rating at time of delivery.

MATCHLESS Combination, bought new in 1912, dept. Speed, countershaft, 81,n. JA.F. engine, 4 detects, and rear lamp, only been 500 miles, and guaranteed perfect; best offer over £150; Cambridge-shite.—Box 8,726, c/o The Motor Cycle.

MATCHLESS Combination new in November, 1918 of types good, spure wheel linguage carriet, Inseliend, side, and tall lanus, Educate horn, mirror, even sidecar springs, very carrefully used, complete, and raying to go anywhere; £150.—Julians, 84, Broad St., Reading, Phone 1024. Biggest dealers in the South. [0076]

Mend.

MEAD-PRECISION 2!2h.p., 2-speed, very good condition.—Higgins, Beeches, Penyffordd, Chester. [X2600

Metro.

Phone: 5392.

METRO-TYLER,—Enquiries from Liverpool
district invited by J. Blake and Co., 110.
Bold St., Britain's premier meter cycle saloen. [6]

METRO-TYLER, 2-speed, 2-stroke, disc wheels; cost £68, unridden; £62; sent "Motor Cycle" deposit system it desired.—Box L6,540, c/o The Motor Cycle, 17428 system if desired.—Box 10,000, [7478]

METRO-TYLER, 1919 (Nov.), 2½,h.p., 2-stroke, disca optional, ridden only 100 miles, better than new; £52, or offer.—Pressland, Larkhill Post Office, Salis-

METRO-TYLER, new models; we can give early deliveries of this super 2-stroke motor cycle.—
Elce and Co., City Agents, 15-16, Bishopsgate Av.,
Camonille St., E.C.3. [0067

METRO-TYLER.—1919 Sporting Metro, disc wheels, perfect order; price 242; viewed evenings or Saturday afternoon.—Wilkin, Rathmell House, Heathgate, Golders Green, N.W.

Minerva.

MINERVA and Sidecar, in running order; bargain, 1218.—North, 41, Montpeller St., Brighton. 7843 3h.p. Minerva, Dixie nage, Amac, overhauled, good running order; 225; any trial-Goodall, Coptone, Chase Rd, Epson.

thorne, Chase Rd., Epsom. [8164]
3 lb.p. Minerva, low, sporty machine, adjustable 22 pulley, lamps, horn; £26/10.—10, Upper Park Rd., New Southgate, N.11.

4½h.p. Minerva, clutch, drop frame, new tyres, Bosch mag., T.T. bars; £36; trial given.—39, Borroduile Rd., Waadswerth, S.W.18.

- Monopole.

19¹⁶ Menopole, Sun-Villiers engine, Senspray car-huretter, excellent condition; £40.—Rusholme, Osbaldwick, York.

Motosacoche.

MOTOSACOCHE 3½h.p. Twin, Enfield 2-speed gear, overhauled, hew tyres and chains; £60.—Frost, Dunton Green.

Ohn, Micsaccobe, 1914, twin M.A.G engine, 2-25 speed and clutch, witerproof Bosch Annae, Inug-plated exhaust, Lucas Kung plated exhaust, Lucas Kung horn, teols, spares, splendid condition, carefully stored durine war, tyres excellent: £55.—70, Names R Sparkbill, Birmingham.



Fig 893. Headlamp, 63 :-

IMPORTANT NOTICE WILL ALL CUSTOMERS KINDLY NOTE CHANGE OF ADDRESS

Fig. 573. 9/6

THE REMOVAL from 115-117, Cannon Street, E.C.4, has been rendered necessary owing to the enormously increasing demand for H.A.H. Accessories and Specialities, and, in view of this, New Premises and Works have been specially built in order to

INCREASE PRODUCTION

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FULL SATISFACTION by EARLY DELIVERIES.

THE NEW PREMISES are 7 minutes' walk from East Croydon Main Station (L.B. & S.C. Railway and S.E. & C. Railway) which is 20 MINUTES FROM London Bridge.

ALL GOODS should be addressed as below and consigned to East Croydon Main Station,

A. H. HUNT, H.A.H. WORKS TUNSTALL ROAD, CROYDON. ENG.

2225 & 2226.

Telegrams: CROYDON

MOTOR CYCLES FOR SALE.

New Hudson.

NEW HUDSON 2-stricke, 2 speeds, lamps; £33,-39, South Parado, Oxford. [8103 NEW HUDSON 1912 4h.p., splendid condition.-109 St. James' Rd. 'Phone: Croydon 1087. [751 NEW HUDSON, 2-stroke models, immediate delivery at Blackburn and Sons, Station Garage, Spald-[7919

NEW HUDSON 2-stroke, single speed, sple condition, trial given; £32.-352, Richmond Twickenham.

2 h.p. New Hudson-Jap, 1914, 3-speed, clutch, just 2 overhauled and re-enamelled; 43 gns., no offers.—Hammond, Waterloo Rd., Shepton Mallet. [X2559]

11 minimum, Witterhoo Rd., Shepton Miniet. [22339]

19 19 New Hudsen, has only run 32 miles, owner a cordered abroad, full kit of tools and Laren lamps; 100.—Joyce Bros, Ltd., Farnboroogh, Hants. [7576]

NEW HUDSON 245h.p., 1914, excellent minimum order inspection Studyn between 11 and 4; nearest £32.—1, Heath Munsions, Putney Heath Lane, S.W. [7886]

NEW HUDSON Coachbuilt Combination, 35,4h.b., Armstrong 3-speed and clutch, 1914, in excellent chultiton; 280, or mear offer.—Sibson's Garage, 7a, Wellington St., Leicestra

NEW HUSSON Combination, 1919, 3-speed counters, shaft, kick start, Montgomery sidecar, Lucas, Dunlops, all accessories, tools, must sell; £120, or offer.—I, Melrose Terrace, W.6. NEW HUDSON Big Six Combination, 1914, 3 speeds bick start and clutch renewed recently. Bosch

NEW HUUSUN BIG SIX Combination, 1914, 3 speeds, kick start and clutch renewed recently. Bosch mag., lamps, horn, new Amac, hood and wind screen, 5 spare covers, outfit enamelled grey, a bargain 480; write, appointment.—John James, Junction 1nn, Wombwell, Barnsley.

New Imperial.

CROW Bios., High St., Guildford, have contracted largely for 1920 New Imperials. [X7946]

HONOR Oak Motor Mart.-Immediate delivery New Imperials.-129, Brockley Rise, S.E.23, [7734 Acw Imperials—129, Brockey Ries, S.E.S. (1734)
NEW IMPERIAL, believed 1917, 25thp. J.A.P., 2Speed, Amac. E.I.C., new condition; 243,—63,
633,
19 15 25th.p. New Imperial-Imp. 2-speed, all accessories; 245; perfect condition.—75, Aubery Rd.,
Small Heath, Birmingham.

Small Heath, Birmingham. (X2611 19 15 New Imperial, 2-speed, very little used, original tyres, lamps, and horn; £48; owner buying car.— Rushqhne, Osbaldwick, York. (X2466

NEW IMPERIAL J.A.P., 25th.p., 2-speed countries shart gear, in splendid condition; £50.-65, E red St., Kennington Cross, London, S.E.

red St., Kennington Cross, Lordon, S.E.

YEW INDERIALJAP., 2[5], p., 2-speed, good condition, engine just overhauled by makers; £30.—

Norman, Normanhurst, Rustington, Sussex. [7717]

WE Are Agents for the New Imperial. Place your order with us to secure good delivery.—Apply.

King and Harper, 6, Bridge St., Cumbridge. [7666]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 8h.p. New Imperial and sidecar, new, immediate delivery, £165; 2½h.p. New Imperial-Jap, £47/10. [8307 23h.p. New Imperial, 1919, 2-speed, clutch and kick 4 starter, lamps, mechanical horn, and spares, as new; £63.—Harrison, 20, Rosedew Rd., Fulham. [7727]

19¹⁹ New Imperial, 2¾h.p. J.A.P., 2-speed, clutch, kick start, spares, very little used, excellent machine; £65.—8, Garlies Rd., Forest Hill, S.E.23.

10 16 New Imperial Jap 2 1/1, p., E.I.C. Amac, 2 speed, recently overhauled, absolutely reliable, genuine, go anywhere; £47/10.—24, Page St., Westminster, S.W.1.

19 20 Sh.p. New Imperial-Jap, just delivered, 5-speed, chitch, kick start, all accessories; deliver reasonable distance; 2140, or offers.—2nd Ltd. F. Moss, R.A.F., 158, North Rd., St. Helens.

NEW IMPERIAL 8h.p. Combinations, new W.D. models, in stock: £135 cash, or £35/2/6 and 12 monthly payments of £3/1/8.—Elce and Co., 15-16. Bishopsgate Avnue, Camomile St., E.C.3. [0066]

NEW IMPERIAL 8h.p. Combination, W.D., brand new, £135; several in stock; exchanges or de-terred payments considered,—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. [8273

Norton.

CROW Bres., High St., Guildford, Norten agents Let us reserve you one. [X7947 JACK HEALY, Cork, official Norton agentional delivery. No premiums accepted.

NORTON 1919 Road Racer, knee grips, hora, tools, like new; first cheque £92 secures.—W. Wells, Meadowcroft, Ripen. [7683

19 20 Norton Big 4h.p., 3-speed, semi-T.T. birs, each closed chain, only done 10 miles; £130; owner taken delivery of car.—Bayly, 31, Wood St., Swindon. Thoue: 102.

N.S.U.

FOR Sale, 214h.p. N.S.U., 2 cyls., just thoroughly overhauled, splendid condition; £25.—Dearlove, Burnt Mill, Essex. [7684

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. A33

MOTOR CYCLES FOR SALE. N.S.U.

N.S.U. 31/h.p., grand machine; £27; approval paid.— Frederick, 3, Priory Plain, Gt. Yarmouth. [7529 N.S.U. 5-6h.p. Frame, tank, F.E. clutch, Bosch mng., Amac carburetter, front cylinder missing; £12.-A. J. Allen, Brookend, Sharpness, Glos, [8099]

N.S.U. 6h.p. Twin, £28, bargain; also 414h.p. sir and sidecar, powerful Grado machine, Bos £35.-12, Cheshire St., Bethnal Green, E. [7]

235.—12, Cheshire St., Betinin Orcei, J.
N.S.U., 1914, 2.hp., 4-cyl., 2-speed, mag., bett drive, ran about 5,000 miles, good order and condition; £30.—Goodwin, 1, South Bank, Northenden Rd., Sale, [7648]

JACK HEALY, Cork, official N.U.T. agent.-Rota-tional delivery. No premiums accepted. [6489 STANLEY RUSSELL, Newport, sole Isle of Wight agent for N.U.T. motor cycles; early delivery. [5295]

N.U.T., believed 1914, 3½h.p., 3-speed, K.S., 100 m.p.g., will do 5 or 55; £55, or would exchange good combination, cash adjustment.—Hazelwood, 27, Doggett Rd., Catford. * [7865]

N.U.T.—Sole agents for Staffordshire. For particulars of plices and deliveries, watch future announcements.—The Walsall Garage, Wolverhaunpton St. Walsall. Tel.: 444.

N.U.T.JAP 6-3h.p. twin, o.h.v., splendid condition, new tyres, helt, etc., just been thoroughly overhauler, very fast; £68; no offers, privately owned.—Ward's, Larkhall Lane, Clapham. (7496

N.U.T. 1915 4h.p. Combination, twin, 5-speed, kick start, new tyres, belt, and lamps, speedometer, Klaxon, engage rebusied, new piston litted, spottag sideern, all good coadition; £80.—Foster, 468, Holdeo-harst Rd., Bournemout.

N.U.T. 1920 Model Sysh.p., Lucus dynamo lighting, electric horn; 140 gas, complete.—Authorised Loudon agents, Vivian Harde and Lane, Ltd., 24, Woodstock St. for Oxford St., Bood St., W.I. Phone: Maylair 6559. Book now for early delivery.

O.K. Junior, 21/25.p., 2-stroke, good condition; £30, or near offer.—Sewell, Brampton, Huntingdon. [X2604] O.K. Junior, 4-stroke, 2-speed, engine recently over-hauled; £35.—Apply, Parker, 147, Pretoria Rd., Romford. [8163]

O.K.—New 2-speed 2-stroke, Villiers, in stock.— Chandler, Reyre and Williams, Hitchin, Herts. Phone: 165 Hitchin.

JONES' Garage, special agents for O.K. machines, Broadway, Muswell Hill, N.10, and Woodside, Parade, North Finchley.

A DVERTISER has first place on large agent's list for O.K. Union 2-stroke; willing to substitute name. No premium.—Box L6,546, c/o The Motor Cycle. [7484 1916 O.K. Junior 2½h.p. 4-strcke, 2-speed model, perfect condition; £38, bargain; after 6 p.m. -2, Harewood Rd., Collier's Wood, Merton, S.W.

O.K. 1916 2½h.p., 2-speed, splendid condition, ruading order, lamps, aluminium footboards, Amac carburetter; 41 gas.—1, Rosehack Villas, Friern Park, North Fischley.

O.K., 1916, countershaft 2-speed, clutch model, 2-stroke, long exhaust, practically new tyres, laups, horn, pump, tools, handle-bar mirror; £40,-Rackham, Clavering's Farm, Bouoces Rd., N 9.

Omega.

STANLEY RUSSELL, Newport, sole Isle of Wight agent for Omega-Jap motor cycles; early delivery OMEGA-J.A.P. Model de Luxe and 2-speed Models: 72 gns. and 64 gns. respectively.—Stocked by Lloyd and Son, 29, Station St., Lewes. [9584]

P. and M.

BLACKBURN and Sons, Station Carage, Spalding, for P. and M.'s. [7920 P.M., late R.A.F. model, 2 speeds; £64.-Hole, 129, Park Lane, Carshalton. [8116

CYRLL WILLIAMS, for early delivery of P. and M.'s.-Ch. pel Ash Depot, Wolverhampton. [X8624]

P. and M., 414h.p., 2 speeds, kick starter, 1918, not been used much; £78 lowest.—82, York Rd.,

P. and M. Coach Combination, 1915 model, moderate use; £89/10,—Halifax Motor Exchange, Union St. South, Halifax. [7798

19 P. and M., brand new, still in crate, 2 speeds, clutch, etc.; £105; Cambridgesh Box 6,725, c/o The Motor Cycle.

D. and M. 1919. excellent order, not an invariant machine, lamps, horn; £88. Edwards, 7, Exhibition Rd., South Kensington. [8218 1919]. And M. Combination, in very nice order, 1916. Bishopsate Av., Camemile St., £126.—Elre and Co., 1816. Bishopsate Av., Camemile St., £C.5. [0071].

SECOND-HAND P. and M. 1919 Combination, absolutely perfect condition; £110.—Saunders, 31, High St., Hampstead, 'Phone: Hampstead 5392. [6842



Colmore Depot

advise you to purchase your new outfit now.

All motor cycles of repute will be more difficult to procure than ever, and prices are certain to advance

Don't pay premiums or high prices for second-hand machines.

4 h.p. Douglas Sidecar

now ready for immediate delivery at the following depots:

31. Colmore Row. BIRMINGHAM.

200, Deansgate, MANCHESTER,

24, Paradise St., LIVERPOOL.

62, High Street. LEICESTER.

Price £145

at Works.

The Famous House COLMORE DEPOT



MOTOR CYCLES FOR SALE.

P. and M.

LATE P. and M. Combination, 3½h.p., 2-speed, 1920 colours, as new, heautiful ontfit. Lucas-accessories; £120, no offers.—565, King St., Hammersmith.

P. and M., 1919, 3½h.p., 2-speed, kick etart, perfect condition, £80; also 1917 ditto, good order throughout, £60.—King, Stores, Peaslake, Gomshall,

19 20 Model P. and M. Combination, 3 Imps, horn all tools, sideoar apron and mat, mileage 100 handsome outfit, first-class running order.—4, Nagel Rd., Wembley, Middlesex. (772)

1919 P. and M. 5½h.n. Combination, fully insured, delivered late Sept., nader 600, lamps, tools, mat, spare tube, gear gun, all accessories; nearest \$1207, owner bought car.—Letters, X., 16, Casewick Rd., West Norwood, S.E.27.

P. and S.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, 2½h.p. P. and S., new 1920, immediate delivery; £67; easy terms arranged. [8300

Peugeot.

PEUGEOT 5-6h.p. Twin and sidecar, mag., B. and B.; £35.-Wells, 289, West Green Rd., N.15. [7608 H.P. Peugeot, Chater-Lea frame, Bosch mag, tyres nearly new, ride away, seen hy appointment; £35; no lower offer entertained.—Blott, Dunmow,

5.7h.p. Peugeot Twin Coach Combination, 2-speed, B.B., practically new tyres and tubes, lamps, horn, speedometer, tools, and spares; £75, or near offer.—Burr, 54, Harder's Rd, Peckham, S.E.1.5.

Precision.

PRECISION Enquiries Invited by J. Blake and Ca., the leading motor cycle experts, Liverpool and Manchester. [6582

4 Ih.p. Prevision, 5-speed and clutch, and Gloría coach-built side-ar, tully equipped, in fine order: £65. - Kirkdale Motors, Kirkdale, Sydenham, S.E.26. 11 hone-Sydenham 739. [762]

Premier.

PREMIER, 2½h.p., everything perfect condition; £50.—Clarke, 59, Holden Rd., North Finchley.

19¹⁴ Premier 2½h.p.; £52; seen before payment.

Bay House, Priory Plain, Gt. Yarmouth. 31.p. Premier, 3-speed, free engine, B. and B.; £32.—Barnett, Ilandore Garage, Stratior-Avon [X259]

PREMIER, 3½h.p., wicker sidecar, Bosch, mag., new cyl., speedometer, working order; £45.—Shaw, 30, High St., Margote. [7757

11h.p: Premier Combination, Bosch mag., 22 magnetised, new covers, tubes, 236.—35, worth Rd., Stratford, E15. 7.9h.p. Premier. Coachbuilt Combination, 2-speed, countershaft, handle start, in splendid running order, any trial; £95.—Brenchley, Crystalate, Golden Green, Tonhridge.

PREMIER. (late 1914) 21/h.p., C.A.V. mag., just heen thoroughly overhauled, condition excellent 5:45 for quick sale.—B. S. Marshal, Ltd., 35-34, Foley St., W. Phone: Maylair 5906.

7.9h.p. Premier Combination, 3-speed, kick start, take 4 any hill; expert examination invited; 290, or near offer: seen Saturday or Snuday; hargain.—152, Duffryn St., Ferodale, Rhondda. [7795

19 4 Premier, 2%h.p., 3-speed, clutch, Bosch, B. and B., just overhauled, mechanically parfect, good condition, good byres, lamps, mechanical horn, and accessories; £45.—208, Broadway, West Hendon, N.Y. Phone: Kingsbury 162.

Quadrant.

QUADRANT Combination, 444h.p., 5-speed, clutch: nearest £75; ride away.—Bishop, e/o Bradford Bros., Boundaries Rd., Balham. (7809

QUADRANT - Immediate delivery of 4½h.p., purpose, 3-speed, £92, or with sidecar £118.-Whitworth, Ltd., 139, New St., Birmingham.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, supply new Quadrants from stock; 1920 models for immediate delivery; solo machines, £95; combinations, £122/10.

Radco.

HONOR Oak Motor Mart, district agents for Radeo, 17735

 ${
m R}^{
m ADCO~1915~Lightweight}$, good condition, been stored, -148, Haydons Rd., Wimbledon, S.W. [7597 TI -148, Hayanas and, Newport, sole Isle of Wight
STANLEY RUSSELL, Newport, sole Isle of Wight
agent for Radeo motor cycles; delivery commenced,
[5298]

JONES' Garage, special agents for Radoo, Broadway, Muswell Hill, N.10, and Woodside Parada.

1918% Radeo, 2-stroke, lamps, horo, 100 m.p.g., ex-cellent condition, perfect running order; £39/10. -Lyaton, Park Crescent, Church End, Finehley, [7958

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

31h.p. T.T. Rex. good condition, Dunlon tyres, alu-2 minimum piston, tools, etc.; £35,-7, Puke St., Leannington Spa. [X2533] Leanington Spa.

REX 35th.p., 1912 model, pertect running order; mast sell, £25, or offer.-D., 102, Southampton Row, W.C. 'Phone: Central 2230. [7536]

Row, W.J. Phone: Central 2230.

21 hp. Rex, Shinus mag., T.T. bans, Wood-Milne trees

21 hp. Rex, Shinus hang., T.T. bans, Wood-Milne trees

ofter-Baxter, 28, dioze Rd, Hackney, [X2593]

PEX de Luxe 6-8h.p., 2-speeds, handle starter,
lamps, horn, 2-scaler sideout, wind serie, wery
powerful combination; £95.—Baker, Crowland, Peterborough.

[7480]

REX Combination, 1914, Bosch mag., Senspray, sidecar de luxe, 6-8h.p., in perfect conditions can be seen at any time; price £100; also F.N. moter bicyclc.-H. J. King, Albury. [7826]

21 h.p. Rex, good condition, pulls well, overhauled, rebushed, new gudgeon pin, cod. B. and B., tyres good, spare belt, tools, horn, pump: £20, or nenest. -Chapman, Electrett Works, Hundhead. [7788] FOR Enriest Delivery of the new Rex Model 77 single or Model 66 V twin, place your order at once with sole Mulland agents, The Prenner Moto Co. Aston Rd., Birmingham. Phone: Central 4310, 17712

Abon Rox, 1914, 2 greeds, free entire, laundle start-ling, 26x21₂ new Dunlops, new belt, Bosch water-tight rang, nuchine throughout new condition, B. and B. carburetter, all necessaries, comfortable conch safe-cur, nuc outlit; bargain, 265,—45, Charles St., stepney,

Rex-lap.

REX.J.A.P. Combination, 8h.p., 1915, C.B. sidecar, wind screen, Stewart speedometer, neetviene lighting, foot-controlled, handle statt, tyres exvellent? £85, or Enfield 3h.p. and cash.—Ashby House, York Ax.

ROC, 3½h.p., 2-speed, variable nulley, free engine, cluteli, Bosch, B. and B., new Avon tyre, nake rood sidecar machine; £28, near.—Young, King St., Bedworth.

Rover.

ROVER: brand new. 3 h.h.p., 3-speed countershaft combination, in stock.-Moss, Wem. [X2655]

ROVER, 315h.p., 1917 T.T. model, very little used: 65 gos.—Larkhall Brewery, Clapham, S.W. [8033

BARGAIN.—Rover 31/h.p., F.E., clutch, good condition, rendy to ride away.—Phone: Western 6261 Rover 5 h.p., 1915, 3-speed, clutch, good condition; £65.-14, St. John's Rd., Boxmoor, Herts

£45.-Rover 314h.p. T.T., F.E., 1914, new tyrbelt.-Warner, 64a, Eynham Rd., Wood W.12.

ROVER, 31/4h.p., 1917, T.T., Philipson puller lole condition; £70, offers. — Atkins, horough.

JONES' Garage, special agents for Rovers, Broad way, Muswell Hill, N.10, and Woodside Parade North Finchley.

ROVER 6h.p. Combination, 1919, naused, not W.D. sidecar; £140.—Cliflord Wilson Mig. Co., 70. Royal Hospital Rd., Chelsea, S.W.3.

ROVER 31/h.p., 1914, 3-speed, clutch, lamps, equipment, excellent order; £49.—Kington, 2, King Edward Parade, Norbury, S.W. [8126 19 Rover 6h.p. Combination, 3-speed countershart, coachbuilt sidecar, excellent condition: £165, or best offer.—80, Aldridge Rd., Perry Barr, Binningham.

19¹⁹ 3½h.p. Rover, T.T., h.c. Philipson, Lucas lamps, mechanical horn, spares, new condition, very fast; £110.—Lucy, Sunnymead, Abbotswood, Guildford.

ROVER Single and Twin Models; a limited number available for next season.—Particulars of delivery dates and prices from Lloyd and Son, 29, Station St., Lewes. [958]

ROVER 31/h.p., new last April, 3-speed counter-shalt, clutch, kick start. Bowden extra air, Stewart speedometer, horn and lamps.—Brown, Beech-

ROVER T.T., 1919, 31th p., mileage under 700, tyres unpunctured complete with all accessories and tools, spare Dunlop belt and valve spring; offers.—Willmot, The csse, Heretord.

ROVER, 1914, 3 speeds, pedal start, clutch, light coachbuilt sidecar, real sporting lot, lovely con-dition; £70: deferred payments arranged.—Bunting's Motor Exchange, Wealdstone. [7825]

ROVER, 1919 (late), 4h.p., 3-speed countershaft, clatch, kick, practically indistinguishable from new, fally equipped, classical machine; 92 gas, Peat, 72, The Chase, North Side Clapham Common. [7943] 72, The Chase, North Side Unpaid Common Now Ye Spots, Boyot, Boys, 1918 Rover 5-7h, D. J.A.P. Noslo, all enclosed chain dive, under 2,000, combete with Lucas lamps, wice used, Lucas and Klaxon horns, tools; first £150 secures.—Batho, Broome, Elestons, Carlotte and Carlotte and

2 Lh.p. Second-hand Rover Combination, 1919 model, in good going order and condition; offered on behalf of a client.—Harrods Motor Showrooms, 116-118, Brompton Rd., opposite Maia Building, London, S.W.1.

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1920 MODELS FROM STOCK

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RUDGE 315h.p., 1912, adjustable puller, good to £30.—Frost, Dunton Green. 19 19 Rudge Multi, only ridden a lew times; £90. Tucker and Co., Highbridge. [X2616

HONOR Oak Motor Mart.—Rudge Multi, immediate delivery.—129. Brockley Rise, S.E.23. [7737

19 19 Rudge Multi, splendid condition; £9 Thompson, Rennington West Farm, Alnw

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31h.p. Rudge Multi, 1915 War Office model, in 2 order, with coachbuilt sidecar; £67/10. Surridge, Ougar, Essex.

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 J.O.M. Rudge, 1919, done 500 miles, £10 worth accessories; £100.—Cyril Williams, Chapel Ask Depot, Wolvethampton.
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 [8236]

R UDGE, I.O.M., 1916, fast machine, excellent condition, usual accessories: £72.—Apply, W. Donslas, 37, Sheep St., Northampton. [7628

1919 31-h.p. Rudge Multi, equal to new, very little idden, spare tube, accessories; seen Saturdays; 86 gos.—Bird, 50, Hillary St., Walsall. [3106]

19 00 5-6hp. Rudae Multi and Rudge sidecar, braud new, awaiting collection from Rudge depot; price £150.—Owner, 190, Plashet Grove, East Ham, E.6.

19 19 Rudge Multi 3!sh.p. Roadster, lamps, sg. and Co., 15-15. Bishopsgate Av., Camomile St., E

1019 5-6h.p. Rudge Multi, done 600 miles, lam mechanical horn, speedometer, condition as new £112.—Wellington, 7, Latchett Rd., Woodford, E.18

19 19 Rudge T.T. Multi, September, P.H. head lamp, Premier horn, Tan-sad and footrests, as new £100. Apply week-ends.—34, Cornwall St., Fulham. [7978 Sidecar, RUDGE 3th.p. Multi with Coachbuilt Sides 1915 model; £80.—Newnham Motor Co., 2: Hamn ersmith Rd., W.6. Phone: Hammersmith 8

RUDGE Multi 3½h.p., 1919 (Sept.), I.O.M., Linus Runge lamp set, mechanical hora, rear light, garranted; 298; evenings.-85, Ermine Rd., Lewisham, 8.E.13.

1917 Rudge Multi, 312h.p., in splendid order, T.T. bars, lamps, horn, and accessories, new back tree, very hot stiff; 473.—209, Broadway, West Hendon, N.W. 'Phone: Kingsbury 162.

don, A.W. Frouge: Kingsoup; A.Z.

19 is Rudge Multi 3/h.p. Combination, hand clutch, tyres, etc., perfect, overlauled, and in splendid condition: £78, bargain—Write, Wilkins, I. Pitcairn Rd., Mitcham, or telephone City 628 for appointment.

5-6h.p. Rudge Multi, late 1914, band clutch, lamps and horn, tyres and belt as new, just fitted with new cylinder, piston, and exhaust valve, in perfect running order; \$75.—Haines, Elm Tree House, Holmer, Hereford.

RUDGE, 3½h.p., and coachbuilt sidecar, N.S.U., 2-speed, new tyres and belt, in first-class condi-tion; £65.—Webber, 97, Haunchwood Rd., Stocking-ford, Nuneaton. [X2508]

YAUGHOPE'S, 9. Shoe Lane, Fleet St. London, —3½h.p. Rudge Multi and sidecar, 1916, £130, change, £75; and 3½h.p. Rudge, £45.

T.T. Rudge Multi, new Nov. last, done 621 miles by Cowey speedometer (included); in perfect condition and has been carefully run in, does over 100 mi.f.g. on petrol; £110.—Capt. Allen, Victoria Hotel, Southport.

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Chelmsford. Works and the first on our waiting list for the 1920 Rudge. We have just started business, 1920 Rudge. We have just started business, 1920 Rudge of the first cheeper that the first cheeper in the first cheeper in the first cheeper the first cheeper that the first cheeper for 2.5 we receive and deposit will secure the order for the very first machine we receive, and all applications dealt with in strict rotation; any model.—Hubert Turner and Co., 4-5, Craw-tion; any model.—Hubert Turner and Co., 4-5, Craw-tion; any model.—Rubert Turner and Co., 4-5, Craw-tion; any model.—Rubert Turner and Co., 4-5, Craw-tion; any model.—Rubert Turner and Co., 4-5, Craw-tion; and the first firs

Scott.

SCOTT, 1920, brand new, in crate; what offers?—Box 6,713, c/o The Motor Cycle. [8247

SCOTT 1916 Combination, first-class condition; £90. -154, Loughborough Rd., Brixton. [8091

19 20 Scott Motor Cycle, just delivered; £115.—Standard Motor Engineering Works, Scarborough. [7531 FOR Immediate Delivery, new 3%h.p. Scott combina-tion.—Wheeler, The Broadway, Newbury, Berks.

19 19 Scott Combination, only done 100 miles; £165.
Apply, H. Dix, Arcady, Highworth Av., Com[5886]

19²⁰ Scott, list price. We can deliver from stock, with best accessories.—Central Garage, Swanage, Dorset. [7525

1916 Sporting Scott, disc wheels, little used, perfect condition; trial; £68.-J. Ivens, Stanmore, Kidderminster.

minster.

BLACKBURN and Sons, Station Garage, Spalding, for Scotts. Book your order and secure early [7917]

\$\mathbb{L}\$45; Scott 35/4h.p., in splendid condition, just over hauled, wants tuning up.—103a, High St., Wands worth, S.W. [819]

19 19 Scott, November, mileage 300, best Lucass lamps and horn, Watford, as new; £125,—8, St. John's Crescent, Cardiff. [8069]

1912 Scott. Binks. spleodid condition, recently thoroughly overhauled, fast; £55; Saturday only.—Seal, 14, Woodend, Sutton, Surrey. [7863] SCOTT, 3\(\frac{1}{2}\)th.p., Binks, Bosch, 2-speed, kick start, new wind shields, gears recently overhauled; £53.—R. Jolley, 15, Park Rd., Wellingborough. [8035]

E53.—R. Jolley, 15, Park Rul, Wellingstone, C. W. AUCHOPE'S, 9, Shoe Lane, Fleet St., London, 3½h.p. Scott, new 1920 model, immediate delivery, £115/10; 3½h.p. Scott, 1910 model, £32/10.

19 19 Scott, new November, ridden 200 miles only, and sidecar; delivery expected shortly; both or separate at cost price.—Major Pepper, Grain Fort, Rochester, [8003

COTT Combination, 1915, in first-class condition, tyres good, electric light, head lump, sidecar lamp, and rear lamp, new chains; any examination; £80.—Bridge, 105, Ingate Rd., Beccles. [7552]

SCOTT, 1913, 1914 and 1915 improvements, excel-lent condition throughout, completely equipped, tyres as new, large quantity of spares; £60.—Bernard, Jacques Court, Elham, Canterbury. [7765

Jacques Court, Enam, Cantertury. [1705]

COOTT Combination, Sept., 1919, electric light all Court of the values at fitted to site-day, Clerken pobladed aluminum discs fitted to site-day, Clerken pobladed aluminum discs fitted to rust; also 33/8 S.C. Drummond lethe, as new; above will be sold to highest offer received first post Saturday, 17th, no reserve.—Lepper, 64, Croxted Rd., Dulwich, E.E.21.

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SINGER, 3½h.p., clutch model, lamps, horn, in splendid order; £50.—Jackson Bros., Horsham, Sussex. [7184]

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1914 (June) Southey-Jap 3½h.p. Twin, 3-speed, clutch, Bosch, Senspray, Dunlops, mileage 7,000, perfect solo machine, last, reliable, economical; 40 gns.—Box 6,728, c/o The Motor Cycle. [8251

Sparkbrook.

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19 Sparkbrook 2%h.p., 2-speed, F.E., lighting set, Klaxon, tools, as new; £60.-9, Temple St., Bas-(X2554)

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D17 Sparkbrook, Villiers 2½hp., 2-speed, real good machine: 245.—Greatrex, Fox Cover, Example 1, Lichfield.

1019 Sparkbrook 2-stroke, 2-speed, new June, 1919, as new, with lamps, etc; 44 gns.—365, King K, Hammersmith.

Sun.

SUN-VITESSE, 2-stroke models, £48/10, at Black-burn and Sons, Station Garage, Spalding. [7922 1916 Sun-Villiers, 27th.p., appearance and running good as new; £34.-Fuller, 1, Victoria Rd., Brighton. [7832

·Sunbeam.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, -4h.p. Sunbeam combination; £165. [8281 SUNDEAM 1918 3th,bp. and coach sidear, wante Sight renovation; £125.—Collier's Motories, Union St. Soutb, Halifax. [7799] SUNBEAM 3th,bp., unused, with lamps and born, seen by appointment; £160.—Salmon, 25, How-land St., London, W. [7497]

4 h.p. Sunbeam, 1916, all-chain drive, 3-speed gear, in good order; £75.—J. Dooley, 33, Killyon Rd., Wandsworth Rd. Station, Clapham. [7986]

10 fr Sunbeam Combination, 3½hp.p., black and gold, speedometer, hora, lamps, new tyres, condition as new; £140, or near offer.—Fryer, 52, London Rd. Twickenham. (7648

19 17 33/h.p. Sunbeam (black and gold), coscibbuilt sidecar, condition splendid, practically new, stored 2 years, Lucas lamps, Klaxon; £120.—Elliot, Ordanae Depot, Chatham.

SUNBEAM 1919 3½h.p., Gloria sidecar, lamps, tools, horn, combination unscratched and perfect, nile-age 400 only; seen any time in London.—Milwad, Trimity, Cambridge.

19 19 3½h.p. Black and Gold Sporting Sunbeam, perfect inside and out, minor 1920 improvements, winner ten gold medials, four cups; £120.—Sucbeam, Inchaoga, Teignmouth.

10 19 (Oct.) Sunbeam 8h.p. with Sanbeam de luxe sidecar, hood, wind sersen, coverall, electric lighting, etc., perfect, few miles only; £225.—The Bungalow, Cinderhill, Nottingham. [7674

SUNBEAM, 3½hp., 3-speed, with coachbuit side-car, speedometer, lamps, horn, etc.; £137/10.— Newnham Motor Co., 223, Hammersmith Rd., W.6. Phone: Hammersmith 80.

19 19 342b.p. Sunbeam Combination, new December 3rd, Klaxon, acetylene lighting, condition as new; owner going abroad; £175.—Lieut. Green Price, M.T. Co., Claydon, Suffolk.

SUNBEAM 1919 Combination, 4h.p., French military Sunded (black), Mills-Fulford Skiff sidecar, lamps. horn, apron, etc., cutilt as new (sidecar unused); 2150.— Arcatt, 64, Holdeshurst Rd., Bournemouth. [X2645 SUNBEAM 8h.p. Combination, new last October, screen, Lucas lamps, Klaxon, spare wheel and tyre, never used under 1,000 miles; 2230,—T. Blyth Clayton, Cannon Passage, Birmingham, (R2613) (R2613)

SUNBEAM Combination, 1915, 3½h.p., in good condition, low mileage, mechanically perfect, recently overhauled, fitted Wattord thry speedometer, Lucas all-black lighting, tools, rump, spares, etc.; price £110, or user offer.—Evans, 211, High Bridge, Lincoln. [7522]

T.D.C. Lightweight 23/4h.p. 4-stroke, good condition; £25, no offers.-4, All Saints' Rd., Westbourne Paik, W.9.

Path, W.9.

T.D.C. 1919 2-stroke, E.I.C. mag., Senspray, Palmers, new Oct., splendid running condition; £40, or nearest.—Apply (arter 6), 91, Goodmayes Lane, Illord, Ifford Trlumph.

TRIUMPH, 1914, 3 epeeds; £54.—Hole, 129, Park Lace, Carshalton. [8117 4 h.p. Triumph, 3-speed, 1916, as new.—Dodd, 104, Plough Rd., Battersea. TRIUMPH, 4h.p., countershaft: £72/10.—10, Crowberough Rd., Tooting, S.W. [X2636

19 19 Baby Triumph, brand new, still in crate; £68. —Box 6,682, c/o The Motor Cycle. [7883

3½ to 4h.p. Triumph, good running order; £40.— Webber, 15, Bath St., Abingdon. [8005] TRIUMPH, 1918, countershaft, good condition; £78, -22, Princess Rd., Finsbury Park, N.4. [8028]

31h.p. Triumph, clutch, Philipson pulley, good tyres; £45.-36, Portland St., Beamington. [X2557]

19¹⁸ 4h.p. Triumph, countershait, 3-speed, K.S.; £72.—9, Church Rd., Willesden, N.W. [8142 TRIUMPH Junior, 1916, in good order and condition; £47/10.—John Surridge, Ongar, Essex. [X2513

4 h.p. Triumph, 1914, 3 speeds, clutch, lamps, tools, perfect order; offers wanted.—Drye, Marlow. [8072 19 4h.p. Triumph and sidecar, all accessories, many spares.—Seen at any time, Witham Lodge, Essex.
[X2333]

MOTOR CYCLES FOR SALE. Triumph.

TRIUMPH, 1919, 4h.p. model, fully equipped, full T.T. burs.—Parket's, Hardshawgate, EX1915
31h.p. Trimuph, clutch, good condition; £45; after 10 o'clock.—St. Autims, Elm tirore, Winberton. TRIUMPH 1912, free engine, overhanded, looks lik-new: £40.—Hills, Brooklands, Boxted, Colchester

19 19 T.T. Triumph, done about 3,000 miles; £80.—Apply, Capt. J. R. Allen, Buller Barracks, Aldershot.

TRIUMPH, 4h.p., T.T., 3-speed, clutch, in perfect - prder; £63.-262, Blackhorse l.ane, Waltham-19 (late) Triumph 4h.p., little used, perfect in every way; £100.—Box 6,706, c/o The Motor

TRIUMPHS.—Large assortment of second-hand models in stock, all fully guaranteed.—Ross, 86, High Rd., Lee, S.E. [5540

TRIUMPH 314h.p., Grade multi gear, horn, tools £40; just overhanded,—12, Baroness Rd., Bethna Green, E.2. JONES' Garige, special agents for Triumphs, Broad way, Muswell Hill, N.10, and Woodside Pande 10038

North Fiochley. 19 20 Triumph, T.T. Model, brand new, still in crate; £95; Cambridgeshire.—Box 6,679, c/o

TRIUMPH 3!h.p. Clutch Model, just overhauled, good tyres, tools, etc.; £45.—Henderson, 209, King's Rd., Chelsea. [7758

19¹⁴ Triumph and Sidecar, 3-speed, clutch; price £58; district Buckinghamshire.—Box 6,719, [8251]

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WAUCHOPE'S, 9, Shoe Lane, Pleet St., London.—
Water Triumph Junior, £52/10, 1919 Triumph Junior, £52/10, 1919 Triumph Junior, £52/10, 1919 Triumph File Triumphs, late models, 3-speed countershaft, will in good condition; £75 each.—Hawkins, 455, vol. 1919 Triumphs, 1919, renovated and repaired Thioretholic, £75; each evenings offer 6.—43, 1716 Junior 1919, 1919, renovated and repaired thioretholic, £75; each evenings offer 6.—43, 1716 Junior 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 191

1919 Triumph, 3-speed, as new, lamps, horn, speed ometer, spare belt and chain, full kit; £100.—90, Crofton Park Rd., S.E.4. 1914 Triumph and C.B. Sidecar, 4h.p., 3-speed clutch, perfect condition; £70.—Claybour Garage, Askern, pr. Doncaster. 3-speed,

TRIUMPH, 1915, 3-speed countershalt (1918) gear hox, all in fine condition; £75, or near offer.—Welch, 135, Edgware Rd., W.2. [8027

NEW Triumph, just delivered, unridden, 4h.p., cl cum-belt, 3-speed; owner hought Morgan; £105 offers.—Hardy, Teviot Dale, Stockport.

TRIUMPH 31/h.p., N.S.U. 2-speed, in excellent condition, good tries, lamps, horn; £45, or nearest offer.—Boxer, Swingfield, near Dover. [X2629]

TRIUMPH 1914, 3-speed, owner had it since new, been well cared for; £65, in good condition.— Marsland, 451, Attercliffe Rd., Sheffield. [7990]

19¹⁷ Triumph 4h.p. Combination, 3-speed, countershalt, all accessories, beautiful outfit; 98 gms., no offers.—365, King St., Hammersmith. [8079]

TRIUMPH, 1913, 3 speeds, clutch, in excellent condition throughout, new tyre and belt; £60.—Tiernay, 22, Adelaide Rd., Learnington Spa. [X2490]

31hp. Triumph, Bosch mag., adjustable pulley, lamp, 22 brakes (hoth work), good running order; \$32/10.

-Cook, 148, High Rd., East Finchley, N.2. [X2491] TRIUMPH Judior, not done 100 miles, guaranteed as new, Lucas horn, tools; deliver at once; £65; owner going away.-36, Bromfield Rd., Redditch, [7582 TRIUMPH Road Racer, latest model, delivered Dev.

25th, selected en me, with equipment, ridden once-price £94 cash.—32, Winchester Rd., Colchester. [7520 1920 Triumph, T.T. Model, only used 90 miles, fitted with lamp set, rear lamp, and Lucas hora; £95.—Box 6,680, c/o The Motor Cycle. [7881

1 h.p. Baby Triumph, just overhauled and in good condition, new teres and tubes; for quick sale.

Apply, 32, Skipton Rd., Pitsmoor, Sheffield. [X2588] -Apply, 32, Skipton Rd., Fitsamon, Garman. 1019

1019 Triumph Combination, 5 lamps, spare belt, apron, tools, etc. £120, or exchange big twin, cash adjustment.—15, Summerhill Rd., Dartford, Kent. (7780)

TRIUMPH, 51/4h.p., believed 1908, B. and B., nearly new tyres, ung., P. and H. lighting set; must sell; highest offer.—Warden, Bushes Rd., Sevenoaks.

1920 Timph Junior, unpacked, received Jan, 41920; 269; countershait or T.T. Triumph in exchange, pay difference.—Box L6,558, clo The Motor Cyste.

TRIUMPH 4h.p., countershaft, late 1917, new Dunlop tyres, helt, plating, and tank; seen London; £75 spot cash.—Box 6,709, c/o The Motor Cycle.

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TRIUMPH 1914 4h.p., Milliod Empress side at, 3 pp.ed., clutch, Bosch mag., tyres, belt, piller new, hille used during war; £75.—174, Knockhall Rd., Gie er (7587

19 Triumph (November), 4h.p., countershirt, speed, clutch, lamps, horn, Tan-Sad, not done miles: £115, or nearest offer, Fisher, 29, Kimer St., Walsali,

19 14 4h.p. Triumph, with Mills-Fullord coachbuilt sidecar, 3-speed, Bosch mag., just thoroughly overhanded and in perfect running order; £99.—Ward, Bideford, Devon. [8015]

TRIUMPII 1912 T.T. Model, genuine road racer, in exceptionally good condition, good lyres and left and H. lanurs; any examination; £45.—Griffitle West Rd., Congleton.

19 19 4h.p. Triumph Combination, Gloria de luxe sidear, complete with necessaries, in beautrul condition; price £135.-F. W. Potts, 6, Hawkin 8t., Kensington, Liverpool.

19 18 Trimuph, 4h.p., countershaft 3-speed, condition as new, tools, horn, etc.; best offer over 485.—Capt. Lane, Pairitoline, 15, Elderslie Rd., Eltham. Phone: Lee Green 284. [8093]

TRICEMPH Junior, 1919, unused, 2½hp., 2-speed, disc wheels, footboards, lumps, horn, and tools, complete; seen any time; £68, no offers.—Lock, Briley Gate, Wimborne, Dorset. [7524]

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19 13 3½hp. T.T. Trimph, in fine condition, Bosch mag, new helt, new Dunlop on bock, B, and B, confunctor, sporty lattle mount; £43.—5, The Paradi, Belmonti Sutton, Surey.

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Durine Rd., Forest Hill, S.E. [7940]

TRIUMPII Junior, mileage about 250, unscrate-led and not fully unt fo, no pauctares, horn, usual tools and repair kit, ideal little mount; lowest 455—D. Lavin, Old House, Sonning, Berks. [7844]

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23 La. T. Trimmh, 1912, 2-speed, Millford side ur, 252 Lacas lamps, tall equipment, spares and tocks, stored durins war, excellent condition; 70 gos.—Wansbrough, Chirt House, Westbary, Bristol.

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mont cirote, Lewisham. [XZ10]

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Acton.
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19: Triumph Junior, 2-speed, 2-stroke, new rangi-tion, indeed under 700 rest hump, beat, cods, 564; it of the property of the property of the factor of the property of the property of the factor of the property of the property of the property of the or property of the property of the property of the property of the factor of the property of the pr

CONTERSILAT Triumph Combination, 1918-19. T.P. Tubber grips, overhauled, repiated and enamelied, good tyres and belt, lamps, speedometer, light Watsonian sidecar (C.B.), perfect condition and appearance; £95 lowest; any time by appeniment, 59, 8t. George's Rd., N.W.6.

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oury, S.W.

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8-10h.p. Water-cooled Williamson, Canoelet sideear, screen, apron, 3 lamps, horn, new tyres; £88; after 6.-5, Rossiter Rd., Balham, S.W. [7625

Wolf.

HONOR Oak Moter Mart, district agents for Wolf. -129, Brockley Rise, S.E.23. [7738

WOLF 2-stroke 1916, 2 speeds, clutch, kick sta lamps complete, perfect order; £42.-51, Mar thorpe Rd., Thornton Heath, S.E. [78] [7816

WOLF, 2-stroke, 2-speed, clutch, kick starter, new WOLF, 2-stroke, 2-speed, clutch, kick starter, new tyres and belt, hamp, horn, tools, good going order; 2-stroke, 2-speed, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997,

Wooler.

JONES' Garage, special agents for Weolers, Broad way, Muswell-Hill, 'N.10, and Woodside Parade, North Finchley." [0039]

Zenith.

MODEL, C 1919 Zenith from stock.-Morriss, 139, Finchley Rd., N.W.

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19 20 Zenith, 4-5h.p., Olympia Show model, semi-T.T. bars, with accessories, unused, immediate delivery, private owner; £135.—Box 6,671, c/o The Motor Cycle. [7669

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Simplicity.

IMPLICITY should be the keynote of all designs, and it is satisfactory to note that more manufacturers are now giving attention to the point. Simplicity, however, does not necessarily mean that a machine should be shorn of the many items of specification which make it efficient, but rather should it make for greater all-round efficiency. general reduction of separate parts, while retaining every advantage of the most fully equipped machine, is the chief essential of simplicity in motor cycle design; and, to secure this end, a machine must be so designed that the term also applies to methods of construction, ease of handling in assembling, and accessibility in dismantling.

A single-speed two-stroke with a single lever carburetter represents one type of simple machine, where simplicity has been obtained by elimination which reduces its scope, but we have in mind more ambitious mounts, in which a single unit is made to serve where half a dozen are employed in the conventional type of

Simplicity may be looked on from various view points, but that of the rider is one of the most important, so that such details as single Iever carburetters and automatic lubrication may be regarded as simplifying the machine. Simplicity implying risks must, however, be avoided, and it is useless, for instance, to control the whole vehicle by one lever if this entails extra complication in tracing a defect, or increases the cost of manufacture.

In addition to certain obvious means of reducing the number of parts, both complete units and a number of members built up as a unit, there is now a school of designers who aim to decrease the total of parts by half, and, again, so design their units that the number of operations necessary to produce them also are greatly reduced. Several such designs already have appeared in the columns of The Motor Cycle,

but few, so far, have reached the stage where they are commercial propositions. When they come on to the market, they are bound to influence subsequent design. This date is not so far distant as may be imagined.

The Motor Cycle Thief.

THE theft of motor cycles is becoming so common that the subject is worthy of very serious consideration. In some cases the owner deserves some of the blame for negligence in leaving his machine unguarded for long periods. A chain and padlock or other simple device are sufficient to deter the majority of thieves from stealing a machine from the roadside, especially in a populated district. There is, however, an insidious type of thief who obtains access to a motor cycle by means of answering advertisements for sale or by applying for a trial run. This type of theft requires further precautions. Naturally, an owner who is anxious to sell his mount does not care to refuse a reasonable trial run, and equally a forged telegram to the owner's wife or people is not likely to arouse suspicions during his absence at business.

Therefore, it behoves all who have motor cycles for sale to act warily: to refuse a trial run unless a satisfactory deposit is first paid over, and to give strict instructions to all whom it may concern that the machine is on no account to leave its garage in the absence of the owner. We receive, almost daily, stories of daring thefts, with details of the machine, in hopes of recovery; but the man who succeeds in taking charge of a motor cycle in the absence of the owner is likely to be clever enough effectually to disguise the motor cycle. Our sympathies are extended to those who have suffered, and we hope that their misfortunes may serve as a warning to others. In the meantime, the risks of loss through theft are such that add one more reason why every motor cyclist should protect himself by insurance.





A "Passenger" Six Days.

AM not in the confidence of our motor cycling politicians, nor have I heard any rumour that the R.A.C. and A.C.U. intend to revise their respective shares in the control of light passenger But if we look ahead, it is difficult to arrange a programme for the 1920 trials without lumping all the passenger machines together in a separate event from which motor cycles should be On the one hand, the A.C.U. Six Days are already becoming too cumbrous and unmanage-. able-it is quite difficult to secure the accommodation required for such huge entries, and the exclusion of sidecars and three-wheelers would simplify matters. On the other hand, it would be a great absurdity for the A.C.U. to test all the sidecars and runabouts, whilst the four-wheeled cycle cars figured in the cheaper classes of a "Light Car Trial" run by the R.A.C. In fact, such a divorce would be a calamity all round, both technically and commercially. Technically, it has yet to be proved whether the sidecar, the runabout, or the "quadricycle" is the best cheap proposition for two passengers. Commercially, all three types compete against each other, and should therefore be tested in each other's company. The logical plan from every point of view is to organise a "Passenger" Six Days in 1920; and the chief practical difficulty is to arrive at a satisfactory classification. I am inclined to agree with Mr. L. Francis Jones that, though price forms a somewhat arbitrary canon, it should be the least objectionable Like the lawyers, we cannot legislate for hard cases; and if one or two machines are crowded out of the competitions by a margin of \pm ,5 in their list price, that is their funeral.

Nomenclature.

F late years terminology in the sphere of light motors has lost its old accuracy, and a certain amount of inconvenience has resulted. years ago each type of machine had a definite and unmistakable appellation. We spoke of sidecars, tricars, and quadricycles ("quads," for short), and everybody knew exactly what was meant. To-day, as the result of blundering definitions which are already obsolete, the two terms in commonest use, "runabout" and "cycle car," are both excessively vague. A Morgan can be referred to by either term. An American might apply either to the G.N., but six motor cyclists out of ten reserve "runabout" (quite illegitimately) for three-wheelers. So we become afflicted with such frightful mouthfuls as "three-wheeled runabout," "sidecar combination," and other verbal atrocities. Really, the obsolete names "tricar" and "quad" were much more workmanlike; "tricar" philologically ought to cover sidecars, but never did, and ousted the more accurate term "forecar." If we cannot evolve accurate names, let us at least fix on something brief and to the point. Unfortunately, so long as control is divided, it is nobody's business to attend to such matters, and the trade continue to complicate our language by advertising "super runabouts," "threes," "tandems," "mono-cars," and so forth. Yet we must all admit the difficulty of simplifying control when the "quad," merges into the light car and the light car into the medium car by a series of infinitesimal gradations.

Two Desiderata.

RANTING that terminology is a trivial matter, affecting convenience and nothing else, I fancy the first urgent matter is the 1920 Six Days programme, which surely ought to include three events:

(1.) Motor bicycles, organised by the A.C.U. (2.) Passenger motor cycles, organised by -

(3.) Light cars, organised by the R.A.C.

This scheme would mass together for road competition purposes vehicles which actually are commercial competitors, and would vastly assist the buyer to make a selection, the manufacturer to determine his policy, and the designer to clear his wits, especially so far

as event 2 is concerned.

The next urgency is a decision about the classification and control of the vehicles concerned in event 2. Classification, as I have already suggested, should preferably be by price. When this point is settled, a second problem arises. There are three claimants to control, or to a share in control: the R.A.C., the Junior Car Club, and the A.C.U. There is much to be said in favour of a separate organisation in the interests of each separate type of vehicle. The motor cycle never went ahead until it was divorced from the Automobile Club, and entrusted to the Auto Cycle Union. Light quads (e.g., the 7 h.p. Swift and the G.W.K.) were hampered by association with other types of vehicle; the G.W.K. lost credit by being classed with motor bicycles in its early competition feats; and the 7 h.p. Swift was grossly overshadowed by more refined vehicles in the Harrogate Light Car Trial, in spite of its splendid performances.

Against a Cycle Car Club.

N the other hand, there is no existing body to which the supreme control of the passenger motor cycles can safely be transferred; and if such a body is developed out of existing organisations, or formed de novo, precautions must be taken to prevent it splitting up the organised forces of motordom more lamentably than they already are. I believe the Junior Car Club contains enough talent to organise a good Six Days Trial on the lines suggested. On the other hand, its financial resources are not unlimited;

Occasional Comments,-

and a club with a shallow purse is always tempted to kow-tow to the trade, and make its events too easy, so that they do not weed out the duds-we saw a lot of this in the early days of motoring. Moreover, up to the present the Junior Car Club is interested in the bijou Rolls-Royce type of four-wheeler, and such cars necessarily overshadow the genuine quad whenever the pair mect. It is like standing a man half a bottle of Bollinger and then a quart of Government ale. Personally, I should like to see a Junior Car Club, which was rechristened, endowed to the tune of a thousand pounds or so, closed to all vehicles listed at more than £,200 or £,250; and put in absolute control of all three and four-wheelers under that figure, including sidecars. These ideas may serve as provocative of discussions which are badly needed as a preparation for the politics of cheap motoring during 1920.

Woman and the Motor Cycle.

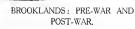
WAS hugely tickled by Col. Moore-Brabazon's charming treatise on broader for interesting treatise on broader for interesting treatise on broader for interesting treatise. drop-framed horse. I am open to conviction, but I am not quite sure he is right in pleading for the girls to don knickers and ride diamond frames instead of sticking to their skirts and demanding open frames. It is quite true that during the war many girls appeared as bipeds. Col. Moore-Brabazon was also visible in Bond St. in a pale blue suit with gold lace on the peak of his cap. But there is all the difference in the world between uniform and civvies. The hon, member's record shows that he is a man of courage. But he would hardly dare to walk down Piceadilly in a turquoise blue frock coat with a gilt

opper. Similarly many damsels hesitate o motor cycle in civvy knickers: it was therwise when they compulsorily wore he togs of a Wraf or a Wren or a Waac. Particularly does this hesitation apply o the dismounted moments. Suppose a irl is on tour with a brother, both iding T.T. solos. She enjoys her

breeches all along the road. At night they put up at the "Empire" at Bath, let us say. It is difficult to carry frocks on the carrier, and not every girl cares to wear breeches in a dining room where every other woman is in skirts. I hope we shall establish feminine breeches as a standard fashion, but it is not yet certain. On the other point, I go all the way with Col. Moore-Brabazon. We want the girl on the saddle quite as much as the girl in the sidecar. But when many men are clamouring for a machine that can be ridden in ordinary clothes, it seems odd that a notable authority should ask women to put up with a type of frame that is mechanically unnecessary and practically unsuitable. My own position is that I am rather looking for machines like the Scott, because I find a long coat handy on occasions.

Speed Wobble.

7ILL Lt. Olechnovitch please answer two objections to his theories about speed wobble? He will hardly find a machine on the road which has its front wheel centre in the line of the steering head axis, yet a large percentage of existing machines do not wobble at the speeds which are within their compass. Secondly, what machines have their centre of gravity in or below the horizontal plane in which the wheel centres are located? This position of the C.G. is surely almost an impossibility when a rider is in the saddle? My own champion wobbler is now on a visit to the factory, as I have succeeded in interesting its designer on the subject of its eccentricities; but I have owned other machines which failed to conform to Lt. Olechnovitch's ideals, and yet did not wobble. The machine in question is peculiarly interesting, as it wobbles at all speeds!



(Left) This photograph will convey a good idea of one of the worst parts of Brooklands track as it exists at the present time. Repairers are busy, however, on putting the course in order for this year's activities, and a great amount of -repairing has already been accomplished.

(Right) A pre-war scene at Brooklands. The start of a sidecar race.

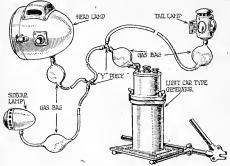
CETYLENE LIGHTING ITS BEST.

Some Notes on the Care and Use of Acetylene.

HE recent London to Exeter run seems to point to the fact that a great number of riders have not yet learned to minimise, much less entirely to avoid, trouble with acetylene lighting outfits.

It was astonishing to see how many competitors, during the hours of darkness, were delayed at the side of the road, often in the pouring rain, taking their generators to pieces. It is out of sympathy that I feel constrained to give them and others the benefits of my experience. Most riders, I notice, favour the plan of having several generators, one for each lamp, and this, to my way of thinking, is a cause of trouble. With the ordinary motor cycle generator, taking a charge of carbide of about a quarter of a pound, it is difficult to maintain an even pressure of gas. The space being so confined and the carbide swelling with the water tends to choke up the gas passage and the water feed.

The proper way to prevent nearly all troubles is to run all the lamps off one large generator. I agree that a large generator on a motor cycle or a sidecar combination is somewhat unsightly, but I feel sure that most of my readers will put up with that if they can secure efficiency with a modicum of attention. A light car generator, holding a charge of carbide of not less than one pound, is the minimum size that I recommend. It does not matter, except from the point of view of initial expense, how large the generator may be. The best place in which to put the generator is on one of the horizontal back stays of the motor cycle, and if a sidecar combination is used the lefthand stay gives the best position. A couple of split lugs should be procured to fit the size and section of the stay, and into each of these lugs should be brazed



The gas lighting equipment suggested by R. Creak Davis, who has had long experience of night riding.



hard wood, such as oak or teak, upon which to mour the generator. If the generator be fixed in this positio it is screened to a great extent by the rider, and further, the regulating screw for the water is easily

Connecting the Lamps.

Having fixed the generator securely, an indiarubbe gasbag of fairly large size should be secured to th gas outlet from the generator. Most gasbags ar made with a stout piece of rubber tubing protrudin into the gasbag for about two-thirds of its length thus forming a trap for water produced by cordensation. It is essential, of course, in fixing th gasbags that this thickened protruding piece shoul be at the bottom of the bag. Having fixed this gasba to the generator, if a motor cycle only is in contempla tion, a brass Y piece should be obtained and pushe into the gasbag connection. From the ends of th Y piece lengths of rubber tubing can be taken to th head and tail lamps. If a sidecar combination i being dealt with, the connection for the tail lamp wil be the same, but the method of carrying the rubbe tubing to the head and sidecar lamps will be some what different. From the forward end of the Y piec take a piece of rubber tubing along the side membel of the sidecar chassis, and then continue it upward along one of the forward diagonal struts. At thi point attach another brass Y piece, and to this con nect the head and sidecar lamps. Brass tubing car be used if desired instead of rubber tubing, but i has the disadvantage that it corrodes, to a certain extent, because of condensation, and is more difficul to clean out.,

The easiest way of securing the rubber tubing to the various parts of the frame is to use insulating tape. taking great care, if rubber tubing is used, no to pinch the tubing. Having arrived at this stage fix a rubber gasbag, of somewhat smaller size than that on the generator, to the head and sidecar lamps and, if possible, secure the lower ends of the gasbags to some convenient place to prevent chance of kinking

Acetylene Lighting at its Best .--

in the bags themselves. Similarly attach quite a small gasbag to the tail lamp, and also see that any chance of kinking here is obviated. Occasionally the gasbags should be detached from the lamps and the generator and any water removed, but it will be found that this is not often necessary.

Service to be Expected.

Should any of the burners become sooted, a few brisk applications of the tyre pump to the burner socket will almost invariably remove the obstruction. Sometimes the generators are fitted with a felt pad to filter the gas, and I have found this so-called refinement one of the greatest causes of trouble. In every case without exception I advise that this padshould be removed and never replaced.

As regards the size of carbide most advisable to use, I have found that lumps just able to pass through an inch mesh are most suitable; never should small carbide as sold for cycle lamps, be used on a motor cycle if trouble is to be avoided. It is the custom with cycle car and car generators for the makers to fit a riddling grid to the generator. If such a pattern

generator is to be used on a motor cycle, I advise the abandonment of the grid because the vibration is much greater on a motor cycle than on the running board of a car, and uneven illumination, unless the grid is removed, is almost bound to ensue.

With the average generator, although the light may only be required for fifteen minutes or so per day, one charge of carbide will not last more than three occasions, mainly because a great deal of carbide is wasted even after the water has been furned off. In my own experience I have found that a large generator will run two head lamps and a tail light for half to threequarters of an hour every day for a week, and will give continuous burning of such three lamps for competition work for six to seven hours.

To make a neat and serviceable joint between rubber tubing and gasbag use a small length of a couple of inches of brass tubing. Copper tubing should never be used. Many years ago I used copper tubing until one day, finding a junction piece much corroded, I attempted to remove the corrosion with the blade of a penknife, and, as a result, caused a somewhat violent explosion and scorched my face.

R. CREAK DAVIS.

Back to Plain Bearings?

A Reply to "Ixion's" Criticism on Mechanical Progress.

AM honoured to find that "Ixion" should criticise my article on mechanical progress, but if the Editor can spare a little room I should like to reply to one or two points mentioned in last week's Comments.

I thoroughly agree with "Ixion" that design is "an extremely contentious affair," but taking his remarks

seriatim I would reply as follows. "Ixion" requires overhead valves with cooled stem and springs, and therefore objects to enclosed valves. In The Autocar of January 10th he will find a suggestion (illustrated herewith) from my humble pen for combining these two points. The valve spring and upper part of the stem are exposed to the air, the rocker gear is entirely enclosed, and the lower part of the stem is well cooled through the large radiating surface round the guide.

Next he states that the only ball and roller bearing engines have printable oil consumptions. May I refer him to just two plain bearing engines—the Blackburne and A.J.S. The former is one of the most economical engines, as regards oil consumption, that I have ever handled, and the latter is at least

reasonable for a heavy sidecar machine. No, "Ixion," you must study piston design if you would save oil. The difference in the amount needed (or rather obtained) by the bearings is negligible. Next, the only plain bearing engine with forced lubrication which "Ixion" has ridden "was not a hot-stuffer." I think I can place this machine, and if I am right I also have ridden more than one of the same make. It certainly was not a hot-stuffer, and was not designed as such, for in this respect, as also in regard to consumption

and wear, there are other things to be considered besides lubrication. I certainly never intended to convey the idea that, provided plain bearings and forced lubrication were incorporated in a design, there would be no need to study material or the proportions of bearings, etc. I hate to drag aero engines into a discus-

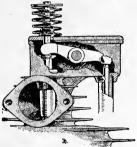
sion on motor cycles; as though we have much to learn from them. They have many features unsuitable for motor cycles, yet, with one noticeable exception, plain bearings and forced lubrication were used on all the really high efficiency aero engines-rotaries and radials may be excepted, and very few of the former, at any rate, had mentionable oil consumption.

With regard to gear box noises, I think "Ixion" must have been unlucky, since, without exception, the three machines which I have owned since the armistice and a dozen or so I have ridden since that date have compared extremely favourably with car gear boxes, both as regards noise and ease of change. I have heard the old De Dion tricycle with Dupont gears, and

from the saddle, too, and the compari-

son seems to me to be a difficult one. If "Ixion" has studied the Raleigh, I am surprised at his remarks re frame distortion. There appears to be very little chance of distortion between the engine and gear box, which is the only place that matters, since he can still skew the rear wheel if he must.

In conclusion, I appreciate "Ixion's" gentle tirage de jambe, as Mr. Punch would have it, and hope that he will take my reply as even further proof "that we are all faddists."



An enclosed valve gear on an air-cooled engine. The rocker is forked at the valve stem, and the springs, whether coil or leaf type, are exposed for cooling purposes.





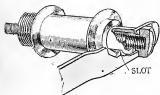
A JAPANESE cycle car is a real novelty, though scarcely a surprise, since it is common knownedge that the Japs do not intend to rely permanently on imported motors. Messrs. Tamura and Watanabe have produced an original, but not too practicable, design. The basis of the patent is the

Tamura and Watanabe's vertical twin runabout. No. 119,225. 15/8/17.

location of an air-cooled engine under the driver's seat, which lifts up for purposes of access, and the provision of a through air conduit under the dash and around the engine. Two grave flaws are evident at the most cursory scrutiny. A tender part of the driver's anatomy will share in any overheating that may develop, especially during a Nippon summer, and the driver is so hoisted up as to interfere with the stability of the cycle car and the passengers' view (it is apparently proposed to provide one seat in front and two helmid). If a flat twin engine were substituted for the vertical twin shown in the drawings, and if, in addition, the driver were equipped with asbestos trousers, the design would acquire real interest.

For Tyre Repairs.

Mr. P. F. Power suggests an improvement on a familiar method of rendering a rear cover or tube removable from a motor hicycle without dropping the wheel, disturbing the transmission and brake connections, or going to the expense and complication of "detachable" wheels (I put "detachable" in inverted commas, seeing that all wheels are detachable, though the term is here re-



Power's hub spindle. No. 128,135, 11/1/19.

served for the modern drop-out variety). Under the original patents, the hub spindle is not long enough to enter the fork slot on the side remote from the driving sprocket; the end of the spindle is coupled to the fork slot by an internally threaded sleeve bolt. The junction of the spindle and the sleeve bolt was

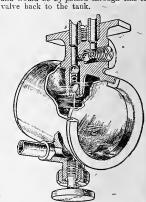
provided with a bearing in a plain collar, pinched between the fork end and the outer cone of the hub bearing. Obviously, by unscrewing the sleeve bolt, springing the forks apart, and removing the collar, clearance could be made to remove a damaged tube or cover. Mr. Power desires to avoid the need for springing the forks apart, and the forks apart ap

proposes to cut a slot on the inner side of the collar, so that the tip of the hub spindle can be dropped through this slot when the sleeve holt has been unscrewed.

A Sight-feed Oiler.

The Douglas people have filed an unusually large number of interesting patents lately, and their new sight feed oiler is quite a novel fitting for motor cycles. Bitter experience has set many riders against the ordinary sight feed drip, because the interior of the glass gets foul if (1) the owner opens the needle valve wide to feed a full charge quickly; (2) if there is too much "blow-back"; from the crank case; or (3) if the outlet pipe gets obstructed. Once fouled, the glass will not cleanse itself, and some patterns are not easy to reassemble after cleansing. The new Douglas sight feed consists of a water chamber into which oil is admitted at the base under pressure, derived either from a spring-loaded hand pump or an engine-driven pump. As the oil is of lower specific gravity than the

water, the oil rises up through the water, and is guided to the outlet pipe by the slender needle of the adjusting device. The oil cannot reach or foul the glass, but is seen passing upwards either in a string of drops or in a thin stream. Moreover, since the pressure is communicated to the water in the chamber, the oil leaves the glass under pressure, instead of merely entering under pressure as in the ordinary patterns. The device is illustrated herewith. Of the two centre hall valves, the lower hall is a check valve, and prevents the water escaping from the glass when no pressure is present. The upper hall of this pair is held open to a greater or less degree by the tip of the ralve: supposing the feed pipe from the glass to the engine should become choked, oil would be unable to enter the glass, and would be by-passed through this side



Douglas sight-feed oiler. No. 129,785.

Unit Frame for Sidecar Outfit.

Detachable sidecars cease to be desirable when a certain weight limit is exceeded, and lighting dynamos and interchangeable wheels hegin to figure in the specification. Mr. L. E. L. Calvert's



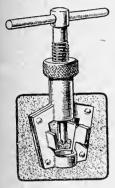
Calvert's integral cycle and sidecar frame. No. 128,010. 15/6/18.

Recent Patents .-

ideas on a "unitary" sidecar combination frame are illustrated on the previous page. Three-point attachment is provided, reinforced by a short cross-piece between the front connecting tube and the down tube of the motor cycle frame.

Simple Belt Punch.

Since Mr. S. T. Robson thinks it, worth while to invent a new belt punch, the walls of certain correspondents on the prevalence of the all-chain drive are shown to be premature, like the announcement of Mark Twain's death. He employs two shect metal blanks, which are riveted together, and further secured by a nut or a ring. I am glad a really cleap belt punch is coming along.

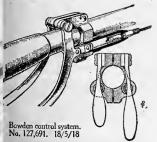


Robson's belt punch. No. 126,267. 24/2/19.

Breaking a belt is bad enough. Finding that one has left the belt punch on the drawing-room mantelpiece is worse. Having to pay five shillings for a new punch after pushing three miles to a garage is enough to make an archangel discourse like a sergeant-major. If Mr. Robson can sell his punch at a shilling, he will save my soul from many potential blotches.

New Bowden Lever.

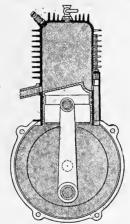
In previous applications of the Bowden wire control system, the radial motion of he hand lever has usually been communicated to the wire, either by a nipple or other anchorage member. This radial effect is net always satisfactory; it throws undesirable strain on the wire,



and puts resistance on the lever, whilst a straight pull would often be more convenient. The illustration depicts a new arrangement which is free from such defects. The member to which the wire is anchored is slidably mounted in straight guides, and is coupled by a short link to an arm projecting from a special belicrank lever, pivoted as shown. The pull on the wire is always straight, and there will be no tendency for the anchorpicce to jam in its slides unless the lever exceeds a certain arc of movement.

Two-stroke Throttle.

We all know that two-strokes are prone to "four-stroke," or even fire in their crank cases when running with a carburetter throttle nearly closed. One reason is that the mixture is compressed in the crank case, which is always much too large to be ideal for such a purpose,



Everingham transfer pipe throttle, No. 129,950, 26/3/19,

and is particularly excessive when a very small charge is under treatment. Various inventors have suggested that the throttle should be located in the transfer pipe, so that crank case compression would be proved efficient.

pipe, so that crank case compression would be more efficient. Mr. Evering-ham follows suit, but considers that the particular type of transfer pipe throttle shown in his drawing is "the best ever."

Douglas cover."

Douglas cover."

Douglas cover."

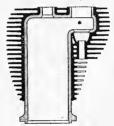
Piston Cooling.

I do not know whether the Douglas patent is merely precautionary, or whether it is to be embodied in a 1920 engine; I should almost suspect the former, seeing that no such system has been found necessary on aero pistons subjected to far greater temperatures than motor cycle engines have to face. The sketch needs little explanation. The piston is provided

with an air chamber in its hollow crown. Beneath the single piston ring and on opposite sides of the skirt are two holes, serving respectively as the air intake and outlet to this chamber. Corresponding air ports pierced in the cylinder walls register with the piston air ports at the bottom of the stroke: during the remainder of the stroke the cylinder ports are covered by the skirt of the piston. The flywheel is provided with vanes and encased; it delivers air at the intake port drilled in the cylinder wall, and this blast drives out the heated air from the chamber. If desired, baffle plates may be cast in the air chamber, so that the internal cooling blast will take a devious course. The invention should add little to the cost of manufacture, whilst it will minimise carbon deposit in the "hottest spot" of an engine.

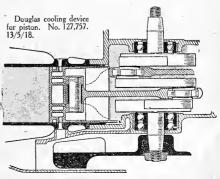
An Aluminium Jacket.

The Villiers suggestion for improved cylinder cooling shown has a flavour of aero engine practice, with sundry novel details. In the first place, a ribbed cooling jacket of aluminium is cast on to a cast iron or steel cylinder, which

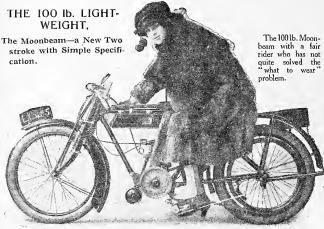


Villiers cooling system. No. 127,856, 21/6/17.

is machined off smoothly. Secondly, this aluminium cooling jacket covers the entire "sub-cylinder,' not merely the barrel portion; the necessary accommodation for valve guides, gas passages, and sparking plug is provided in the jacket. Thirdly, the construction lends itself to the conversion of existing cast iron units, from which the projections may be machined off, so that an aluminium jacket may be cast on.



MOTOR GCLE



THOSE readers of either sex who favour the extremely simple and light two-stroke machine will be interested in the Moonbeam motor cycle, which has been placed on the market by the M.R.P. Trading Co., 62, Pall Mall, London, S.W.1

Its motive power is a 23 h.p. twostroke engine (70×70 mm., 269 c.c.), which has roller bearings throughout and

Owing to its extremely light weight (and rate that it has a low saddle position (having 24in. Xein. Kempshall tyres), the

machine may be easily paddled off.

In future models there will be an auxiliary horizontal tube to the frame, while another model is made fitted with a two-speed gear.

A NEW FLAT TWIN WITH 5-7 h.p. ENGINE.

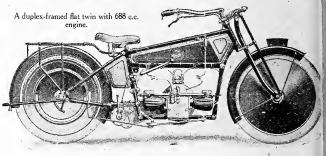
JUST as the introduction of the J.A.P.
Precision, and Villiers engines enable
a number of comparatively sma'
makers to produce motor cycles of thes
types, so may the advent of a proprietar
flat twin be responsible for an increas
in the number of "makes" fitting thi
type of engine

in the number of "makes" niting unitype of engine.
We have several times referred to th 5-7 h.p. Coventry Victor engine, which has a capacity of 688 c.c. This engin apparently is being taken up by severafirms, together with the special framparts designed by the Coventry Vict. Co. to accommodate it.

One of the latest machines embodying

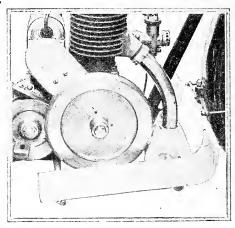
One of the latest machines embodyin the Coventry Victor specialities is the Regent, which is handled by Reger Motor Cycles, Ltd., 116, Victoria Stree Westminster, London, S.W.I. The lower portion of the dupley from

The lower portion of the duplex fram is composed of detachable tubes, thottom members being held by two bolt the removal of which allows the who engine to be taken away from the fram The Sturmey-Archer three-speed gear an 28×3in. tyres form part of the equipmen



THE VERUS '4.

WING to the demand for sidecar outfits, the majority of manufacturers of 500 c.c. machines make such models more suitfor attaching abla sidecars than for use as solo mounts. One of the exceptions, however, is the new Verus "4," a Blackburne engined machine, which is bound to appeal strongly to the solo rider, especially he who is short in the We recently tried one of these machines, and were much struck its compactness, bv comfortable riding position, and ease of handling. It represents a type of mount for which many solo enthysiasts have waited for some time—"a little machine engine." with a big



Aluminium footboards specially designed for the

FOOTBOARDS FOR TRIUMPH JUNIOR.

THERE appears no doubt that for al but sporting machines the footres now takes second place to footplate in popularity. This is illustrated by the demand known to exist for footboard which may be fitted readily to existing machines having footrests. It is no always an easy matter to convert a "foot rest" machine, however, and probably one of the most difficult in this respect is the Triumph Junior, but Messrs. Brandisi and Sons, of 625, Foleshill Road, Coven try, who specialise in fitments for Triumph motor cycles, have overcone these difficulties in a very neat manner. The front end of their patent aluminium footboard, incidentally where very little weight is carried, is supported on a bolt which passes through the silencer end plates, the back being connected to the existing rod with the standard footpads removed. The lugs through which the bolts pass are amply large and a deep web is cast on the underside of the footplates for stiffening purposes.

are provided, and the appearance of the machine is enhanced by the fitting of the boards, which sell at 34s. 6d. per pair.

Spring Device for Rigid Frames.

Conversion Set for Use on Existing Machines.

HE idea of providing a device to convert existing rigid motor cycles into spring frame mounts is not new, at it continues to attract many motor cling inventors, who from experience against machine and rider from road ocks. Usually, however, results have en only suitable for sidecar machines, d those which may be used in safety solo machines have been few indeed. Mr. J. A. Barnes, of 38, Mariborough ad. Coventry, has made and patented device which for several years has been

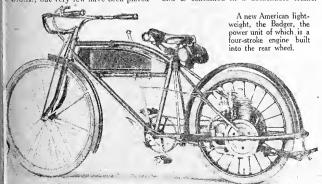


Showing the principle of the springing

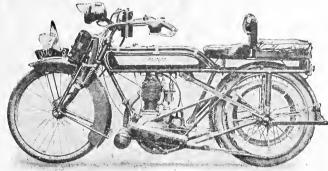
An American Lightweight.

A Motor-assisted Bicycle weighing 126 lb.

ANY years ago the Singer Co, introduced a motor cycle which had the power unit in the back wheel the machine, and only recently we saw the of these in service. From time to me the same idea has been followed in per designs both in this country and c U.S.A., but very few have been placed







A combined system of springing, insulating both the driver and passenger on the pillion seat, fitted to a single-cylinder Humber.

undergoing test almost entirely as a single tracker; in fact, this designer is a pillion enthusiast, who has travelled many thousands of miles with his wife as passenger on the carrier. We understand he is now prepared to undertake conversions, and on this account his device will interest motor cyclists.

Unusual Practice.

As will be seen from the drawing, the Barnes arrangement consists of a wheel frame, which is carried forward to a pivoting point in front of the engine.

upon the market. The Badger, however, is one of the few, and is intended as an ultra lightweight motor cycle, a combination of the motor-assisted pedal cycle and the pedal-assisted motor cycle. Its weight is 126 lb.—not an ultra-lightweight according to the English view, but in America, where 600 c.c. machines are termed lightweights, no doubt it is regarded as something particularly light. The engine has a bore and stroke of 62 and 56 mm. respectively, and is of the four-stroke tyne having an overhead

The engine has a bore and stroke of 62 and 56 mm. respectively, and is of the four-stroke type, having an overhead inlet valve. It is built up as a unit with the rear wheel, which is of slightly smaller diameter than the front wheel, and is contained in a detachable frame.

The wheel is carried in two side plates, which are also pivoted and carry vertical tubes enclosing coil springs. Telescoping over these tubes are others connected to a carrier member, which is stayed diagonally from the rear engine bolts.

diagonally from the rear engine bolts.

Our photograph depicts the converted Humber owned by Mr. Barnes, with a seat and pillion for tandem riding. The diagonal members from the hub to the winder tube of the frame are introduced only where the conversion is of a hub gear model. They form a guide for the change speed operating rod.

The spokes of this wheel are tubular, and altogether the machine gives one the impression that it is a composite, adapted from the main parts of the several pedal cycles which in America are built in imitation of the motor cycle, and a motor wheel of the Merkel type.

A GOOD BELT FASTENER

Although adjustable belt fasteners are not new, there are very few made these days, and there is no denying that they have very decided advantages, especially on countershaft machines, where lack of correct tension causes belt slip. With the R. and H. belt fastener the belt need not be removed to increase or decrease



Roberts and Hibbs's belt fastener.

the tension; a small "tommy bar" is inserted in a hole in the central screw member, and the belt is tightened or slackened as required. The fastener is instantly detachable, having a hook member screwed to one end of the belt. It is made in \$\frac{2}{4}\text{m.}\$, \$\frac{1}{4}\text{m.}\$, and 1in. sizes, and sells at 2s. complete. The makers are Messrs. Robert's and Fibrs, Euri-Street Works, Fanfield Road, Droylesing, Manchester, who, incidentally, make the New Scale-motor cycle.

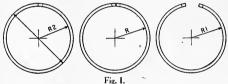


FITTING NEW PISTON RINGS.

SOME TECHNICAL CONSIDERATIONS. By H. George Harley.

HE proper designing of a piston ring is not such a simple operation as the simple form of the object may seem to suggest, and several points need to be taken into consideration when making rings to replace those of a different pattern if the best results are to be obtained.

The all-round best material for piston rings is cast iron, although the elasticity is not high; and, in order to keep the maximum stress in the ring as low as possible, it is important that the stress in the ring



when fitting over the piston is about equal to the stress when fitting into the cylinder bore. Now, if the ring is to be subjected to the least maximum stress, as mentioned above, it is obvious that the radius (r), fig. 1, of the ring when in a free position should be nearly a mean between the radius (r_1) of the ring when slipping over the piston and radius (r_2) of the ring when in position in the cylinder. The reason why the radius r is nearly a mean between the other two radii is that the maximum bending moment of the ring is opposite the cut, and, therefore, the ring, when expanded to slip over the piston, is not a true circle, but is rather elliptic in shape. Most motor mechanics have the knack of holding rings, while fitting on to the piston, in such a manner that the shape of the ring is as nearly circular as possible.

Eccentric Rings.

The point subjected to the greatest bending moment of a concentric ring is at the point opposite the cut; and, if the stress at this point is within safe limits, the stress at any other point in the ring must be well below the safe figure; nevertheless, the pressure of the ring on the cylinder wall, and the stress in the ring itself, are not uniform, and this is a disadvantage.

Some makers in this country, and a great many in America, use the eccentric type of ring (fig. 2), which gives a more uniform pressure and stress. This type of ring, however, can only approach uniformity, as the thickness at the ends would have to be infinitely thin to give absolute uniformity. Although the thickness at the ends cannot, of course, be reduced to nothing the more practical considerations will allow the thicl ness at the ends to be reduced, the nearer will th pressure and stress approach uniformity.

The reduction of the thickness of the ring at tl ends is limited to the minimum thickness which wi allow of maximum gas tightness, and the thickness. the point opposite the cut is limited by the figur denoting the maximum allowable stress of the rir when deflected; the ratio of the thickness of the fir opposite the cut to the thickness at the ends affect the degree of uniformity of pressure and stress whic may be attained.

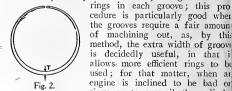
While it is true that the pressure upon the cylinde walls is more uniform than the thinner ends of th rings, it must be borne in mind that the ring mus not be reduced at the ends to such an extent that gas tightness is impaired.

Without question, eccentric rings properly designeare superior to the concentric type, and should b used if possible in cases where an engine is bein tuned up for best possible results.

Width of Ring.

Comparatively narrow rings are preferable to widrings in many respects; for instance, three rings mad-.1in. wide are much better than two rings made .15in wide. In repair work there is sometimes no option but to fit rings as wide as the rings previously fitted or even wider, when the grooves in the piston have been worn or machined out as a consequence of wear

If the grooves in the piston are fairly wide, good results may usually be obtained by fitting two narrow



cedure is particularly good when the grooves require a fair amoun of machining out, as, by this method, the extra width of groove is decidedly useful, in that i used; for that matter, when ar engine is inclined to be bad or rings or to over-oil the cylinder

or to have poor compression, it is worth while to fit two narrow rings in each groove in place of the original rings.

It is also advantageous to use narrow rings in a cylinder which has become worn unevenly, as the two narrow rings in each groove, being able to expand independently of each other, are better able to follow inequalities of surface, the one ring being expanded

Fitting New Piston Rings .--

into the worn part while the other ring is approach-

ing or leaving it.

It will be obvious at once that, if two rings are fitted in one groove, the joints of the ring can be placed diametrically opposite and will not be likely by any chance to coincide, with the result that the joint leakage will practically cease to exist.

The writer, after extensive tests of these rings, is of opinion that the advantages above mentioned are realised in practice, and that the use of two narrow rings in one groove is far preferable to the single rings of ordinary width, especially when tuning an engine up for any special event or service.

Gap in Ring.

When replacing broken or worn piston rings, information regarding the proper gap required is usually unobtainable; the consequence is that the amount of gap in the ring is the result of a guess

backed up by experience.

The gap made under these conditions is usually on the large size, and, although gas tightness may not be affected seriously when newly fitted, the life of the ring will be shortened owing to the gap reaching its maximum allowable size earlier; in fact, by making the gap over-size in the first instance, the ring is robbed of its period of most efficient service before it has been in service at all, and, for this reason, the gap should be the minimum safe dimension possible.

The ring when working reaches a temperature which lies between the maximum temperature reached by the piston top and the cooler walls of the cylinder and piston, the exact relation between these temperatures depending upon the individual design of

the engine and its conditions of working.

The expansion (e) of cast iron being .00000556 per unit length per degree Fahr., linear expansion of a ring

.00000556 T $d\pi$ (1)

in which T = temperature in degrees Fahr.

Assuming for a water-cooled engine a maximum ring temperature of 350° F. and substituting this for T in the formula, we get, after simplifying,

e = .0061d (2)

The gap should be slightly larger than is necessary to allow the ring to expand an amount equal to ϵ , equation (1), and in the case of diagonally slotted rings the angle of the slot has some effect upon the amount of gap allowable.

For a ring slotted at an angle of 45° the width of gap (g) allowed should be a little more than

g = e.7071.

Temperature of Air-cooled Engines.

In the case of air-cooled engines the cylinder is, of course, liable at times to attain a much higher temperature than in the case of water-cooled engines, and it may be safely assumed that the temperature difference between the cylinder and rings in an air-cooled engine is not likely to exceed the figure given for watercooled engines—in fact, the reverse is more probable; for this reason the figure given may be safely used for either air-cooled or water-cooled engines.

The following table gives the main dimensions of piston rings calculated according to the general considerations outlined above, the notation being the same as used in the text, e in the table should be increased by a slight amount equal to the minimum clearance

required while hot:

DIMENSIONS OF RINGS.

-	Concentric Rings.	Eccer Rin		
b	t	t	11	e
2"	.062	.072	.036	.009
2.5"	.078	.092	.046	.orr
3"	.094	.110	.055	.013
3.5"	.109	.128	.064	.015
4"	.125	.146	.073	.017
4.5"	.14	.164	.082	.019
5"	.156	.182	.091	.021
- 5-5"	.172	-2	.010	.023
6"	.188	.218	.109	.025

b = diameter of piston.

t =greatest thickness of ring.

 t^1 = least thickness of ring.

MODERN SPRING FRAMES.

An Experience and the Moral to be drawn therefrom.

OR some months past I have been riding an experimental model fitted with an ingenious spring frame. Being rather an enthusiastic advocate of the simple machine, I embarked on this experiment with certain qualms, and my fears were not allayed by the remarks of certain of my friends who prophesied all kinds of troubles. For the first few weeks I had a feeling that the increase of comfort was too good to be true, and spent much time examining springs, joints, and bearings.

This feeling has now entirely disappeared, and I revel in the most comfortable motor cycle that it has yet been my lot to bestride. A daily journey which includes a stretch of villainous road surface is accomplished with such comfort that it requires a run on a rigid frame machine to make one realise the shocks which are caused by deep pot-holes. The machine in question is also particularly well sprung forward, and the combination of good forks and rear springing is almost ideal.

Makers of spring frames must pay attention to the forks, as comfortable rear suspension is apt to emphasise the faults of the spring forks to a surprising

degree.

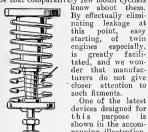
So far, no symptoms of side play have developed in any of the frame joints, but, should this occur, each point at which wear can take place is adjustable-a feature which shows the forethought of the designer, and one which is commended to others who may be contemplating spring frames. H.D.T.

EQUIPMENT FOR MOTOR CYCLES.

A Further Selection of Novelties for the Motor Cyclist's Needs.

To Prevent Air Leaks.

THERE are many devices for the pre-vention of air leaks through the inlet valve guide, and it is probably true that comparatively few motor cyclists



this purpose is shown in the accompanying illustration.
As will be seen, it consists of a flexible casing enclosing the valve stem, and comprised of an involute spring filled with graphite and having a washer top and bottom. It is manufactured by C. Pressland, The Sub.,



Hampton-on-Thames.

A Simple Spring Handle-bar.

This handle-bar possesses two brackets, one fastened to the headstock tube, to which is brazed or welded a fixed webbed bracket which serves as a mounting for the actuating spring. This bracket is split, and contains a semi-rotating bush provided with a bracket brazed on its dead centre, which passes through a slot in the head bracket. The bush is secured to the handle-bars by means of a clamp at each end, and drawn tightly by means of cotters and nuts. It is retained in the head bracket by means of a milled



locking nut. The two brackets are connected by means of a coil spring.

Spring handle-bars have been in vogue Spring handle-bars have been in vogue for many years, but for several reasons they have not caught the public fancy. However, in view of the rough roads encountered at the present time, there is little doubt that they will now receive electron the reason to the reason closer attention.

This patented handle-bar is made and sold by Messrs. W. E. Sleight and H. F. Robinson, 68, Bradford Avenue, Cleethorpes.

A Nest of Screwdrivers.

Messrs. Ramsay Brothers and Co., 245, Oxford Street, London, W.1, have lately placed upon the market a very useful tool, in the shape of a nest of small screwdrivers. The large screwdriver is



pocket, also when stored in the toolbag the sharp point cannot get damaged. In the body of the

screwdriver three other smaller ones are carried, the smallest being quite tiny enough for jewellers work, while the medium sizes should be invaluable when adjustments are required for such a delicate piece of mechanism as a magneto.

An Easily Fitted Sidecar Hood.

Those users of sidecars who are solicitous of the welfare of their passengers will be interested in a well-made sidecar hood, sold to fit any standard sidecar body, which is turned out by Messrs. James Grose, Ltd., 4, Old Jewry, Lon-don, E.C.1. It is quite well finished, and is constructed of the best waterproof tarill

Flexible Oil Pipe Connection.

There has also been placed on the market a flexible oil-pipe connection, a very useful adjunct, as it often saves the breakage of a pipe through vibration. These connections are made by Messrs. Grose, Ltd., and there is now no difficulty about delivery.

The Rimfix Inside Repair Band.

The Rimfix inside repair band is a novel form of gaiter, designed for use on the occasion of a bad burst. It is on the occasion of a bad burst. It is similar to the ordinary type of gaiter, except as regards its ends, which, as the illustration shows, provide a large over lap, so that the ends of the gaiter are folded right round the bead-ing of the tyre,

and each terminates in a rolled edge. By this means the gaiter to the rim by the beading, and the gaiter is then enabled adequately to fulfil the purpose for which it was in-



Rimfix repair band.

tended. It shows great promise, and should be a valuable item in the motor cyclist's tool-bag.

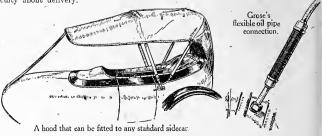
It is manufactured for the inventor, Mr. E. Barry, Milton, Portsmouth, by the Self-sealing Rubber Co., Ltd., Birmingham, and is sold in London by Messrs. A. W. Gamage, Ltd., Holborn,

The Leosco Tube Saver.

Although introduced in 1914, the Leosco tube saver is not so well known as it deserves to be.

The tube saver consists of a patent extensible band of red rubber and fabric, thick in the centre and tapered to the edges, and, on being stretched over the rim, the band beds firmly into the base. There it wards off the corrosion caused by wet and rust to the tube and to the beads of the cover; it prevents nipping and creeping; and it reduces the liability to punctures. It is marketed by Leo Swain and Co., 237-9, Deansgate, Manchester

Another article well worthy of the attention of motor cyclists, made by the above firm, is an inner tube so constructed that, before it is inflated, the inner portion turns back upon the onter; thus the whole tube lies in the outer part of the cover, and cannot be nipped be-tween the bead and the rim. This was tween the bead and the rim. This illustrated in The Motor Cycle December 4th, 1919, page 720.



THE BUMP BICYCLE.

An Oil Turbine to be adopted as an Auxiliary Power Unit for a Bicycle

IN The Motor Cycle of the 8th inst. there appeared a short article entitled "Why Fit an Engine?" This has brought forth particulars of a unique brought forth particulars of a unique machine, in which any kind of unused energy is employed to drive it. The inventor of the Bump bicycle, as it is ealled, has adopted a different system from our French friend.

proper is fitted, but his is an attempt to make use of the waste energy caused by the action of the saddle to assist the by the action of the sadue to assist the rider in propelling the machine. The Bump is in no sense a motor bicycle as we understand it, but is intended to be a motor-assisted bicycle, concerning which we are enabled to publish the following preliminary details.

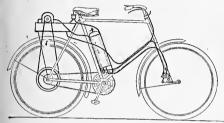
There is a cylinder attached to the saddle tube of the bicycle, provided with an ordinary tyre valve at the top. Air is pumped into this by means of an ordinary bicycle pump to a pres-sure of about 15 lb. to the square inch. The lower portion of the cylinder contains oil, on which a float rests, thus separating the oil from the air chambers. The pump is attached to the back of the saddle, and is operated by the saddle moving up and down,

owing to ordinary undulations in the road. It serves to pump the oil from the small reservoir over the rear wheel the exhaust chamber, as it were-to the large reservoir, which in turn delivers it to a small Pelton wheel. This is situated on the top of the oil tank. The power is conveyed to the rear wheel by means of a chain, and the flow of oil is controlled by a lever on the handle-bars. Similar pumps can also be attached to the front forks when these are sprung.



The machine has not yet been manufactured, but we understand that the first model will be on the road in about a fortnight's time. It is handled by Central Traction, Ltd., 125, Wool Exchange, London, E.C., and the inventor is Mr. A. E. Steel.

We may say we have received quite a number of letters regarding this invention, and in our correspondence columns last week there was shown a ketch by a reader, who goes so far as to imagine a hill-climb for riders of such machines.



No engine

The Bump bicycle, to which is fitted an auxiliary motor in the form of a wheel.

A RACY CYCLE CAR.

A Small Four-wheeler which may Appeal to the Sporting Soloist.

NEW cycle ear, possessing a very A New cycle ear, possessing a very racy appearance, which can be used either as a monocar or a tandem two-seater, will shortly be placed on the market by Messrs. Herrtage, Holyoake and Company, 127a, Fleet Street, London, E.C.4.

Mr. Earl, of Earls, Ltd., Hampstead, London, N.W., is responsible for the design, which incorporates a Coventry Victor flat twin engine, housed beneath the removable bonnet, at the forward end of which is a dummy radiator, the

The front axle and spring on the Earl cycle car.

water tubes being replaced by metal slats arranged horizontally. The drive from the engine is transmitted through a three-plate clutch by a propeller-shaft to a countershaft gear box, containing bevel gears. The drive from the countershaft to the live rear axle is by two roller chains, engagement of the two

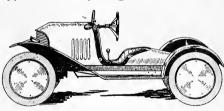
forward speeds being by means of dogs on the countershaft. A re-The forward gear ratios are 5 and 8 to 1, whilst the reverse gear, which is actuated by a separate lever, gives a ratio of 9 to 1.

Two brakes are provided, foot and handoperated respectively, and consist of external brake bands contracting on drums mounted

on each rear wheel.

The chassis is of ash, strengthened by flitch plates, and laterally held by angle iron cross members. The rear springing is of the conventional quarter-elliptic type, is of the conventional quarter-entitie type, whilst at the front a single-point suspension is used, the front axle being suspended in the centre on a single volute spring, whilst the ring in which it reciprocates is pivoted to the front end of the chassis, in order that the wheels may ride at any angle whilst the chassis remains horizontal. Steering is by cable and bobbin in conjunction with a telescopic steering column of novel design to facilitate entry into the single seat. The eables from the bobbin are conducted to the front-axle through heavy gauge Bowden casing. An adjust-able seat is provided, and the movable tail, fixed directly at the rear, can be removed to accommodate a passenger.

The simple bodywork should permit the price to be comparatively low, for usually the body of a car costs a large percentage of the chassis price, and is



A cycle car of simple design-the Earl fitted with flat twin engine.

therefore the most expensive item in a specification. No doubt there are quite a number of sporting motor cyclists who would favour such a machine as the Earl promises to be.

A HINT FOR COLD WEATHER



Utilising an odd sock to enclose the top half of lighting generator and prevent the swater freezing on a frosty night

A Simple Miniature with Spring Frame.

The Macklum Scooter, with a Simple Pressed Steel Frame and Springing System.

THERE is no gainsaying that a very certain demand exists for a type of machine different in many respects from the conventional form of motor cycle. Ten years ago we urged manufacturers to give more serious thought to the open frame machine to meet this demand. have also advocated lighter lightweights, does come it will open up a vast fieldhitherto untouched by present types— which consists of potential buyers of handy little mounts, with which the use of special clothing will not be necessary.

A new scooter which interested us as an

embryo open frame motor cycle is the Macklum, the design of Mr. F. MacCallum, of Guildhall Buildings, Birmingham, which embodies a spring frame of novel

Wide Power-weight Ratio.



witness the presentation to the A.C.U. of The Motor Cycle Trophy for a 250 c.c. class in the Junior T.T. race. Sooner or later the lightweight open frame machine will come. Of this we are convinced; will come. Of this we are considered more convinced now perhaps than before the reintroduction of the motor scooter during the past twelve months. When it

engine



A single pressing, lorming the rear guard, platform, and "chassis" of the Macklum

order to provide a very large reserve of power to enable the machine to climb any ordinary hill-on a single gear, but modifications in this respect may be made to suit different requirements.

As will be seen from the illustration, the engine is carried above the front wheel, with which it forms a unit with the front forks, etc. These latter are of stamped steel, as are also the stays supporting the engine. The transmission is by chain, and the wheels are 16 x 2in.

A One-piece Frame.

More interesting, however, is the frame design, if frame it may be called. Simplicity is its keynote, which will be appreciated when it is known that the rear mudguard, platform, and "chassis" will be a one-piece stamping. In the

experimental model, however, this has been built up, but we are reviewing the design rather than the actual machine as it exists at present.

From the diagrammatic sketch of the springing system it will be seen that the back wheel frame is pivoted at the rearend of the pressing at that point where it forms the tail end of the mudguard.

At the forward end the wheel frame is connected to one end of a half-elliptic laminated spring which is fixed to the "chassis" at its centre.

The front portion of the machine (i.e., the steering head and fork, engine; etc.), is connected pivotally to the main frame by means of a dupley triangulated. by means of a duplex triangulated structure of which the top and the hottom of the steering head form two points of the triangle. Between these points is a lug upon which pivots a tube which passes through a slot in the platform and is connected to the fore end of the spring.

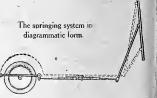
A demonstration of the machine on the road gave ample evidence of the efficiency of the frame design, which is patented in most countries, and we await with interest further developments in the form of a machine which will have the same extended scope as a motor cycle.

Accommodation;

In the meantime, Mr. MacCallum is exhibiting at the Birmingham Industrial Fair next month to test the possible demand, both in this and other countries, for his machine as a seat type scooter on the lines of the machine illustrated, which, it will be seen, is fitted with a box for the carriage of parcels and a Tan Sad seat

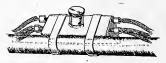
to accommodate the driver.

The experimental model was built throughout by Messrs. Alfred Wiseman, Ltd., the manufacturers of the Verus motor cycle, under the supervision of Mr. T. Weaver, the Verus works manager and a keen competition rider. The machine was produced in less than a month.



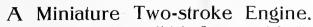
A LUBRICATOR FOR BOWDEN CABLES.

W E recently inspected, at the works of Mr. Leopold Ward, experimental engineer, Harmood Place, Chalk Farm, London, N.W.1, an in-genius device he has made for an in-ventor for the purpose of lubricating Bowden cables. The triangular box, through which the cable passes, is filled with grease, and extra grease is forced in from time to time by means of the grease cup shown in the illustration.



An excellent device for keeping Bowden cable in good condition.

The reciprocating movement of the wires and the pressure exerted through the grease cup cause the lubricant to pass throughout the length of the controls, throughout the length of the countries, thus keeping them in good order and preventing any likelihood of breakage or wear. Undoubtedly cable breakages are frequently due to lack of lubrication, and such a device might find favour with those who desire to add every refinement to their machine.









The Mepward two-stroke scooter engine of 116 c.c.

The crank case and cylinder Note the ports in the cylinder barrel.

THE promises of increased production of motor scooters are very apparent. I of motor scooters are very apparent. Each week a newcomer, incorporating advanced designs, joins the ranks of the producers of the miniature motor cycle. An experienced and enterprising firm, Messrs. Mepsted and Hayward, 52, Rodney Street, Pentonville, London, N.1. has recently placed on the market an interesting little power unit possessing many of the features which render it suitable for adaptation to motor scooters. Two models are made, one of which is

constructed primarily for attachment to

pedal cycles.

The scooter engine, which is of the two-stroke two-port type, has very small external dimensions. The latest pattern Fellows magneto is fitted, the miniature size of which is in keeping with the remainder of the engine, and this can be mounted in different positions around the crank case. A steel cylinder is used, having a bore and stroke of 54 x 51 mm. (116 c.c), which being cut from the solid, enables the walls, ports, and fins to be

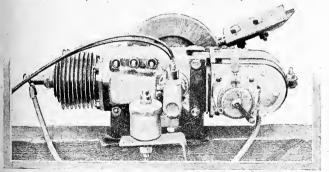
machined to more exact dimensions than when a casting is used. The cylinder is let into an extension of the crank case to a point beyond the ports. The crank case is an aluminium casting, the flywheel side of which receives a plate the nywheel side of which receives a plate which acts as a support for the magneto platform, and forms one of the main bearings. On the other side of the crank case a phosphor bronze bush is located in the casting and supports the other end of the nickel steel crankshaft. Ribs (not the mickel steel crankshatt. Ribs (not shown in the photograph) are cast in the exhaust port (formed in the crank case extension mentioned above) to assist the dispersal of heat, whilst the inlet port is provided with a diaphragm valve, which latter and the crank case are covered by natents.



Lubrication is on the petroil system. A petrol tank, however, is not included in the outfit, as the disposition of the engine necessitates many variations in design. Steel stampings are used both the control of the c

for the connecting rod and flywheel.

The second model, suitable for pedal cycles, is similar in construction to the eyotes, is similar in construction of the socoter engine, with the exception of the position and method of mounting the magneto. In this case it is held by spring bands to the bottom of the crank case, which latter differs from the first design, incremels a both real beauting are made inasmuch as both main bearings are made integral with the casting, whilst one side is held to the remainder of the crank case by means of bolts.



The Mepward power unit, as designed for use on a pedal bicycle.

PETROL TO BE DEARER?

THE daily press during last week succeeded in creating such a scare as circles. Petrol prices were to be increased by as much as 8d. per gallon, we were to be shamelessly fleeced, and,

in fact, all was lost.

But is the price of petrol going up? Who knows? Certainly not the ournalists who created the scare. At journalists who created the scare. At the time of writing nothing whatever has been decided by the oil importers. No joint meeting of the representatives of the various petrol companies has been convened to discuss the matter, and, though a "lightning" decision may be made at any moment, the probability is that there will be no increase in the immediate future. mediate future.

If a rise is decided upon it will be excused, almost certainly, by the importers on the score of high sea freight rates and the increased railway goods rates, the last-named being raised by 60% on consignments weighing less than three tons, and by 50% on heavier consignments, while the rate for "empties"

So far as sea freight rates are concerned, it is difficult to get at the true facts, for the oil companies own most of the tankers, and can establish any rates

the tankers, and can establish any rates they like, the precise figures being merely book-keeping entries. The outstanding fact is that a cargo of petrol can be purchased f.o.b. New York at approximately 1s. 2d. per gallon, and it is sold in England at 3s. 04d. per

gallon. There is an import duty of 6d. per gallon to be paid to the British Government, so that a cargo bought f.o.b. New York at 1s. 2d. would cost landed in England 1s. 8d. per gallon, and to that figure must be added the value of freight and insurance. Also, we must add the retailer's profit of 4½d. per gallon and the cost of distributing the petrol from the depots to the garages. Figures for that item and sea freight are kept secret. The guestion at the moment is, taking

The question at the moment is, taking 2s, 0½d, as the cost of petrol in England, after the import duty and the retailer's profit have been paid, is not 1s, a gallon ample to provide for freight, insurance, and distribution? We trust that the Preference Committee will be able the Profiteering Committee will be able to solve the riddle.



Times to Light Lamps.

GREENWICH TIME

Jan.	22nd				p.m.
"	24th	:	• • • •	5.0	-,,
,,	26th	• • • • • • • • • • • • • • • • • • • •	•••	5.4	,,
,,	28th		•••	5.8	"

A Race for Tanks.

It is proposed to hold a race for French tanks at Lyons next March. The military approval is being sought, and, if obtained, the Automobile Club du Rhône will select a course in the neighbourhood where natural obstacles abound. All types of tanks used in the French Army will be eligible to compete. L'Auto also announces a "cross-country" for tanks, to take place some time this year in the neighbourhood of Paris.

Broken Glass on Roads.

The recent offer by the Automobile Association of a reward of one guinea for evidence leading to the conviction of persons wilfully placing broken glass or other destructive materials on the highways has brought good results. Among the cases reported was one by a police the cases reported was one by a police constable, who has received the promised reward. In this case the constable saw the delinquent, who was subsequently fined, deliberately take a bottle from his pocket and smash it on the roadway.

The A.A. road patrols have reported the use of granite chippings, cinder ashes containing glass, and other tyre-destroy-ing road dressings by local authorities. The authorities concerned have invariably taken the necessary action for stopping the practice when informed of the dangerous practice.

The Trade and Competitions.

The Motor Cycle Manufacturers' Section of the Cycle and Motor Cycle Manufacturers' Union has had under consideration the question of trade sup-port to open competitions during 1920, and has decided to raise no objection to members supporting any of the twenty open competitions which are receiving licences from the A.C.U. if they feel so disposed.

The Section also decided to accord permission to manufacturers desiring to enter any of the four events promoted by the A.C.U., namely:

1. Tourist Trophy Races.

Six Days Trial.

Trial for Three-wheeled Cars.

Trial for Scooters.

The approval of the Competitions Conmittee is required to the rules and regulations governing the various competitions of 1920.

News from France.

At the hill-climb held by the Nice Motor Cycle Club on Mont Chauve the motor bicycle class was won by a B.S.A., with a Peugeot second and J.A.P. third. Among the sidecars an Indian was the Anong the steedars an Indian was the winner in the 1,000 c.c. class, a Motosacche in the 500 c.c., and a Clyno in the 750 c.c. class, with a B.S.A. second and Moto-Rève third. We understand that French makers are behind time in the production of your worlds. production of new models.

H. R. Davies Still a Motor Cyclist.

H. R. Davies, who tied for second place in the last Senior T.T. race on a 3½ h.p. Sunbeam, has now been demobilised, and will re-enter the competition field in earnest this year. He has joined Messrs. Amac, Ltd., and will enter most of the important events, including the T.T. Davies has a creditable war record. He joined as a D.R. in October, 1914, and went straight to France, where he remained until December, 1915, returning home for his commission in the R.E. He was transferred to the R.F.C. in June, 1916, acting as pilot for several months over "the lines." He was eventually shot down and reported missing for some time, but it transpired that he was a prisoner in Germany, where he remained for twenty months, and was repatriated about a month after the Armistice.



H. R. Davies, the well-known pre-war T.T. and competition rider, who has now re-joined the motor cycle trade after five years in the R.E. and R.A.F.

Special Features.

THE PERFECTLY FITTED MOTOR CYCLE. ACETYLENE LIGHTING. FITTING NEW PISTON RINGS.

The Junior T.T. 250 c.c. Class.

There is no doubt that this year's T.T. There is no doubt that this year s T.I. will receive support from every manufacturer who is in a position to build suitable machines for the races, but the moulders' strike has already ruled out several firms who would have competed had labour difficulties' been less acute. Several makers have signified their intention to enter, and amongst the entrants may be enter, and amongst the entrants may be mentioned the Levis and Cedos, both of which makes will probably be represented by several machines in the 250 c.c. class for *The Motor Oyele* trophy, as will the makers of the O.K. lightweight.

The Research Association of British Motor and Allied Manufacturers, Ltd.

Negotiations have for some time past been carried on between the Government Department of Scientific and Industrial Department of Scienting and Industrial Research and the Association of British Motor and Allied Manufacturers with the result that the Research Association of the British Motor and Allied Manufacturers has been formed under conditions entitling it to substantial financial assistance from the Government. The movement, too, is receiving influential support from within the industry.

The activities of the Association will fall under two headings: the collection

and dissemination of scientific information of value to the industry, and actual research and experiment.

Motor Cycle and Sidecar v. Train.

On a recent morning we left a certain village rather over twenty-five miles from London on a 4 h.p. single cylinder and London on a 4 h.p. single cylinder and sidecar, carrying a twelve-stone passenger. Just on the outskirts of the village we passed a colleague who was on his way to catch a train leaving at 8.31. We were, perhaps, seven minutes in front of the train. One stop was made during the journey, and a further stop was made in the outskirts of London to deposit our passenger. The colleague, was made in the dustries of London to deposit our passenger. The colleague, who travelled up by train, reached faringdon Street Station at exactly the same time as ourselves, and we drove him from there to The Motor Cycle Offices in Tudor Street. This is rather an interesting performance, as it shows that a journey from door to door can be accom-plished more quickly by motor cycle than by train, even though the said train touches fifty miles an hour, and only stops once between the starting point and the Metropolis.

MOTOR (YCLE

North-Eastern A.A. and the Six Days.

A meeting of the Motor Cycle Board of the North-Eastern Automobile Association was held at Newcastle on January 13th, when Mr. Q. A. Nicol, O.B.E., presided, and there was a representative attendance.

Over a dozen possible routes for the A.C.U.'s Six Days Trial, next July or August, were submitted, and ultimately accepted, in order to be forwarded to if more severe routes were desired, the Board would be prepared to submit another scheme with some other centre than Newcastle.

It was decided to delete from the rules of the Board all reference to distinctions between amateurs and professionals, and to allow the general rules of the N.E.A.A. to govern the situation.

The Motor Cycling Club.

The annual general meeting of the Motor Cycling Club will be held at 6.30 p.m., at Paganni's Restaurant, on Wed-

p.m., at Paganni's Restaurant, on Wednesday, January 28th.

The openmg run, following pre-war practice, will be to the Old Ship Hotel, Brighton, on Saturday, March 13th. Dinner will be served at 7 p.m., after which the medals won in the London-Exeter run will be distributed. Mr. W. H. Wells will be in charge of the arrangements Those members who desire accommodation should write to him, c/o The Hendee Manufacturing Co., Ltd., 366, Euston Road, London, N.W.I. Saturday, June 26th, has been definitely fixed as the date of the M.C.C. Inter-Team Trial for The Motor Cycle

Inter-Team Trial for The Motor Cycle 50 Guinea Challenge Cup.

Rolls-Royce Workers' Welfare.

The twelfth annual general meeting of Rolls-Royce, Ltd., takes place on the 23rd iust., when the directors' report will be presented. After providing for all charges, a uet profit of £153,261 has resulted, and a 10% dividend having been paid it is proposed that one-half of the

surplus profits above that amount be devoted to a works welfare scheme. The fund thus created will be expended in houses, recreation grounds, and other matters appertaining to the betterment of the social life of the employees of the company. It is also proposed that a

IMPORTANT DATES.

Sat. Jan 17th, to Sat, Jan. 24th - Montreal Motor Show.

Fri. Jan. 23rd. to Syt. Jan 31st -Scottish Motor Show, Glaszow.

Thurs., Jan. 29thuurs., Jan. 29th— Institution of Automobile Engineers, "appr by Dr. A. H. Gibson on "Air-cooling of Engines," (hamber of Commerce, Birming-ham, 730 pm.

Fri., Feb. 13tb, to Mon., Feb 16th-Paris-Nice Trial

Mon, Feb. 23rd, to Sat. March 6:h-British Iodus:ries Exhibition, Eirmingham

Sat. Feb. 28th— Sutton Coldf eld A.C. Trial for Colmore Cup Mon, March 1st, to Tues, March 16.h-Lyons Fair.

Good Friday, April 2nd-Inter-club Meet at Richmond, Yorks. Fri., May 21st-M.C.C. London Edinburgh Ruo.

Mon., June 14th, to Sat. June 19-Royal Scot ish A.C. Light Car Trial,

Tues. Jun: 15th-Junior T.T. Race, Isle of Man. Thurs. June 17th-Senior T.T. Race, Is'e of Man.

Wed, and Thurs., July 7th and 8th-Arbuthno: ?rophy Trial.

Sun., July 25th, to Aug 1st -International Six Days Trial in France. Mon, Aug 23rl, to Sat, Aug. 28t. --A.C.U. Six Days [rial.

class of shares, to be known as workers' shares, be issued at par, available to the workers for purchase by instalments. Should the holder leave the firm, the shares are to be redeemed at par. The scheme is one which may commend itself to other large companies.

The Paris-Nice Trial.

We learn that the number of British entries for this competition has beaten all records. A further attraction to the event is the offer of a cup, value £100, from Le Petit Journal for the best performance of an international club, English clubs intending to compete should nominate teams of three men and forward

nominate teams of three men and forward them to Mr. G. Sweerts, Motoryclisme, 1, Cité Paradis (Xe), Paris, France. British motor cycles will be weighed and examined at the laboratory of the Automobile Club de France, Bonlevard Bourdon, Neuilly, on February 12th from eight o'clock in the morning.

All competitors should write to M. Sweerts as soon as possible, stating how many rooms they require at Montgeron, Dijon, Lyon, Marseilles, and Nice.



The silver cup, valued at £100, given by Le Petit Journal for the best performance of an international club in the Paris-Nice trial.

PARIS-NICE RUN.

Official List of Entries for the Popular Event on February 13th to 16th.

CLASS 1 .- 250 C.C. André Dupont (248 c.c. Motosolo)
 Emmanuel Dubost (248 c.c. Motosolo)

CLASS 2.-350 C.C.

CLASS 2.—350 C.C.

10. L. Horton [295 c.c. New Imperial]

11. W Milner [295 c.c. Diamond)

12. C. Maurice Greenwood (295 c.c. Connaught)

14. — (Edmund)

15. — (295 c.c. New Imperial)

16. — (295 c.c. New Imperial)

17. Camille (289 c.c. Diamond)

17. Camille (269 cc. Diamond)
CLASS 3-500 C.C.
20. Graeme Feuton (400 cc. A.B.C.)
L Gabriel (400 cc. A.B.C.)
L Tom Gillie (409 cc. Sunbeam)
L Tom Gillie (409 cc. Sunbeam)
L Tom Gillie (409 cc. Sunbeam)
L Gabriel (400 cc. Sunbeam)
L Gabriel (400 cc. Sunbeam)
L Gabriel (400 cc. Oventry Eagle)
L Locian (Loca (500 cc. Oventry Eagle)
L L Gabriel (400 cc. Bleriot)
L Gabriel (400 cc. A.B.C.)

40. Calvignae (540 c.c. Louis Clement)
44. — (540 c.c. Louis Clement)
44. — (540 c.c. Louis Clement)
45. — (540 c.c. Louis Clement)
46. Mme J. Taymans (550 c.c. Scott)
47. H. O. Wood (55.2. S. c.c. Scott)
48. Capt. N. D. Vinter (53.2. S. c.c. Scott)
50. Geothey Hill (550 c.c. Triumph)
51. Francy (550 c.c. Triumph)

CLASS 4 (Continued).
52. Ringot (550 c.c. Triumph)
53. H. White (550 c.c. Triumph)
54. Debay (654 c.c. Rover)
55. Jesse Baker (532.5 c.c. Scott) 55. Jesse Baker (552.5 c.c. Scott)

CLASS 5.—1,000 C.C.
60. Horet (950 c.c. Janoir)
62. M. J. Taymans (997 c.c. American Excelsior)
63. Werder (998 c.c. Harley-Davidson)
64. Vanderille (997 c.c. Indian)
65. Maj. J. Woodhouse (Matchlass)
66. Harry Reed (770 c.c. Dot)
67. — (770 c.c. Dot)
67. — (770 c.c. Dot)
68. Barnard (997 c.c. Indian)
70. R. F. Lucts (770 c.c. Zenith) CLASS 6 .- SIDECARS, 350 C.C.

CLASS 7.—SIDECARS, 500 C.C.

100. Detruche (400 c.c. A.B.C.)
101. L. Psatty (499 c.c. Rover)
102. Guiguet (G.L.)
103. A. Galien (Bencit Gonin)
104. P. W. White (Sunbeam)

104. P. W. White (Sunbeam)

CLASS 8.—SIDECARS, 750 C.C.
110. Delabre (654 c.c. Rever)
111. F. Gompetz (750 c.c. G.L.)
112. Moret (750 c.c. G.L.)
113. Lacour (750 c.c. G.L.)
114. Lacour (750 c.c. G.L.)
115. Lacour (750 c.c. L.)
116. Lacour (750 c.c. L.)
117. V. Donglas Hawkes (748 c.c. A.J.S.)
118. Harold Petty (653 c.c. Norton)
117. V. E. Horsman (633 c.c. Norton)
118. R. Dupuis (557 c.c. B.S.A.)
119. — (540 c.c. Louis Clement)
120. — (540 c.c. Louis Clement)
121. — (540 c.c. Louis Clement)
122. Stanley Parker (633 c.c. Norton)

CLASS 9 .- SIDECARS, 1,000 C.C. CLASS 9.-SIDECARS, 1,000 C.C.

130. Collot (988 c.c. Harley-Davidson)
131. P. L. Boisserie (988 c.c. Harley-Davidson)
132. C. Scherre (988 c.c. Harley-Davidson)
132. C. Scherre (988 c.c. Harley-Davidson)
133. D. Brodt (1982 c.c. Harley-Davidson)
134. M. Brodt (1982 c.c. Harley-Davidson)
135. Paul (988 c.c. Harley-Davidson)
137. — (988 c.c. Harley-Davidson)
138. — (988 c.c. Harley-Davidson)
139. — (988 c.c. Harley-Davidson)
140. Remy (997 c.c. Indian)
141. Remy (997 c.c. Indian)
142. — (1666 c.c. Janu)
143. — (1666 c.c. Janu)

CLASS 10.-CYCLE CARS, 750 C.C.

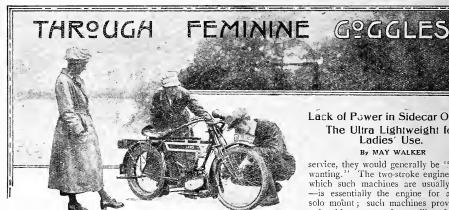
CLASS 11 .- CYCLE CARS, 1,100 C.C.

150. — (Elfe)
151. Kay Don (Wilton)
152. Maj. R. C. Empson (988 c.c. A.V.)
153. E. A. Tamplin (Tamplin)
154. Capt. Nash (G.N.)
155. Bondelovyne (Morgan)
166. E. Chapman (Morgan)

NOT YET CLASSIFIED.

Foulhoux (-

C11



FEW years ago sidecar machines with engines of very small capacity were considered by some to be the ideal outfit for the lady driver. These have now almost disappeared, and quite rightly too, for, in the scales of continued and efficient

Lack of Power in Sidecar Outlits. The Ultra Lightweight for Ladies' Use.

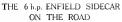
By MAY WALKER

service, they would generally be "found wanting." The two-stroke engine—with which such machines are usually fitted -is essentially the engine for a light solo mount; such machines provide an enjoyable means of travelling for one

person with far greater comfort and less cost than the railway.

Doubtless when manufacturers are in a better position to cope with the unusual demand for motor cycles, we shall find light machines listed that can be used as miniature passenger outfits. The sidecar may be light and attractive, but, unless the engine is up to 3½ h.p., I would strongly advise the lady motor cyclist to resist its appeal.

I have travelled far and wide during the last twelve months, and have been surprised to notice how few lady motor cyclists are riding in the Midlands. This being the home of the motor industry, one expects to find many women awheel, but I encountered many more "down south." Probably this is due to the lack of machines specially designed for ladies' use. In this direction manufacturers appear to ignore what must



This machine has proved an admirable outfit for a lady to handle where power is needed Its two-speed gear is probably the simplest type fitted to a powerful mount



Through Feminine Goggles .-

be a very certain demand both for the solo and the sidecar types of machine.

Wanted-a Simple Lightweight.

For a solo machine, the question is how low can one keep the power and consequently the weight and yet obtain a mount that is fully capable of carrying one person up all main road gradients? I remember a 14 h.p. Little Giant that I owned round about 1912. It had many faults, but not unreasonable ones. I feel sure, with latter day knowledge concerning small engines and scientific frame design, the British industry could now produce such a machine to be in every way reliable. Not only do ladies-but a large number of men also-require an ultra-lightweight machine, and perhaps the introduction of a 250 c.c. class in this year's T.T. Race may be the means of bringing the real lightweight machine forward. In the meantime such a machine as the Levis Popular is a sound investment for the lady who looks for efficiency without the extra weight in the way of gears and such extras. These machines are exceedingly simple, easy to ride, and light to handle. They are usually made with diamond frames only, but the 24in, wheels and saddle position are low enough for even a small woman. There is no need for ungainliness in mounting, while the controls are so few that the novice can easily acquire the necessary knowledge to master them.

A Novices Long Journey.

We all know how the Levis performed in expert hands during last year's trials, but a fact that seems to me to portray greater reliability is that a young girl of my acquaintance undertook, and successfully carried out, a journey of some two or three hundred miles without knowing the sparking plug from the belt fastener.

belt fastener.

I do not believe in asking a machine of this power to carry an extra passenger. Not because it would be incapable of it, but because the practice, if not

dangerous, is most uncomfortable. We have heard much of the driver's views on pillion riding, but we rarely hear the pillion rider's ideas on the subject. I am quite certain that members of my own sex who have tasted the comfort of a modern sidecar, or any sidecar, would infinitely prefer it to being joited and bumped above the unsprung back wheel. The man who asks a lady to pretend to enjoy this mode of travelling, when a sidecar is obtainable at a little cost, is sacrificing his fair companion's comfort to his own preference for a solo machine. There are ages and stages when one can enjoy the most crude forms of pleasure—one recalls the seesaws of one's youth—but tastes change.

A 6 h.p. Sidecar.

A contrast in types is afforded by the 6 h.p. Enfield combination. One does not ask what the engine can do. It has all the power that reasonable managements. It is fitted with a most comfortable and well sprung sidecar, and the brakes are better than those on many makes. When the manufacturers have had time to look round, perhaps they will give us a niche in which to fit the petrol can to save strapping and unstrapping when the tank requires replenishing, also a nice aluminium locker permanently fitted to the back grid large enough to hold the luggage necessary for a holiday. Of course, the grid should be sprung with the body, and then we can pack our luggage without fear of damaging the body.



TAXATION.

Increased Molor Cycle Taxation is Threatened, and it is Practically Certain that the Fuel Tax will not be Retained. Below are given Several Alternatives.

HE vital question of taxation is discussed in *The Autocar* of January 10th, from which it would appear that the difficulties of collection are likely to put the fuel tax scheme out of court. This leaves us with the alternatives of a direct tax on each vehicle on existing lines. It is likely that this tax will be increased, so that the question of horse-power rating formula is of the greatest importance.

In spite of its disadvantages, The Autocar is inclined to agree that the present Treasury rating should be retained for cars, in view of the possibility of even

more unsuitable formulæ coming into use.

So far as motor cycles are concerned, it is satisfactory to know that motor cyclists are capably represented on the Motor Legislation Committee, which is acting in an advisory capacity to the Government; and, if one goes into the question thoroughly, it must be appreciated that such representation is very necessary, as. it does not follow that a satisfactory formula for car taxation would be equally satisfactory for motor cycles. As far back as 1913 we ventilated this question when the Treasury was before considering the revision of motor cycle taxes. We showed how absurd the present car formula would be when applied to motor cycles, as was suggested. In fact, it was largely due to these examples of anomalies and a Motor Cycle petition that the idea was dropped.

We repeat some of these below:

					£s	. d	i.	
6 h.p. twin	motor c	vcle		 	4 1	4	6	
8 h.p. twin l					4	4	0	
4 h.p. four				 	4 1	4	6	
7-8 h.p. four	-cvlinde	r F.N.		 	4.1	4	6	
3 h.p. singl	e			 	2	2	0	
23 h.p. twin			'	 	3	3	0	

According to *The Autocar*, the final selection of modes of taxation will probably lie between:

A.—Taxation by unit of horse-power (formula).

B.—Taxation by unit of cubic capacity.

C.—Compound tax.

Taxation by Cubic Capacity.

The first-mentioned will bring up the old question of horse-power formula, for it is obvious that, if bore alone is taken, as in the present car rating formula, it will not be fair to motor cycles. The second—taxation by unit of cubic capacity—has many pitfalls; and the last means abolishing the present petrol tax, and compounding it with either A or B on an assumed petrol consumption, say, for 5,000 miles annual running.

We have already shown some of the anomalies obtaining where the present Treasury rating for cars is used, and, therefore, if a horse-power rating is used, it will have to be different from the one now in use, stroke being taken into consideration. In this connection a simple unit to use would be for 125 c.c. to be regarded as I h.p. It is a formula which may be regarded as giving actual power quite as accurately as any other formulæ can give, and has the advantage of also covering the second suggestion.

If such a unit were used for both cars and motor

cycles, and we assume a tax of 5s. per horse-power, we get the following results:

 125 c.c.
 ...
 5s.
 500 c.c.
 ...
 20s.
 875 c.c.
 ...
 35s.

 250 c.c.
 ...
 10s.
 625 c.c.
 ...
 25s.
 1,000 c.c.
 ...
 40s.

 375 c.c.
 ...
 15s.
 750 c.c.
 ...
 30s.

It is clear at a glance that such a unit for cars would not be satisfactory to the Treasury Department, which at present derives a greater revenue from the present rating, of which the following are a few examples:

 Singer (1,097 c.c.)
 ...
 65s.
 2,000 c.c.
 ...
 84s.

 A.V. (961 c.c.)
 ...
 65s.
 3,000 c.c.
 ...
 126s.

 1,500 c.c.
 ...
 ...
 65s.
 ...
 ...
 ...

From the above, it would seem that any attempt to adjust present car formula with the intention of embracing motor cycles will be very hard upon the latter, because even the basis of present rating makes a 100 c.c. unit approximately 6s.

On this basis, motor cycle taxes would be as follows:

It will be appreciated that such taxes, in addition to a petrol tax, would make motor cycles very expensive; and, while it is understood that motor cyclists will have to pay an increased rate of taxation, the cubic capacity unit is not altogether ideal if the same rate is to apply to cars.

Effect of a Compound Tax.

There is one more system which may be suggested, and this is that the basis be one of weight and include the present petrol tax. If such should be adopted, it cannot be expected that very small units will be used—motor cycles may even be divided into two, or at most three, classes, say 200 lb., 500 lb., and over 500 lb.

To appreciate fully the effects of this system, the present taxes should first be considered.

 Approx.
 Tax on Veight.
 Tax on Veight.
 Tax on Veight.
 Total.

 572 lb.
 Sidecar, 50 m.p.g.
 £1
 £2 l0s.
 £3 l0s.

 300 lb.
 Solo, 75 m.p.g.
 £1
 £1 l3s.
 £2 l3s.

 196 lb.
 Solo, 100 m.p.g.
 £1
 £1 st.
 £2 2 ss.

From the above it will be observed that a new inclusive tax of £2 for machines of 200 lb. or under, £2 ros. for those between 200 and 500 lb., and £3 ros. for the over 500 lb. class, which would cover practically all sidecars, would be in keeping with present-day taxation, when a motor cyclist rides 5,000 miles during the year. True, many exceed this figure; on the other hand, there are a large number who do not reach it, so it may be taken as a fair average.

It is agreed that motor cyclists must pay their share towards the upkeep of the roads, and, so long as this share is in proportion to the weight and power of their machines, no fair-minded rider will object to paying such apparently large sums. What he will object to will be a formula by which he may be called upon to pay as much as or more than the owner of a machine weighing perhaps double the weight of his own.



Essex M.C. Annual Dinner.

The fifteenth anniversary of the Essex d.C. was celebrated by a dinner at the testaurant Frascati on Saturday last.

An Earlsfield (S.W.) Club?

It is proposed to form a motor cycle lub for Earlsfield district, and any motor yelist in the locality, or adjacent thereo, wishing to join should communicate with the secretary (pro tem.) at 20, Valdron Road, Earlsfield, S.W.18.

South Birmingham M.C.C.

The annual dinner and prize distribu-ion was held on Friday evening at the Vhite Horse Hotel, Congreve Street. 'he attendance, which was large, inluded many prominent motor cyclists nd representatives of the trade.

North Wilts M.C. and L.C.C.

An enthusiastic meeting was held on he 14th inst., when it was decided to orm a Motor Cycle and Light Car Club nder the above name. Preliminary deails were discussed, and a temporary hairman and secretary appointed.

A further meeting will be held on Wedesday, January 28th, at 8 p.m., at ay's Restaurant (side entrance), Wood treet, Swindon.

The secretary (pro tem.) is Mr. A. R. Vorris, 26, Kent Road, Swindon.

Surbiton and District M.C.C.

At a meeting held at the Fox and lounds Hotel, Surbiton, on the 14th inst., was unanimously decided to form the club. About sixty prospective iembers were present.

It has been decided to call the first unual general meeting to take place on r about January 28th at more commodious uarters to elect officials, arrange competilons and social functions for the coming

ason, and to elect members.

Mr. W. B. Reeve, of 25, Ditton Road, urbiton, who was elected hon. sec. ro tem. will be pleased to hear from my motor cyclist or light car owner who interested. interested.

N.M.C.F.U. (Rotherham).

A very successful meeting of members f the N.M.C.F.U. was held in the .M.C.A. Rooms, Rotherham; on Saturay, the 17th inst. It was agreed unani-nously to form a branch of the I.M.C.F.U. in Rotherham, a provisional ommittee being appointed, with Mr. C. krown. "Glencroft," Deepdale Road, totherham, as convenor, and a further teeting arranged for Friday, the 30th 1st., in the Y.M.C.A. Rooms, Rotherham, commence at 7.30 p.m., to elect officers nd arrange a programme for the 1920 in son

Future Events.

Jun. 23-25.—Bath and West of England M.C. Twenty-four Hour Trial to Land's End and

Jun. 27.—Rochester, Chatham, and District M.C. Annual Meeting, Crown Hotel, Rochester,

Annual Meeting, Crown Hotel, Rochester, at 8 p.m.c. Annual General Meeting, Paganari's Restaurant, 6:30 p.m. Jan. 28—Surbiton and District M.C.C. First Jan. 28—N. Witts M.C. and L.C.C. General Meeting, Lay's Rectaurant, Swindon. Meeting, V.M.C.E.U., Rotherham. Meeting, V.M.C.E.U., Rotherham. Meeting, V.M.C.E.U., Tondithon. Conditions. Feb. 9—Nottingham and District M.C.C. Rennian Dinner.

Feb. 6.—Nottinghom and District, M.C.C. Reamon

Dimer.

Feb. 12.—Exeter M.C. and J.O.C. Annual dim r.

Feb. 13.—Rechester, Chatham, and District M.C.

Whist Drive un' Dance, Queen's Holl,

Chatham, and District M.C. Annual Dinner
and A.G.M.

Mar. 2.—Ealing and District M.C.C. Annual

Dinner, Clarendon Restauront, Hommer

smith.

smith. Mar. 13.—M.C.C. Openina Run to Brighton. Mar. 20.—Home Counties Clubs' Reliability Trial

Skewen M.C.C.

A motor cycle club has recently been formed at Skewen, Glam., and the opening run will take place on Saturday, the 31st, at 3 p.m., from the Harp Hotel (weather permitting). The secretary protein. is Mr. Joseph Evans, 14, Newall Road, Skewen, near Neath.

Exeter M.C. and J.C.C.

The committee of this club, having decided to assume the responsibilities of the 1914 committee, will be glad if persons having claims against the club for prizes won in competitions prior to the war will communicate with the hon. secretary (Air. T. J. Mooney. The Wessex Garage, Exeter) on or before January 30th. The committee will not hold itself responsible for claims made after this date

Liverpool M.C.

The following alterations have been made to the provisional results of the made to the provisional results of the above-mentioned trial, published in October, 1919: J. A. Newman [3½ Sunbeam), 102 marks. Reliance cup. Noel H. Brown [7-9 Indian sc.), received 101 marks. T. Weaver [2½ Verus), received 90 marks, and is therefore awarded a silver medal.

Nottingham and District M.C.C.

A reunion dinner has been arranged at the Albert Hotel, Derby Road, on Friday, February 6th, at 7 p.m., to which ladies are cordially invited. The tickets are 10s, each.

Members requiring tickets are requested to apply, at once, to Mr. J. Simmonds, hon, secretary, 10, Cranmer street, Nottingham.

Birmingham M.C.C.

The annual dinner and prize distribution of the Birmingham M.C.C. will take place on Saturday, the 24th inst., at 6 p.m. It is to be held at the Queen's Hotel. An excellently arranged list, in tabular form, of awards gained in the 1919 competitions has been prepared.

Sutton Coldfield and North Birmingham A.C.

The Sutton Coldfield A.C. have now incorporated the North Birmingham Motor Cycle Club, and in future the combination will be known as the Sutton combination will be known as the Sutton Coldfield and North Birmingham A.C. The club will hold the Colmore Cup Reliability Trial on Saturday, February 28th. All particulars may be obtained from Mr. Phil. Mosedale, The Nook, Maney Hill Road, Sutton Coldfield.

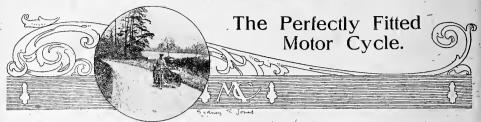
Dublin and District M.C.C.

The Dublin District and Motor Cycle Club have elected Mr. N. E. Drury as president for the coming season. Mr. Drury has recently been demobilised after a lengthy term of service with the Forces, having served with the "Dublins" in Gallipoli and Serbia. Mr. W. H. Freeman will again act as hon. sec., and the committee has been strengthened by the addition of several new names. Although the club will not have the distinction of running any of the open events recognised by the trade—the only recognised Irish event being the End-to-end. which will be run under the auspices of the Ulster centre of the Union-they have issued a very comprehensive competition programme, which includes no lewer than thirteen events.

Amaigamation of Clubs.

The proposed amalgamation of the Burnley and Preston Motor Cycling Clubs with the Blackburn and District Club was carried a step further at a recent meeting of the latter organisation, when it was decided to change the name of the Blackburn Club to that of the East Lancashire Motor Cycling Club. The area of the club's tuture activities will thus be considerably extended, and will embrace all districts from and including Colne, Nelson, Burnley, Accrington, and Haslingden, and the Rossendale Valley, on the one hand, and Darwen, Chorley, Ormskirk, Leyland, Preston, Blackpool, and Lancaster, on the other. Motor cyclists beyond this area will also be eligible for membership. It was further decided to make representations to the Bolton club, with a view to their inclusion, and to have conferences with representatives of the Burnley and Preston clubs in regard to the scheme.





A Plea for Symmery of Design and Enclosure of Details.

ROM an accessory standpoint, most riders have two principal complaints to make against modern machines. It is the easiest thing in the world to equip a machine with first-class accessories, all of them reliable, and all of them thoroughly welldesigned to suit the purpose they have in view. On the other hand, the day of perfection is not yet. After an outlay of up to £200 on the naked machine,. further investments are necessary to make the mount ready for the road, and this secondary outlay may reach as high a figure as £15. Secondly, when the purchasing process is complete, the machine bristles like a heap of spillikins. It has probably lost any symmetry or beauty of outline with which its designer originally endowed it; the difficulty of cleaning it and its liability to rust have been greatly enhanced. Neither objection is of a fundamental character: the first is financial, the second is mainly æsthetic; but the perfect motor cycle will be-free from them both; and they are worthy of attention.

Moreover, the time has evidently come when such matters must enter on a new phase, for two novel factors have arisen. Until 1919, every buyer of a motor cycle bought a lamp and hooter immediately after his machine was delivered; and in many cases he added a speedometer as well. At the 1919 Show, many of the exhibits included all these items in their specification, and, by the 1920 Show, this innovation may have become standard practice (bulb horns will no longer survive on electrically-equipped machines). From this single innovation it follows that in future designers will plan a layout which includes the bulkiest accessories; and there is no reason why they should not aim at a cleanliness of outline of which we have not yet dreamt.

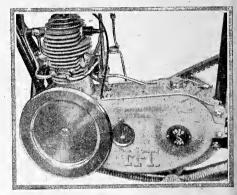
Cleanliness of Design.

A second factor may be added. An influx of new blood is jerking motor cycle design out of the groove into which it had tumbled. Should the motor cycle factories decrease in number and increase in size, they will attract engineers from the motor car industry; and in that industry cleanliness of design is a high spot at present-so high that it is sought after where it is of comparatively small importance, e.g., under a bonnet, protected from dirt. On a motor cycle, spiky design has a profound effect on the rider's happiness. .All the spiky portions of a car's exterior are being cleaned up; discs conceal the spokes; valances cover up the springs and brake rods; the control levers have vanished into the interior of the body: the running boards are being cleared of boxes. A casual glance through the illustrations in any issue of *The Motor Cycle* suggests that motor cycles stand in far more urgent need of such treatment; there is not a machine on the road which is not an appalling dirt and rust trap.

Hence completely equipped machines with a clean, smooth exterior are bound to come. They would have been with us already had the Italian industry reached an advanced stage; for the Italian engineer is an artist even when he is most practical.

A Smooth Outline.

The cleaning up process must, of course, be applied to the "chassis" before there is any great point in applying it to the equipment. The wheels, the front fork, the crank case, the gear box, the cylinder, the carburetter, and the magneto installation are at present honeycombed with chinks and crannies. Until these



The Metro-Tyler power unit, one of the first of British designs to be totally encased

have been cleaned up, the bristly appearance and dirt-trapping propensities of bolt-on horns, lamps, and speedometers are comparatively trivial. But these components are already being subjected to the necessary treatment, although the process is in its infancy. There is a tendency to eliminate nickel plating. Front fork springs are sometimes encased. Crank cases and gear boxes are cast smooth. Patents are out for cowling in cylinders. The base of the machine is being flattened out into a broad platform with upturned ends in front. Disc wheels are growing in popularity. The magneto is neatly housed on most modern flat twins. Technically speaking, there is absolutely no reason

The Perfectly Fitted Motor Cycle .-



The makers of the Cedos have evidently reasoned on the same lines as our contributor, all the fittings of the machine being rigidly attached to lugs incorporated in the frame.

why the entire power unit should not be encased as completely as it is on a car. Given disc wheels and a neat fork, the machine would then be ten times as "clean" in appearance and in use as any machine which has yet appeared.

Improvements Suggested.

A little thought will reveal how simply many spiky appurtenances of the modern machine can be tidied up. The automatic carburetter already tends to oust the air lever. An ignition lever we must have, but few riders touch it, except on T.T. engines; and it need not be mounted on the handle-bar. The Indian machines have always carried their air lever on the carburetter, because it is seldom operated. A finy knob on the timing cover of the magneto could be operated by the knee on the rare occasions when a slight retard is required. If the pedal clutch is used, only the valve lifter and throttle would remain to be operated from the handle-bar; and, if these controls were of the twist-grip variety, an absolutely clean handle-bar would be the result.

An electric lamp is essentially "cleaner" than an acetylene lamp with generator and tubing. The wiring can be run inside the frame tubes or beneath the detachable side panels covering our imaginary power unit. These panels need not even be of metal; patent leather secured by the Hall lightning fastener would fill the bill. The tail lamp should be sunk flush with the rear number-plate, instead of being: a clipped fitting

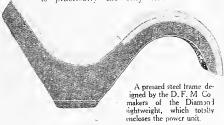
projecting at the side.

The electric hooter should be get-at-able and detachable, since such devices require occasional adjustment. It might be mounted in the angle between the front mudguard and the front forks, or secreted beneath the engine "bonnet." In no case should it be mounted on the handle-bar, where it would look ugly, and disturb the steering balance.

Neat Methods of Fitting Speedometers, etc.

The speedometer might well be accommodated in the tank. Many modern tanks are broad enough at their front ends to house a countersunk clock on one side of the top tube and a speedometer dial on the other. With the "tape" pattern of speed indicator used on some instruments, a very small space of tank surface would be required, since it is not really essential that the distance recorders should be legible from the saddle.

Numbers will cease to be carried on flimsy, protruding sheets of tin. The front numbers might be painted Scott fashion on the sides of the valanced front guard, and the rear numbers will perhaps be painted on the stern panel of a pressed steel rear frame. The saddle is practically the only item which will



refuse to be absorbed into the smooth outlines of the really "clean" machine.

Sooner or later some sound engineer and practical rider will evolve a machine of this character. It will not necessarily be a penny more costly than a bristly machine of the ordinary type, and riders will then inform the industry with no uncertain voice how greatly they dislike the bad appearance and filthy habits of existing types, which only sell because no alternative of equal quality is on offer.

B. H. DAVIES.

THROUGH AMERICAN SPECTACLES.

A LONDON correspondent of our American contemporary Motor Cycling and Bicycling, and one whose nationality is not in doubt, is responsible for the following comments:

"Bicycle motor attachments, which have been thoroughly tested in America and have won merited recognition, are not yet well established in British esteem, although the scooter, which failed to take in America several years ago, is creating quite a furore. From our point of view, it is difficult to understand how some of the British critics can fail to recognise and commend the American bicycle attachments of obvious and proven utility, like the Johnson motor wheel, the Evans power cycle, and the Briggs and Stratton wheel, and then proceed to laud the fantastic British scooter creations. To the American mind, the British scooter seem to be a sort of second cousin to the common or garden variety of lawn mower. It is to laugh when they hear of British propagandists attempting to criticise the American products."

It is hard to believe that the writer of the foregoing is in close touch with the motor cycle movement either in this or his own country. In the first place the "furore" created by the scooter is largely due to prominence given to an American machine by the lay press, which we are now calmly informed failed to take in America. The Johnson motor wheel had not been seen in this country prior to the Olympia Show. The Evans power cycle is of a type which has been marketed in various forms in this country ever since the motor cycle movement commenced.

ever since the motor cycle movement commenced. So far as the Briggs and Stratton wheel is concerned, is this an American invention? Is it not the British Auto-wheel made under licence?

Truly it is to laugh when we hear American opinion, if this be a fair example.



The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Heritord Street, Coveniry, and must be accompanied by the writer's name and address.

REMOVING CARBON.

Sir,-A writer in the Scientific American advises using common salt to get rid of the carbon in your cylinders.

"Warm up the engine, remove the plugs, and pour a teaspoonful of salt into each cylinder. Replace the plugs and start the engine, and 'the carbon will pour from the

I wonder how many of your readers have ever tried this method! L. HARLEY.

NIGHT RIDING.

Sir,—May I submit the following suggestion for making night driving less dangerous? I do so, after exhaustive personal tests, with the fullest assurance that it will meet

the exigencies of the case, and prove a boon to all road users.

Instead of the short hood fitted to most lamps, I would make it compulsory to fit a longer and deeper hood that would prevent any rays of light rising above a horizontal line from the burner. A deflecting shutter fitted to the upper half of the lamp's front, diverting all upward rays to a forward direction, would also meet the case. The effect is to strengthen the light on the road, giving clearer vision in fogs and mist, and for approaching lights to disappear gradually from the eyes of drivers when passing each other.

AN IMPROVEMENT IN AIR COOLING.

Sir,—I notice that Captain Lindon Pearson states he has protected a device similar to mine. That may be so, but I fancy that I anticipate him by some time.

I also note that my device, according to Captain Lindon Pearson, will not work except for very light running. It is a small point, but may I state that the engine concerned has been run for many miles under an extra load, i.e., a passenger. It can be overloaded to a degree that can be upheld by official observers, and brought to a stop without any semblance of overheating.

I may also add that the machine is going before the A.C.U. official observers at an early date.

On bench tests the engine has run for half an hour at full throttle, developing 5½ h.p. at 2,000 revolutions. Perhaps this is what Captain Pearson would call "very light through the control of the cont running, HAWLEY MORGAN.

PRICES.

Sir,-Do British motor cycle manufacturers realise how much business they are losing by not taking the trouble to fix the prices of their new models? Many of us are thinking about the coming season, and looking through the advertise-ment pages before placing an order for a new mount. We know we shall not get a new machine in a week, and are prepared to wait, but before committing ourselves we do want to know approximately how much we shall be required to stump up when the long-expected day arrives. Yet we find that firms who have spent thousands of pounds advertising their new models have never yet condescended to give the slightest indication of the prices they propose to charge.
One firm has the pluck to announce that there will be no

increase in its advertised prices for the coming year. May they succeed! If it is possible for one it must be possible for another, and in the coming stress of competition the firm which will face no risks can hope for no prizes. I have been waiting for months to know the price of a certain machine. I will wait a little longer, then, unless the price is published, my order will go where others are going—elsewhere. Cambridge. P.

P.G.S

REPAIR OF ROADS.

Sir,-I would like to back up "D.G.R." in his statement

of roads and road repairing in Scotland.

I am not actually acquainted with the particular road he speaks of, but I can bear out his statements in regard to the

main road from Stirling to Glasgaw.

Near the former town there is a stretch which has been patched time and again, but it is crowded with bumps and pot-holes: in fact, to such an extent that on one occasion I found a steam roller reposing there with a broken rear SOUND LIVER axle.

Stirling, N.B.

DETACHABLE CYLINDER HEADS.

Sir,-I have from time to time seen references in your paper to the difficulty of keeping a gastight joint in the cylinder when fitted with a detachable head. Not long ago "Ixion," in his Comments, refers to this difficulty in connection with a cylinder provided with two annular joints in the combustion chamber, and it has occurred to me that it might not be without interest to mention a dodge which I found very effective years ago on my 1903 Werner. This machine was fitted with a detatchable head held in place by two long bolts passing through lugs in the crank case, and the joint was made with a copper and asbestos washer. For the first three or four hundred miles after decarbonising the compression was always poor, until I hit upon the plan of smearing some engine oil on the copper and asbestos washer before bolting up the head. This oil used to carbonise at once and form a perfectly gastight joint.

Since those days I have ridden machines fitted with cylinders made in one piece, and when decarbonising have often sighed at the thought of the ease with which the job was done in those old days.

A. M. HICKS.

WHY?

Sir,—In reply to the query of your correspondent, "B.T.P.," in your issue of January 1st, as to the reason for what he calls "running down" of the modern three-speeder de luxe, may I venture the opinion that he has missed the point of the

writers ("Ixion," presumably, for one) referred to.

I hardly think anyone doubts for a moment that a very large section of the motor cycling community has no use whatever for volumetric efficiency unless it goes hand in hand whatever for volumetric efficiency unless it goes hand in hand with increased comfort and ease of handling, and the single-geared T.T. models beloved of the sporting section of our pastime very rarely combine their volumetric efficiency with quietness or docility. But to imply, as "B.T.P." does, that the lovers of the single gear belittle in their hearts the modern three-speeder is, in my opinion, misleading. As an ardent enthusiast for the single gear and as the late owner of a very "hot" specimen of this type, I may say that I have no dis-respect for the three-speeder on grounds of inefficiency, although I think the weight of some of the more modern specimens excessive for solo work in normal country. The advantages of a slow quietly running engine and three speeds and clutch are invaluable under certain conditions-in fact, riding without them under these conditions ceases to be a pleasure of any kind.

Nevertheless, there is, and probably always will be, room

for the sporting single speed, because there are, and always will be, motor cyclists who preter tuning one engine ing gears, clutches, chains, etc., in the garage; and driving on throttle, air and spark to driving on clutch and gears on REVS. the road.

Beckenham.

MOTOR (YCLE

BAD TESTING.

Rotherham.

Sir,-May I say a few words in defence of the "D.R.'s." Sir,—May I say a few words in defence of the "D.R.'s." In the Christmas Day number of The Motor Cycle, under the heading of "Bad Testing," "Ixion" says: "I am perfectly certain that my 1919 machines were passed for delivery by D.R. testers, for no C3 man could have started them in the tune in which they reached me," Just over one year ago, the life of a D.R. very often depended on the easy starting of his machine; now is it possible for anyone to forget how to tune a machine in so short a time?

No, the so-called testers of "Ixion's" machines were certainly not D.R's."

certainly not D.R.'s.
Of the four years' despatch riding in France and Belgium. I have not come across a D.R.'s machine that was hard to

"Ixion" asks: "Have all the D.R.'s found excellent jobs?" No; yet another case of those who stayed at home holding the best jobs.

I, for one, was demobilised last April, and have been looking for a tester's or demonstrator's job ever since. Ex-D, R, M, M.

MANUFACTURERS' INSTRUCTIONS.

Sir,-Being one of those ardent motor cyclists who, on seeing any advertisement, book, or pamphlet, even remotely connected with a motor cycle, at once devour it, I am at once struck with the apparently absurd instructions makers

once strikes with the apparatus, issue with their motor cycles.

We are told on taking delivery of a new motor cycle to drive extremely carefully for the first hundred odd miles, and on no account to let the machine "all out"; whilst, and on no account to let the machine "all out"; on the other hand, we have a well-known maker advertising his machines to have exceeded 75 m.p.h.

I also know that the makers of a certain 23 h.p. Japengined lightweight test their machines at 45 m.p.h. : surely an excessive speed for such an engine.

an excessive speed for such an eighte.

Either the makers are making unnecessary trouble in telling their customers not to do this or that, or they will fully mishandle their machines, for the sake of advertisement, before the ultimate owners have a chance to do so.

W. A. BOURNE.

[The makers' advice is good. Not all riders are experts, and the makers have to consider the inexperienced. A short speed burst, with plenty of oil, will not hurt a new engine with every part an accurate fit. It is, however, easy to damage an engine by furious driving and under-Inbrication .- ED.

A REAL PUNCTURE PREVENTER.

Sir,—I was very much surprised to see a description of "A Real Puncture Preventer" in *The Motor Cycle* for December 24th, 1919. I beg to enclose a photograph showing a similar device. This was designed by me in 1911.



An overhead valve Matchless fitted by its owner with a puncture preventer.

you will see it was a piece of sheet iron riveted or bolted to the front of the rear mudguard, and a piece of thick leather with a square of sheet iron riveted to it to keep it flat. If any large substance came in the way it sprang back, and then returned to its former position. I never had a puncture in the back wheel whilst it was fitted.

J. H. WILKINSON.

THE VALUE OF THE AUTOMOBILE ASSOCIATIONS.

Sir,-I observed, a little time back, a reference to a little known department of the Automobile Association, but having had occasion to invoke its aid recently, I am convinced that a wider knowledge of the work of the Association in this direction would be of interest and value to

present and prospective members.

It concerns disputes between members and the trade, and to particularise I may say that 1 purchased, in the summer, a sidecar combination, at a price which was inclusive of various accessories, and was also to include a lamp set for the sidecar. This lamp set was not supplied. and efforts on my part to get the firm in question to fulfil their part of the contract were entirely fruitless; legal process would have been bothersome and expensive. I placed the matter in the hands of the Automobile Associaplaced the matter in the mands of the Automobile Association, and they took it up with such vigour that a most satisfactory offer was made by the firm in question in lieu of supplying the lamp set, which I had eventually purchased

There are many ways in which this method of intervention can be of value to members, and I hope you will agree that it deserves publicity.

London.

THE FUTURE LIGHTWEIGHT MACHINE.

Sir,-Having read with great interest in The Motor Cycle many articles and letters on the above subject, it would be interesting to know how the opinions of your readers agree

with, or differ from, my own on this subject.

I have no knowledge of the manufacturing side of the trade, but have experience of riding all types, and bave had charge of the maintenance and repairs of many makes

of machines.

of machines.

Being stationed in Germany, I lose touch-with current ideas, and can only keep up through the medium of your valued paper, for which I look eagerly every week.

My ideas of the ideals to be aimed at are as follow:

(a.) A machine of light weight, possessing a wider sphere of action than the scooter. (b.) Cheapness of running and low first cost essential; retail price should not exceed £45 complete. (c.) Absolute simplicity, as the majority of riders would be non-technical, and would have little or no time for constant adjustments, etc., being in all probability business men, whose leisure hours are all too short. (d.) Reliability and capability to maintain tune; speed would not be occarrial and 27 w. ph. maximum; control should be occarrial and 27 w. ph. maximum; control should be be essential, say 27 m.p.h. maximum; control should be absolutely simple but safe.

My suggestion for specification is as follows:

Engine: Single-cylinder two-stroke, about 250 c.c.; plain bearings, with lubrication by oscillating pump. Magneto ignition with either fixed or automatically variable firing

Petrol tank to have chamois leather petrol filter fitted in filling orifice, as this entirely prevents entry of water or dirt. Two-speed gear (constant mesh operated by dogs), controlled by handle-bar lever. Shaft and spiral drive to rear wheel. Wheels to be plain pressed steel disc, easily researched the state of the description of the state of the stat movable by large wing nuts, as in new C.L. sidecar com-bination. Easily detachable and contractible rims to be fitted, to minimise puncture repair difficulties. Large tyres.

ntted, to minimise puncture repair dimenties. Large tyres. Frame: Open type of pressed steel to enable it to be a "family 'bus." Spring forks; also a spring saddle pillar, as this would cost and weigh less than a spring frame. Pan seat. Footboards and ample leg-shields and mudguards to avoid the necessity for overalls. Rear stand spring operated.

Brakes: Internal expanding inside crown wheel of rear

wheel, operated by sensible sized pedal and rod.

Nuts and bolts to be, as far as possible, of two or three

sizes at most, to avoid necessity for large and weighty tool kit. Weight should not exceed 110 lb. fully equipped. Mass production and a thoroughly efficient service scheme would be essential. Foolproofness is absolutely necessary. Controls would consist of decompressor, change speed lever,

throttle, and brake.

Correspondents are urged to express themselves as concisely as possible, especially in view of the fact that only a small percentage of letters received can possibly be published. Many interesting letters are unavoidably omitted in consequence of their abnormal length.

Would some practical manufacturer or other experienced person say whether such a machine is possible at the price and weight stated? Opinions on the specification would be highly interesting.

Germany.

D. S. D. WILLIAMS,
Lieut., R.A.S.C., M.T.

FUTURE DESIGN SUGGESTIONS.

Sir,-I believe all serious motor cyclists are keenly alive to the very obvious shortcomings of the present method of construction of the average motor cycle as adopted generally by English manufacturers, and probably in their hearts the majority of makers are just as fully alive to the field that is open to sweeping and real improvement in the machines they are to-day constructing. The chief brake on initiative I put down to the huge demand by the general public, and thus the manufacturer continues to supply a machine that is recognised by himself and the buyer as a mass of assembled oddments, the one exception to this being Mr. Granville Bradshaw's A.B.C., and he has made a real and conscientions effort to produce a machine that had as its origin the drawing board and the brain of an engineer who looked into the future instead of the past. It is perhaps a case of where angels fear to tread, but I want to suggest a few points in addition. Let us do away with tubular construction and have pressed steel frames sprung fore and aft.

Let the hot-stuff engine makers—to choose at random from amongst, say, Blackburne or Metric—produce a clean unit engine with outside flywheel, three speeds, bever

and transverse shaft, and chain sprocket, complete with selfcontained aluminium silencer ready to drop into the pressed steel under tray of the frame with four holts only.

Let the petrol tank be built in front, forming part of really substantial leg guards, pressure fed, and low down. Let the back and front mudguards be at least six inches wide, the front valanced four inches, the back to be valanced level with the aluminium chain cover. The aluminium chain cover to be rigidly fastened on the mside to the frame, the front to be attached by four large wing nuts, the interior to be lined with heavy felt, and two large oil drip lubricators to be fixed over each sprocket.

Internal expanding brakes fore and aft. Back wheel to be able to be withdrawn without disturbing chain, chain case, brake, or chain sprocket. Scrap all Bowden wires, and actuate single-lever carburetter by sector throttle on top frame bar, coupled up to accelerator pedal on footboard; the magneto advance, which requires but little manipulation, to be by hand lever also attached to the top bar of the frame.

Gate change speed, both tyres three and a half inches, and at least two inches clearance between wheels and forks each side; provision for luggage carriers, instantly detachable, on each side of the back wheel. Six inches top width, and extending to the bottom of the chain case, ditto off side; top bar pressing to contain large compartment for tools.

Replace present type saddles by bucket seat with leaf brings. Head light to be built in the frame head, electric

installation and starter, rear lights ditto.

I will engage to say the first English manufacturer who produces a machine on these lines at his own prices will not produces a machine on these times at his one places and need to look for buyers or spend money in advertising. He will have the market that Rolls-Royce or the Hispano people have now.

L.S.D.

Craven Arms.

THE LIGHTING REGULATIONS.

Sir,-I suppose anyone who has the temerity to express, through the medium of the press, views disapproving of any particular cause must expect a more or less uncomplimentary chorus of dissent from its fervent supporters. To this custom I ascribe some of the remarks of your correspondents.

Mr. Holland challenges me to prove his defective logic, but I have neither the time nor the inclination to go into a long dissertation on this head, merely confining myself to a bald statement of facts. Thus: when anyone, referring to another correspondent's letter, gives, in inverted commas, what purports to be an extract from that letter, it is what purports to be an extract nom that letter, it is generally understood that such extract represents a literal rendering of the passage in question. Mr. Holland may, or may not, be aware of this, but the fact remains. "Iorwarth," in his first letter, quotes me as saying (regarding certain impedimenta): "Why should not these have to carry lights as well as bicycles?" I said nothing of the kind, and no one reading my letter in the serious spirit in which it was written would import any such ridiculous meaning into it. The natural, and logical, result was to evoke a protest from me. Mr. Holland then takes up the cudgels on behalf of "Iorwarth," and endeavours to justify what, I repeat, was a deliberate misquotation, and to affect astonishment at my objection. And this is the gentleman

who is so emphatic on his powers of logic and reason! My whole point is this: Anyone who has had much experience of night-riding will admit that the pedal-cyclist is but one item in a long list of obstaces met with. What do the rear-light enthusiasts do when they meet such obstacles if their head lamps do not reveal them? Any experienced rider will also admit that an oil or acetylene rear lamp is not a thing to depend upon to keep alight. If anyone is inclined to dispute this, for goodness sake let him read the account of the experience of some of the acetylene lamp users as recently as the London-Exeter run, to go no further, and thus acquire real knowledge. Read, also, our own motoring papers thoroughly. For instance, "Ixion's" fine article in the issue of January 1st. I am fully in accord with his views, with this reservation, that I object, on principle, to the enforced use of this unreliable lamp. Of all the list I refer to, the lamp enthusiasts pick the court the capit the article way and large the capit. out the cyclist. He must carry a red lamp; he is the only obstruction on the road my head lamp will not reveal; if, as constantly happens, the lamp blows or bumps out, summon him; if he cannot afford the more reliable electric light outfit, let him keep off the road. I, in common with a few thousand others, do not use an electric light set, but I do not intend, on this account, to leave the roads to those who are either too selfish or too silly to ride at a reasonable pace after dark. The grounds they put forward illustrate bace after dark. The grounds they put to make instances the paucity of their arguments, e.g., one gentleman instances the case of ships at sea. Surely, very little reflection is needed to show that the two cases are not analogous. It is also stated that pedestrians and dogs are expected to keep to the side-walk. "Expected," forsooth! Another one calls my letter silly, and it is further contended that the objection to the lamp by cyclists is due to laziness. objection to the lamp by cyclists is due to laziness. Interest the editors of the cycling papers will doubtless appreciate the implied compliment if the energy they display in combating this iniquity is any criterion. Or are they anxious, for some occult reason, to assist in compassing the death of their very numerous clienticle. Why was not the lamp considered necessary before the war? Also, how many of these rabid enthusiasts of rear lamps (for others) [and themselves. E.D.] have had bona-fide accidents with cyclists before 1915? The unanimity with which some of your correspondents tilt at the cyclist, and refrain from any suggestion as to how the many other obstructions one is liable to "crash" over when riding too fast at night, are to be dealt with is, to say the least of it, significant.

[As the riders of pedal cycles are alone among users of road reasonable regulation, it is only natural that the comments of those who approve of the said regulation should there is the directed to them, and we fail to see that "Sivel" has proved that the pedal cycle only should be exempt from a rule which tends to the general safety. Both sides have had an opportunity of expressing their views, and the correspondence, which is wandering from the point, must now cease .- ED. 1

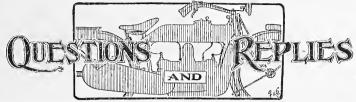
BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle.

"HINTS AND TIPS FOR MOTOR CYCLISTS." Price By Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Sixth Edition. (Second Reprint.) ... 2/- 2/3 "TRACING MOTOR CYCLE TROUBLES."
A reliable system for tracing motor cycle faults and
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"THE MOTOR CYCLE" ROAD MAPS.
England and Wales, Scotland, London (showing roads into and out of London and avoiding London).
Mounted on linen. Set of three, complete in case

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A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.;, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and no none side of the paper only, numbering each query separately, and keeping a copy for case of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Slipping Shock Absorber,

I have a 4 h.p. single-cylinder all-chain machine fitted with a Jardine two-speed gear box. The friction plate cush drive is always giving trouble, viz., slipping sprocket on the engine-shaft. I shall be much obliged if you will tell me how to remedy this.—V.P.B.

Clean out the plates of the shock absorber with paraffin, and screw up the adjust-ment rather tightly.

Small Two-strokes.

Would you give me some opinion of small two-strokes as regards wear and general reliability, also what mileage per gallon has been obtained with them? I have had varieties. I have had varying opinions given me as regards petrol consumption, from 60 to 140 m.p.g.—F.D.

Small two-stroke machines have an ex-Small two-stoke machines have an ex-cellent reputation for wearing qualities and general reliability. The average consumption with single-geared models of the best makes is in the neighbour-hood of 100 m.p.g. We have heard of much better consumption, however, than this: 120 m.p.g. is not uncommon.

Making a Dynamo.

Might I have your advice on the following? I have a three magnet type ringing magneto, out of a telephone instrument, which I have converted into an A.C. generator by means of a slip ring. I am desirous of winding the armature to get about 4 volts (I or 2 amps.), to get about 4 volts (I or 2 amps.), to act as a lighting dyname on a motor cycle—alternating current, of course. Could you tell me what gauge wire would give the best results, and the approximate quantity thereof? This output to be given at a reasonable r.p.m., to permit of gearing for an average road speed. I am presuming that the permanent meaners will not that the permanent magnets will not allow the output to rise above 5 volts when at high speeds. Will a choking coil be necessary automatically to regulate as far as possible its fluctuations in voltage ?—I.R.F.

We presume you intend to use a single coil winding on an ordinary H-shaped We presume you intend to use a single coil winding on an ordinary H-shaped core like a magneto armature. In this case use No. 26 S.W.G., enamelled if you can get it, or double silk covered otherwise. Wind on as much of this as you can get into the slots. The more you can get in the slower will be the necessary speed. The voltage given will depend on the strength of your telephone. depend on the strength of your telephone magnets. You are, no doubt, aware of

the necessity of keeping an iron guard across the pole pieces all the time that across the pole pieces all the time that the armature core is not in place between the poles. This is most important in order to retain the strength of the magnets. Also make the air gap between the pole pieces and the armature core as small as possible. We think you should obtain the result you desire at except the pole. a reasonable speed. A choking coil will not be required; the constant strength of the permanent magnets and the armature reaction will keep down the output at high speeds.

Seized Piston.

I have just recently purchased an O.K. Junior motor cycle fitted with a Villiers two-stroke engine. After running about thirty miles the piston stuck, and I was un-able to turn the flywheel. The cylinder was removed, and although the crank case was half full of oil, there was not a drop on the piston or on the little end bearing. There is no dirt on the gudgeon pin, and the oil hole is pointing towards the bottom of the engine. -C.E.H.

From your description we should imagine that the piston seized momentarily in the cylinder. This might be caused by its being originally too tight. After a few miles light running, never exceeding half throttle on the level, there should be no danger of this recurring.

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

The forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

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Chain v. Chain-cum-belt.

I have recently placed an order for a motor cycle with chain-cumbelt transmission, for which I thought of getting a sidecar; but one thing that has struck me very much since I placed the order has been the great difference of opinion as to the relative value of the all-chain or the chain-cum-belt drive amongst my friends. As I have had no experience of the all-chain drive, I should like your opinion .- J.H.

Our own preference would be for the model having chain drive throughout. At the same time there is no objection to At the same time there is no objection to the chain-cum-belt models, especially for solo use or ordinary sidecar touring. With a heavy sidecar in very hilly country, in wet weather, you might experience a certain amount of belt slip, but, in other respects, the chain-cum-belt transmission is thoroughly reliable.

Effect of Windscreen.

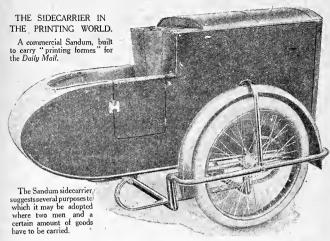
How does the extra wind resistance of a sidecar wind-screen, fitted to a 3½ h.p. outfit, affect the running?—A.M.W.

In actual experience we do not find that a rounded windscreen creates any appreciable increase in wind resistance. and increase in wind resistance. We recently made tests with and without such a screen in operation on a 4 h.p. single cylinder machine with a view to ascertaining if the petrol consumption was increased by its use; we found that there was no difference at all. The type of sidecar and screen, however, may make a big difference.

Double-pole Ignition.

Can I obtain a magneto which will give two sparks simultane-ously, and, if so, where? If I cannot obtain a magneto as above, can I fire two plugs at once from a single magneto by connecting in parallel, or by storing every alternate spark in a condenser and running the magneto at twice the engine speed ?-P.B.T.

Before the war a two-spark magneto was made by the Bosch Co., but we do not think any of the English manufacturers have yet placed one on the market. The makers of the Lodge sparking plng manufacture a double pole plug which can be connected to an ordinary plug in order obtain two simultaneous sparks. Possibly this might be of use to you. You cannot fire two plugs simultaneously (if they are connected in parallel) from an ordinary magneto.



Payment of Tax.

I have just purchased a motor cycle, and wish to know if it will be necessary to pay tax at once, or do I get twenty-eight days' grace?—C.K.S.

You are not bound to take out the In-You are not bound to take out the In-land Revenue licence immediately, and twenty-eight days' grace is usually allowed; at the same time use of the machine renders you liable to pay the tax, even though you dispose of the machine before the twenty-eight days expire. It is much safer to pay at once.

Revs. and Speed.

My 31 h.p. Rudge Multi will o 33 m.p.h. on low gear (7 to 1), climbing Handcross Hill, Sussex, on the road to Brighton. This works out at roughly 3,010 revs. per minute. Calulating on these revs., my machine when in a gear of 41 to 1 (the gear I have found most satisfactory for speed) should do over 51 m.p.h. Instead of this it will only do 46 m.p.h. on the level. Can you give me the reason? The only solution I have been reason? The only solution I have been able to find is belt-slip, but in any case why should the belt slip beyond 46 on a fairly high gear, when it does not slip at 33 m.p.h. on a hill on low gear?—E.M.

The point you raise is very interesting, although it is not open to any obvious solution. It is, of course, well known that certain engines will "rev" more freely on light load, and racing experience has often proved, by slightly lowering the gear, higher speeds may be obtained. Perhaps you have not taken into consideration the effect of wind resistance at high speeds; this resistance increases as the square of the speed, and the power should increase as the cube of the speed. At the same time, this does not fully explain your inability to exceed 46 m.p.h. on the 4½ to 1 gear, and we should think that at high speeds on this gear, when you will necessarily be using full throttle, the engine is starved, and would suggest the fitting of a slightly larger jet.

Extra Air for Triumph.

I have a 1919 4 h.p. Triumph, and wish to ask you if there is any appliance on the market for fixing to the carburetter as an extra or enlarged air intake. Riding all last summer I was under the impression that the engine would have taken more air; but having the air control fully open I could not give the engine more.—W.S.

We know of no fitments on the market which provide an extra air supply specially for the Triumph carburetter. This carbu-retter works almost automatically, and it is usual to run it with the air fully open. If the petrol consumption is abnormal, you might try fitting a smaller jet. The you might bry netting a smaller jet. The usual consumption with this machine is about 90-100 m.p.g. solo, and 70-80 with sidecar. If a reduction of jet size does not meet your requirements, we would suggest that you have a small compression tap inserted in the inlet pipe between the carburetter and the engine, or a proprietary air inlet, such as the Bowden.

Excessive Consumption on Two-stroke.

I have bought a 23 h.p. twostroke motor cycle, but cannot make out why it should use so much petrol. Its consumption is about 36 miles to the gallon, and I have taken the jet out, which proves to be size 24. Will you tell me if it is the fault of the jet or any other fault of the engine? It is no trouble to start, and runs well.—B.A.

The petrol consumption of your engine is certainly excessive, and we should imagine that it is due to flooding of the Imagine that it is due to nooting or one carburetter. You do not state the make of the latter, but if it is an Amac, the level should be set quite low—about \(\frac{1}{16}\) in, play being allowed between the needle split pin and the float. With any other set the level about other carburetter, set the level about \$\frac{3}{2}\$in. below the top of the jet. Overhaul the fuel supply system to ensure that there are no leaks. The jet size appears to be correct, but may have been enlarged. It is advisable to run with

the ignition fully advanced, and you should verify the timing as follows: With the ignition control in the advanced position, the contact braker points should separate when the piston is 5 in. from the top of the stroke.

Blow-back on Two-stroke.

The two-stroke engine fitted to my motor cycle has developed the annoying trouble of blowing back through the carburetter (Senspray fitted). I have thoroughly overhauled the engine, cleaned the carburetter, petrol pipe, jet; in fact, every part that would be likely to cause this. I have tried raising petrol level, changing jets, and flooding, etc., which do not improve matters very much. This trouble is caused in two ways, I am given to understand, viz.: shortage of petrol and under lubrication.—J.E.B.

Since you have effected various carburetter adjustments without eliminating the trouble, we are led to believe that the cause of your engine's irregular running lies in some defect of the ignition system. Probably a new sparking back through the carburetter

tion system. Probably a new sparking plug, especially one that does not project too far into the cylinder, will put matters right; also, see that the piston rings are

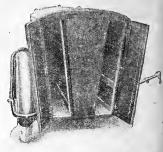
READER'S REPLY.

In reply to "D.J.'s" (Chelsea) query under "Experiences Wanted" in your issue of January 8th, I would not recom-mend steel-studded tyres where tramlines are encountered, my own experience being (especially on a greasy day) there is more tendency to skid with these fitted.— SUNBEAM (Twickenham).

RECOMMENDED ROUTES.

PLYMOUTH TO LAUNCESTON .- E.H. Plymouth, Saltash, Callington, Woodabridge, Launceston.

London to Whitehaven.—J.F.
London, Edgware, St. Albans, Dunstable, Fenny Stratford, Towcester, Daventry, Coventry, Stonebridge, Coleshill, Lichfield, Rugeley, Stone, Woore, Nantwich, Tarporley, Warrington, Nantwich, Tarporley, Warrington, Newton-le-Willows, Wigan, Preston, Garstang, Lancaster, Kendal, Winder-mere, Ambleside, Keswick, Cockermouth, Whitehaven.



The "lockers" of the Sandum commercial sidecar shown above.







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7 h.p. Indian Powerplus Twin engine, cradle spring frame, kickstarter, three-speed, with electrical equipment and speedometer.

Solo £158
Combination £190

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Send for 1920 Catalogue to the LONDON AGENTS:--- We can accept a limited number of orders for

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THE EASTER HOLIDAYS.

If you want **your** name on our special Easter List send an order right away.

To make doubly sure, send a wire, or 'phone us to reserve and forward your order by post afterwards.

There is no need for us to enthuse on the merits of the Indian.

YOU will do that on your Easter Tour.

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All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19. Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue

in which it appeared.

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NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle." Office. When this is desired, the sum of 6t, to defray the cost of registration and to cover postage on replies must be added to the Backers of 6t. The Motor Cycle." Only theorems become Backers of 6t. The Motor Cycle." Only theorems and the sum of 6t. to defray the cost of registration and to cover postage on replies must be added to the Backers of 6t. The Motor Cycle." Only theorems of the sum of

DEPOSIT SYSTEM.

Persons who hesita to to send money to unknown persons may deal with the more than the send of the person of the p

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to rezard the stience as an outdication that the goods advertised was ready been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

JONES' Garage, special agents for A.B.C., Broadway, Muswell Hill, N.10, and Woodside Parade, North Finchley.

WE Are Agents for the A.B.C. Place your order with us to secure good delivery.—Aprly, King and Harper, 6, Bridge Mt., Cambridge. [8515]

King and Harper, v. Bruge Su., Cambridge 181, Will 1918 A.B.C., spring frame T.T., 4-speed, last, Will climb anything, stored 3 years; £75; deposit approval. Somerset.—Box 6,905, c/o The Motor Cycle. [9136]

A.B.C. - Book early and prevent disappointment. Specification and full particulars will be sent on application. - The Spalding Motor Co., Ltd., Spalding, distributing agents for Liucolushire.



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12291	. 21	P. & 8	RANT Combination	· 1920	. £67	
12318	. 45	QUAD	RANT Combination	1920	£122	
12342	- 3₺	ARIEL		. 1920	£100	
12341	4 4 8	B.S.A.,	Model H L RUBY Combination .	1920	£95	Đ
12337		SECON	O-HAND SOLU MACH	1920	_	
12202	34	SCOTT	O HAND GOLO MAGNI	TOTO	£32	10
12292. 12294.	2	FORW	ARD		£27	
	4	BRAD	BURY	. Igii	240	
12074.	6	ZENIT	H, Gradua gear	1914	£84	0
12059.	. 8	MATC	HLESS, single gear	1913	£72	10
11702.	32	CARE	E	1913	£45	0
12315.	24	CALTI	IORDE I A D	1920	239	9
12303.	23	NEW	MPERIAL J.A.P.	1016	£47	10
12333.	4	TRIUM	H, Gradua gear H, Gradua gear HLESS, single gear ELD IORPE J.A.P. IMPERIAL J.A.P.	1012	£45	ő
12335.	3	ROYAI	ENFIELD	1916	£62	
12344.	23	DOUGI	AS	1917	£75	0
		SECON	ID-HAND COMBINATIO	DNS.		
12276.	7-9	INDIA	Combination	. TOT t	£95	C
12275.	8	ROYAL	RUBY and Sidecar	1919	£150	0
12273.	44	JAME	Combination	1916	£125	0
12100.	8	KUYAI	ENFIELD Combination	1919	£167	15
12010.	7.9	VEDD	Y-ABINGDON Comb	1914	£72	10
12082	3E 5-6	INDIA	N Combination	1914	£125	0
2000.	7-0	INDIA	N Combination N Combination ENFIELD Combination	1013	£85	ŏ
12184.	6	ROYAI	LENFIELD Combination	1917	£155	ō
12190.					£125	C.
12101.	4	A.J.S. 8	and Sidecar	1915	£130	0
1977.	8	WILLI,	AMSUN Combination	1914	£110	10
12159.	5-0	(twin)	AMSON Combination E-MULTI and Sidecar ZENITH and Sidecar	1914	£87	ומי
12104.	7-0	HARLI	Y-DAVIDSON Comb.	1015	£150	ŏ
2188.	6	ROYAL	EY-DAVIDSON Comb ENFIELD Combination	1913	£87	101
2202	7-0	HARLI	EY-DAVIDSON	TOTO	£185	0
12136.	$3\frac{1}{2}$	RUDGI	MULTI	1916	£130	0
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1983.	8	HUMBI	ENFIELD Combination R Combination ENFIELD Combination	1913	£82 £175	10
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		ley	-Davidson engine		£115	C.
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2299.	IO	IN CO	N Car (new)	1920		0
2300.	5-64	ARDE	N Monccar	1910	£105	6
~343.	J-0 4		SIDECARS.	-913	2100	٠,
Ca	noele	t Mino		hv		
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— Ca	noele	t K4.	"Wauche	pe's ''	No. 2	
		t K3.	Williamso	ns.		- 1
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8 h.p. J.A.P. TWIN-CYLINDER ENGINES.
From Stock. Trade supplied. Terms on application these include extra. 50 engines, for immediate delivery £37 10s. each.

6 h.p. J.A.P. Cytindors, including valves, springs, and compression plugs.
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Thone: Holborn 5777

MOTOR CYCLES FOR SALE.

A.B.C.

3 h.p. A.B.C., 4-speed, 80 m.p.h., speedometer, ne Sporting go anywhere mount, laid up since 1916; appointment.—Box 6,916, c/o The Motor Cycle. [916

Abingdon.

19¹⁹ Abingdon 6h.p. Combination, fully equipped £145; or exchange. See under Exchange. F. Arnold, 35, Oldridge Rd., Balham, S.W. [897]

A.J.S. Specialists and Agents: The Welsall Garog Walsall, Tel.: 444.

JACK HEALY, Cork, official A.J.S. agent.—Rotation delivery. No premiums accepted. [648 CROW Bros., High St., Guildford, A.J.S. agent since 1912, accept no premiums. [X794]

A.J.S., 1919 (August), luxurious combination, with a cessories, like new; £200.—Hackett, Gratwic Southdown Rd., Shoreham.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Loodon, 4-Sh.p. A.J.S. and sidecar, 1915 model, 3-spec clatch and K.S.; £130.

W E Are Agents for the A.J.S. Place you order with us to secure good delivery.—Appl King and Harper, 6, Bridge St., Cambridge. [85]

1914 A.J.S. 6h.p. Combination, just overhauled, parts fitted, sidecar repainted makers' color splendid order; £110.—Evans, High St., Beacousfie

A.J.S.-Exeter Motor Cycle and Light Car Co., Bath Rd., Exeter, and 28, Tavistock Rd., mouth. Sole agents. Now booking for earliest liveries.

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The attention of Advertisers is called .o he fact that Deposits are now dealt w.t. at

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10¹⁹ A.J.S. Combination, delivered Angust las spare wheel, Lucas acetylene lamps; higher cheque over £180 secnres.—Elkin, Weston Rd Stafford.

19 20 A.J.S. 6h.p. Combination; spare wheel, Luc dynamo set and horn, Watlord speedomete etc.; cost £240, what offers.—Box 6,917, c/o, T/Motor Cycle.

A J.S. 6h.p. Combination, 1915-16, spare wheel, ue cover, tyres sound, screen, lamps, body revenished; £160; after 6.—2, Bucklaud House, Elan ford St., W.

19 19 A.J.S., military model, Sunbeam side Stewart speedometer, Lowe generator, comp lamp set and accessories; £170.—McMnllin, Al Arodrome, Hounslow.

A J.S. 6h.p. Combination, spare wheel, lamp speedometer, etc., tip-top condition; £140-Newnham Motor Co., 223, Hammersmith Rd., W. Phone: Hammersmith 80.

A J.S., 1916, 4-Sh.p., Mills-Fulford coachbuilt side car, 3-speed, K.S., band clutch, spare wheel, it terchangeable, lamps, Lucas born, good condition #135.—Mackinder, Burgh, Lincs. [883]

19 18 A.J.S. and conch sidecar, Cameo wind scree Lucas head Jamp, perfect running order, runner 1,000 miles; any trial; £160.—J.C.J., 124 Holdenburst Rd., Bouremouth.

A J.S. 6h.p. Combination, delivered March, 1919, blac and gold, spore wheel and tyre, wind screen, lu gage carrier, sidear stand, pillion seat, 3 Lucas lamp and horn, full set of tools and sparse, tyres good, tw practicelly new, condition and epperamene perfect 417.

—Carter, Regent House, Lostock, Bolton. [X30]

A. J.S., —Third on list for 1920 6h.p. A.J.S. combin A. J.S., —Third on list for 1920 6h.p. A.J.S. combin a stormproof spro, spring set-nillar, Whitefor this parameter, Lucas best lemps and hors; delivery expet may day; 210 deposit paid when ordered hat July 101 offers over the 210 to take over delivery (2006) 114, co The Motor Cycle.

A.J.S. Spares: engine and gear box repairs; prom delivery.—Cyril Williams, Chopel Ash Depot, Wo verhempton. T.A.: Perts.

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MOTOR CYCLES FOR SALE. Alldays.

LLONS at Blackburn and Sons, Station Garage, Spalding. Early deliverles. [7916 Spalding. Early detiveries.

[DNOR Oak Molor Mart.—Immediate delivery All-days Allon.—129, Brockley Rise, S.E.23. [8604]

LLON 25th.p., late model, excellent lyres, small mileage: £40.—49, St. Leonard's Rd., Mortlake. fake,

LLDAYS 315h.p., 2-speed, free engine, splendid order; sell or exchange Douglas.—Earl's Colne, mer. [9066

LLDAYS Allon 2%h.p., 2-speed, excellent order, 1917; £45.—Fowler, Gobious Farm, Collier, Romford. [8953 NES' Garage, special agents for Alldays Allon, Broadway, Muswell Hill, N.10, and Woodside ade, North Finchley. [0027

) 19 Allon de Luxe, 2-speed, hand clutch, kick start, unscratched, mileage under 200; £70.— Robinson, Brewery, St. Helens. (8647

LLDAYS Matchless Lightweight, 2-stroke, single-speed, complete, splondid condition; £30,— man, 33, Girton Rd., Sydenham, S.E.26. [8949])20 Allon, clutch, kick-start,2-speed, mileage under 200, unscratched, perfect condition: price 66—Write, Lt. Ainslie, H.M.S. Excellent, Portsmonth.

)19 Alldurs Allon, delivered about Oct., 2-speed, hand-controlled clutch, K.S., Lucas born, and plete hamp set; 270.—R. Spackman, 85, Buth Rd., idea, Wills.

Arlei.

tow Bros., High St., Guildford, Ariel agents, supply at makers' prices. [X7944

RIL WILLIAMS, for early delivery of Ariels.— Chapel Ash Depot, Wolverhampton. [X8625 19 Ariel 31/2h.p. Combination, good machine; £115.—May Walker, Redbourn, Herts. [X3079]

AUCHOPE'S, 9, Shoe Lane, Fleet St. London, E.C.4.—3_2\hathap. Ariel, new 1920 model; \(\pm\)2100.

NES Garage, special agents for Ariels, Broadway, Minswell Hill, N.10, and Woodside Parade, in Finchley.

(10028)

B.B.,

LIEL 31/h.p., 3-speed, clutch, Bosch, B.B. lamps, good tyres, overhauled; £50.—Bray, H, Horley, Surrey. Hook-[8764

tiel 1919 Combination, 3½h.p., ridden journeys, unscratched, lamps, horn; £13 rton, Hardwick Rd., Reigate. [8

SIEL, 3½h.p. and 6h.p.; early deliveries; all spare parts stocked.—F. Speakman, Ariel Ex-7, Rochdale Rd., Harpurhey, Manchester. [4020] 7, Accass and Ariel Combination, as new, hood, screen, P. and H. lamps, and all accessories; bargain, -Townsend, 15, Nightingale Lane, Hornsey, N.8.

IEL 3½h.p., 1913, 3-speed, clutch, B. and B., ulot jet, F.R.S. lamp set, mechanical horn, fine liton, guaranteed perfect; £48.-12, Temple Sheen East Sheen, S.W.14.

Arno.

15 3½h.p. Arno, 3-speed, clutch, overhauled, re-enamelled, coach sidecar, wind screen, lngsage fully equipped, condition perfect; £65.—3, Southon Terrace, Southampton St., Farnboungh, s. (3808

Auto-Wheels

TO-WHEEL 1920 Model de Luxe; £25.—Wilkins, Simpson and Co., 3, Ranelagh Gardens, Barnes, on, S.W.

oa, S.W.

TO-WHEEL, good condition, splendid hill-climber; £15.—Kendall, 10, Elierdale Rd., pstead, N.W.3.

ALL Auto-Wheel, new condition, mileage a 100 miles; 12 gns.—Hancock, 13, Station P ions, Muswell Hill, N.10. TO-WHEEL, in excellent condition throughout, practically new; £12. no offers.—436, White-Rd., Thornton Heath, S.E. [8924]

TO-WHEEL, B.S.A. Model de Luxe; £15; per-fect running order; bargain; owner buying motor -Miss Jones, 52, Broad St., Worcester. [X3060

Bat.

TS, 1920 Models. booking orders.—Sole agent. Longman, 97, Fisherton, Salisbury. [8624 E Birmingham Bat Agents, The Premier Motor Co., Aston Rd. 'Phone: Central 4310.' [7706 T.-Chatham and District Motor Cycle Mart, Fair Row, Chatham. Earliest deliveries. [8556

T 8h.p., chain drive, countershaft gear, clutch, coach sidecar; £75.—Collier's Motories, Union outh, Halifax.

T.J.A.P. Twin Combination, spring frame, gear hox, K.S., complete, accessories; £75.—8, Sion Twickenham. [8755

t. Bat, good running order, new belt, enamel and plating good, mag.; £20, or close offer.—Molonev, felen's Rd., Swansea. [8684

NEW OR SECOND-HAND

SATISFACTION



VERNO, 2-stroke, 2 speed,		 £75	
DOT, 27 h.p. J.A.P., 2-speed, kick-sta	rt.	 £75	
PORTLAND Villiers, 2-stroke, 2-speed	,	 £63	
		 £70	
QUADRANT, 4 h.p. combination,		 £122	
		 £42	
(in 7 days.)			

	NE	·w	٠. 5	SIL	Œ	CA	R	š.		
B.S.A No.	2		£34	,	MI	LLF	ORD	Skii	f, £23	1
MILLFORD	Cor	rett	e, £2	6 5s.	PC	DRT	LAN	D,	£28	
MONTGOM	ERY	No.	3	::	٠:.	••			£17	178.
MONTGOM Harley	EKY	No	. г,	with	2811	1. W.	heel	tor	600	100
P. & M.,	•••	••	• •	• •	••	٠.	• •	• •	£28	105.
Canoelette,	racia	ıg m	odel	, etc.		••	••	••	220	

SECOND-HAND BARGAINS

SOLO MACHINES.

NEW RYDER, 1919, 27 h.p. J.A.P., ZENITH, 1919, 8 h.p., full equipment .. £65

SIDECAR COMBINATIONS.

ROVER, 5-6 h.p., Jap twin, W.D., guaranteed ... £145

NEW IMPERIAL, 8 h.p., twin, W.D., guaranteed ... £145

ARIEL, 1975, 3\$ h.p., 3-speed ... £115

INDIAN, 916, 7-9 h.p., Powerplus. £138

SUNBEAM 3\$ h.p., 3-speed, sporting sidecar ... £170

JAMES, 1914, 4 h.p., 3-speed ... £130

ARIEL, 1919, 3\$ h.p., lamps, etc., as new £130

DOUGLAS, 1914, 4 h.p., 3-speed ... £130

SUNBEAM, 3914, 4 h.p., 3-speed ... £100

SUNBEAM, 1914, 3\$ h.p., lamps, speed ... £100

SUNBEAM, 1914, 3\$ h.p., lamps, speed ... £100

SUMBEAM, 1914, 3½ h.p., lamps, speedometer.

REX, 1914, 6 h.p., twin, 2-speed.

REX, 1914, 6 h.p., style, Millford sidecar 290

HARLEY-DAVIDSON, 1916, 7-9 magneto. £130

SUMBEAM, 1919, 3½ h.p., Swan sidecar. £170

BRADBURY, 1919, 6 h.p., fully conipped 213

B.A., 1912, 3½ h.p., 2-speed, Millford . £68

Maudes' Motor Mart 100 Great Portland St. London W. 1. 100. Paris St. Exeter.

Telegrams :
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London." Telephone Museum 557 Telegrams: "Combustion, Exeter. Telephone: Exeter 933



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Solle Berks, and Bucks. Agent for Bats, A. J. Luce, Hamilton Garage, Wokingham Rd., Reading. Phone: 967. Early deliveries of all models. [9063

BAT-J.A.P. 6h.p. Combination, just cost £21 to overhaul, proof, N.S.U. gear, perfect running order; £55.—White, 62, High St., Kingstou. [8776

BAT-J.A.P. 1915 8-10b.p., o.h.v. engine, Browklands model, 4-speed Jardine gear, C.B. sidecar, hood, screen, lamps, fast and powerful; £90.—Junior, 17, Bethnal Green Rd., E.1. (9146

Beardmore.

BEARDMORE Precision.—Chatham and District
Motor Cycle Mart, Fair Row, Chatham. Earliest
delivertes. [8553

L ANCASHIRE (West) and Cheshire.—Beardmore Precision, the most advanced and practical motor cycle yet designed.—Enquiries invited by J. Blake and Co., 110, Bold St., Liverpool.

Blackburne.

CROW Bros., High St., Guildford, are old Black-burne agents, and invite enquiries. (X7945

STANLEY RUSSELL, Newport, sole Isle of Wight agent for Blackburne motors; early delivery, (5297

Bagent for Blaceburne motors; early delivery, [5237]

ERIC WILLIAMS, the Worcester Blackburne agent.—
Barly delivery 4 and 8h.p. models.—12, The Forset, Worcester, [St. 1494]

BLACKBURNE, 1920, chain drive, since, new, in stock; \$110/5.—Edwards, 7, Exhibition Rd., South Kensington.

BLACKBURNE new models. Early delivery by the Camounts State, the and Co., 15-16, Bishopsate Ard.

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LANES: Carries, we would be a state of the common that the camount of the camount

Laty agents. Elee and Co., 15-16, Bishopsgate Av., Camoonie St., E.C.3.

JONES Garnes, special agents for Blackburnes, Broadway, Muswell Hill, N.10, and Woodled Parade, North Finchley.

19 20 4hn. Blackburne, brand new, cware unches take delivery; best offer.—Blackburne, 9, Minivel Dire, Mondon, Munchester Blackburne, 9, Minivel Dire, Mondon, Munchest, Edge Delivery, 4h.p. model from stock-Agents, Lankester Engineering Co. 3, Bighton Rd., Surbio Blackburne. Place your order with us to seems good delivery.—Apply, Royal and Harper, 6, Bridgs St., Cambridge. [8517]

B LACKBURNE.—New 1920 4h.p. models actually in stock: no premium required.—Chandler, Reyre and Williams, Hitchin, Herts. 'Phone: 185 Hitchin.

B LACKBURNE 4h.p., 1920, actually in stock, complete with Grindlay sidecar; £135,-P. Ellis and Co., 360-364, Lillie Rd., Fulham, London, S.W. 'Phone: Hammersmith 1553. BLACKBURNE 4h.p. 1920 Models.—Delivery from stock at makers' list price.—Fogden and Butler, Lordon Rd., Southend-on-Sea. "Phone: Southend 106. T.A.: Fogdens, Southend. [9070]

BLACKBURNE 1919 4h.p., 3-speed, K.S., clutch, etc., recently delivered and like new, perfect, with semi T.T. bars; first cheque for £115 secures.—Guard, St. Patrick's Hall, Reading. [8810]

19²⁰ Bläckburne, the super motor cycles. We are actually delivering. Place your order now for early delivery with the sole South Hunts, distributers, The Fireham Motor Cycle and Engineering Works, High St., Fareham

Bradbury.

WAUCHOFP'S. 9, Shoe Lame, Fleet St., London.—
An.D. Bradbury, 1911 model.

BRADBURY 1920 Models, early delivery.—Agents,
Bright and Hayles, 78, Church St., Camberweil,
BRADBURY 2'sl.p., new model, also 6h.p., twin.—
Earliest delivery from Louis G. Ford, opposite
G.P.O., Earbourne.

BRADBURY 1914 41(h.p., 2-speed, Bosch, fine run-ning order, accessories; £48.—134, Northcroft Ed., West Ealing, Middlesex.

BRADBURY.—For the earliest possible deliveries of 1919 models.—The Walsall Garage, Wolverhampton St., Walsall, Tel.: 444. BRADBURY 4h.p., Bosch, B. and B., Druids, 2 speeds and clutch, splendid condition, chmb anything; £42.—157, Leander Rd., S.W.2. [8694

6 h.p. Bradhury, delivered Nov., 1919, run 200 miles, lumps, horn, and Millford sidecar; £140, complete.—Wilson Jones, c/o Nelson's Garage, Rhyl. [8590

19¹³ Bradhury, 4h.p., Philipson puller, waterproof Bosch, B. and B. carburetter, thoroughly over-hauled, new Dunlop belt, fast machine, good tyres, good condition throughout, accessories; 26 gns., har-gain—Mason, 11, Thomas St., King's Lynn. [9913

gein.—Mason, 11, Thomas St., Kaub a Marked nearly 5 years, enomel and plating perfect, helb and mechanical horns, 3 lamps, spares and tools, all-chain dures, 5-speed, kick start, wind acreen, excellent order; 2100.—50, Claremont Rd., Alexandra Park, Manchester.

Brough.

SOLE Birmingham Brough Agents, The Premier Motor Co., Aston P.d. [7707 5 h.p. T.T. Brough, promised next week; what offers Box L6,548, c/o The Motor Cycle. [748

MY Brough Combination due this month. Unable to purchase. What offers?—Box L6,547, c/o The Cycle. [7485]

SOUTH Lancasbire, North Cheshire, and Isle of Man only.—Brough enquiries.—J. Blake and Co., Official Dealers, Liverpool and Manchester. [6588

BROUGH, Nov., 1919, 5h.p., Sturmey countershort mechanical horn, Miller bend light used once, perfect condition, owner going abroad; £128 cash.—Nislek, Esangton, Castle Rd., Walton-on-Thomes. [2419]

Brown.

Oh.p. Brown and sideour chassis, tank re-enamelled, spring forks, Burlow carburetter, horn, stand, carrier, pan seat, wants magneto and attention; private owner; first \$20 secures; no cheques, no dealer need apply, no callers.—Baker, 49, Murray St., York, (X3663)

B.S.A. 41/h.p., late 1915, with sidecar, 3-speed countershaft, lamps; £90.—Massey, Ripley, Surrey. [8326] B.S.A. Sole District Agents; book now.—The Walsall Garage, Wolverhampton St., Walsall, Tel. 444, C. UTCH Model B.S.A., splendid condition throughout; sacrifice \$28.—38, Beacon St., Lichfield, I. (2788)

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—1914 44h.p. B.S.A., 5-speed, K.S.: £65.

JONES' Garage, special agents for B.S.A., 19201 way, Muswell Hill, N.10, and Woodside, Parade, North Finchley.

B.S.A. Combination, 3-speed, kick-start, hood, screen, fully equipped, new condition; £95.-64, Mile End Rd., E.1.

B.S.A. Brand New Combination, fully equipped, 3-speed clutch; what offers?-332, Wandsworth Bridge Rd., S.W.

19 15 B.S.A., 4h.p., countershaft 3-speed, lamps and horn, good order; £60.—C. Franklin, Swinford, Eynsham, Oxon.

B.S.A., 1915, all-chain, 3-speed, K.S., lamps, horn, fast, as new; £75.—Write Deller, 16, Camden Gordens, Shepherd's Bush. [8478

19 13 31/h.p. B.S.A., 2-speed, kick start, excellent running order, pull sidecar; £62/10.—Robertson and North, Peterborough.

1916 B.S.A. Combination, chain drive, good condition, £90; wanted, coachbuilt sidecar.—Watson, 139, Cotterill Rd., Surbiton. [8766 19 16 44/4h.p. B.S.A. Combination, Millford sidecar, perfect condition; £102.—Robertson and North, Peterborough. [8888

B.S.A. 1915 4h.p. Combination, Montgomery sidecar, tyres and belt as new, splendid condition: £98.— King Edward Garage, Church End, Finchley. [9079

19 20 B.S.A. Model K 4½h.p. Combination, new; £127; at Llandrindod Wells.—Tom Norton, Ltd., The Automobile Palace, Llandrindod Wells. [8733

B.S.A., Model K, in stock, list price; also B.S.A. sidecar to match.—Newnlam Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80.

19 19 B.S.A. 4½h.p. model, special sidecar, mechanically perfect, excellent appearance, fully equipped with accessories, spares.—Parker's, Bradshawgate, Bolton.

B.S.A., 5-6h.p. Twin J.A.P. engine, B.S.A. sidecar, 3-speed, kick starter, splendid ontfit; £135.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3.

1013 B.S.A., 3½h.p., kick start, 2-speed hub, B.B., Bosch, good byres, rido away; £45.—Walker, 47861, R.A.F. Camp, Hut 18 E.R.S., Henlow, Beds. B.S.A., 1913, 3½h.p., single speed, overhauled, vary sound condition, new P. and H. hump set, Bosch, Brown and Barlow; lowest £42.—Gibbs, Bell, Melkhau, Wilks.

B.S.A. Specialists.—All replacements in stock: R.S.A. sidecars in stock:—The County Cycle and Motor Po., Broad St., Birmingham, T.A.: Comocyco, Birmingham, Birmingham, Birmingham, Birmingham, Birmingham, Birmingham, Birmingham

B.S.A., 19/3/14, coachbuilt sidecar, 2-speed, clutch, electric lamps, horn, speedometer, completely rerlauled; 275.—18, Kathleeu Rd., Claphan Janchion (after 6).

1 D19 B.S.A. and Mills-Fulford sidecar, electric lamps, Lucas horn, wind screen, only used 9 weeks, per-lect order throughout; would deliver within 50 miles; 125 gus.—J.C.J., 124, Holdenburst Rd., Bournemouth.

1913-14 B.S.A. 31/h.p. coachbuilt Combination, gound condition; £65. Brackley, Northants.—See Kwiksale advertisement, Miscellancous motor cycles.

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firm with the cream of the Agencies, has placed large contracts with the following Makers.

Place your order now for rotational delivery.

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Model £65 24 h.p. CALTHORPE 2-stroke 64 T 0 24 h.p. EDMUND Spring

Frame £84 23 h.p. CONNAUGHT

Kickstart £75 0 0 23 h.p. VERUS Kickstart £75

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Special GLORIA for Triumphs £33 10 0 MILLS-FULFORD

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Come along and inspect these machines at leisure in my commodious Showrooms at

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B.S.A. B.S.A., 41/h.p., 1917, chain-belt, as new, and art-cane sidecar; latter used a few weeks only; £105, or nearest; inspection invited.—Box of the Motor Cycle.

B.S.A., 1919, 3-speed countershaft, sporty of built sidecar, apron, combination as new, t ford, milcage 1,000; £115; any trial.—Stevens, croft, Springfield Rd., Windsor.

4 1h.p. B.S.A. 1916 Cancelet Combination, R.S.
44 speed countershaft, chain-enm-helt, 5 lan horn, tools, spare tubes, belt, etc., just been toughly overhauled; £115, or nearest.—Cole, Dogs. Calcott.

CALCOTT 1914 25/h.p., Bosch, new tyres, new coder; first cheque £25.—Reynolds, Waterbe

Calthorpe.

19¹⁶ Calthorpe-Jap, 2 speeds, in good order; 20 Cross, Agent, Rotherham.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lon E.C.4.-23/h.p. Calthorpe-Jap, 1914; £48. [9 2 1 h.p. Calthorpe, 2-speed, in good condition; Bellwood, Victoria Rd., Scarborough.

19 d Calthorpe Junior, 2-speed, good order, to away; £30.—H. Woods, Normandy, near 6

CALTHORPE 24h.p. 2-stroke, Enfield 2-speed See Great Leap Year 6d. Draw, as advertis displayed pages. CALTHORPE-J.A.P. 23/h.p., 1915, Enfield Amac, E.I.C., new condition; £45.-63, Rd., Brixton.

CALTHORPE-J.A.P. 2%h.p., with Enfield 2-sp 265/2; immediate delivery.—Wilkins, Sim and Co., 3. Ranelagh Gardens, Barnes, London,

19 (August) Calthorpe-Jap 234h.p., Enficir speed and clutch, lamps, horn, tools, and pr done 300 miles only, engine No. 3/1288/; cost accept £57 lowest.—Greenside, Village Rd., Ch End, Finchley, N. (Write, or call week-end.) [

Campion.

Campion.

Campion.

Campion.

3/h.p., 1914, new tyres and daytime.—63, Old Town, Clapham Comp.

S.W.

LATE 1919 Campion 21/h.p., Villiers engine speed, ridden about 100 miles; £56.—Bellv Victoria Rd., Scarborough.

Victoria Rd., Scarporough.

C AMPION-J.A.P., 4h.p., 1918, 4-speed goar.
Cancelet sidecar, splendid outfit, condition as fully equipped; £110; deferred payments arrange Bunting's Motor Exchange, Wealdstone.

CamplonyJAP. Sh.p. Combination, Sta Archer countershart 3-speed, mechanically po appearance as new, \$105; Hobart, 2½h.p., Grade splendid condition, new tyres, \$37/10.—Fryer, A ton, Notts.

ton, Notts.

C AMPIONJAP., 8hp., Inte 1916, large roomy our CB., Sturmey countershaft 5-speed, tutch, kick starter, screen, les shields, horn, lo mirror, spare tyre and bube, new Reynolds chain, series, splendid outfid, did 250 miles at Xmag 4 spread, 25 Miles at

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lo. E.C.4.-21/4b.p. Carfield, 1920 model; £59. [

CEDOS.—The finest 2-stroke ever produced; ladb-gentlemen's; order now for spring delivery. Blake and Co., Lancashire's leading motor, dealers, Liverpool and Manchester.

CENTAUR Combination, 3½h.p., 2-speed, free an handle start, lamps, horn, tools, etc., all in feet order; 255.—123, Godolphin Rd., Shepherd's IW.12.

Chater-Lea.

CHATER-LEA Enquiries Invited by J. Blate Co., leading motor cycle experts, Liverpool

CHATER-LEA 8h.p., 1915, 3-speed counter coachbuilt, hood, screen, all-chain, accessories gain, £80.—40, Lorne Rd., Forest Gate.

CHATER-LEA Sh.p. Combining, 1914, 3-speed box, all chain drive, good order, all access £105, or near offer.—32, Hambledon Rd., South S.W.18.

NO. 7 Chather-Lea 8h.p. Combination, hood, so speedometer, acetylene lamps, born, sy lockers and luggage carrier to sidecar, all tyre good condition; trial willingly given; 590.—15. Rd., Hounialow.

Chater-Lea-Jap.

Tanter-Lea-Jap.

19 19 Chater-Lea-Jap Combination, all access
£135,-26, Colson Rd., Crydon.

CHATER-LeA-Ja,P. Combination, 1914, 8h.p.
gine, 5-speed countershaft, clutch, wader
good, new C.B. sidecar, lamps, horn, étc., responding to the condition of the condit

Clyno. CLVNO 2-stroke, 1914, piston, bearings, etc., required.—Mearing, William St., Slough. [8414] CLYNO 2 stroke; £70; immediate delivery.—Maudes' Mater Mart, 100, Paris St., Exeter. [913] CLYNO, 1920, 2 stroke model, in stock; £70.—Edwards, 7, Exhibition Rd., South Keusington.

WAICHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4, supply new 1920 Clynos from stock; 212 (P203)

CLYNO, 1920, speed, clutch, 215h.p., uew, in stock; pure £70,—Greaves, Motor Engineers, Harby, [8655]

1916 Clyno Combination, 3 speeds, good condition, low mileage; £95.—19, Wileox Rd., South ambeth, London, S.W.8.

CLYNO.-New 1920 2-speed 2-stroke models actually in stock.-Chandler, Reyre and Williams, Hitchin, letts. 'Phone: 165 Hitchin. [0063]

CLYNO 1919-20 Lightweight, 2-stroke, 2-stroke, clutch, complete lamp, horn, accessories; 65-Browne, 2, Westland Row, Dublin.

WE Are Agents for Clyno. Place your order with us to secure good delivery.—Δpply, King md Hupper, 6, Bridge St., Cambridge. [8519]

1917 5-6h.p. Clyno Combination, 3-speed, kick start, interchangeable wheels, good tyres; £90.

-150. Camberwell Grove, Camberwell. [9041] ULVNO 2-stroke, 2-speed and clutch; £70; immediate delivery.—Wilkins, Simpson and Co., 3, tanelagh Gardens, Barnes, London, S.W. [8512]

ERIG WILLIAMS, the Worcester Clyno agent.— Immediate delivery 1920 lightweights, combinations arly spring.—12, The Foregate, Worcester. [X1491 1916 6h.p. Clyuo Coachbuilt Combination, counter-shaft, 3-speed, kick starter, clutch, in good rder: £38 for quick sale.-56, High St., Tooting.

TLYNO 5-6h.p. 2-speed Combination, complete with screen, hood, lamps, tools, excellent condition; 90; seen Dartford.—Box 6,873, c/o The Motor Cycle.

1916-17 6h.p. Clyno Combination, 3-speed, clutch, kick starter, cast aluminium chain cases, veellent condition; £115.—63, Solon Rd., Brixton,

19102 1917-18 6h.p. Clyno Combination, 3-speed, clutch, kick starter, cast aluminium chain cases, black ad gold, ns new; £120.-63, Solon Rd., Brixton.

ad gold, as new; £120.—65, Solon Rd., Brixton.

JENNO, nunsed, 1917 W.D., 8hp., J.A.P., 2-state

Jaidecar, hood, screen, hora, lamps, splendid condi
on; 145 gas.—Urqubart, 685, Fulhau Rd., S.W.6.

[865]

Lhp. Clyno, Combination, 1916 model, 3-speed, k585 h.p. Clyno Combination, 1916 model, 3-speed, kick-starter, interchangeable wheels, in fine condition; 85.—J. Pooley, 33, Killyon Rd., Wandsworth Rd. [8724]

TLYNO 8h.p. W.D. 1919 Combination; Sandum J sidecar, pillion seat, lamp, born, spares, new st September; £125.—Vicarage, 123. Peckham Rye. E.15.

JLYNO Lightweight in stock. Orders booked in rotation, Clyno combination orders booked in rotation, divery from March.—Rothwell and Milbourne, Cowigh Garage, Malvern. [6185]

N. BERRY'S 6b.p. 1915 3-speed kick-start Clyno Jeombination, lamps, etc. £75; also 1916 Clyno pmbination, 195; both in good running order; trial ven.—125, Canal Rd., Mile End, E., London, [8711

9 17 Clyno Sh.p. C.B. Combination, 3-speed, kick start, interchangeable wheels, 1 spane, 4 new res and tubes, Lucas lamps, mechanical horn, tools, c, condition and appearance absolutely as new; £125, 9, Aytoun Rd., Burkon, S.W.

59, Aytoun Rd., Brixton, S.W. [6687] VLNO 5-6b.p., 1918. little used, entirely over-bauled, enamelled makers' colours and replated, leear re-uphostered, interchangeable wheels and are, Bioks carburetter, Lucas lamp set, mechanical for and tools, appearance and condition absolutely new, a thorough snip.—Stanley, 74, St. George's Sq. cess, Lupus St., Westminster, 74, St. George's Sq.

Connaught.

ONNAUGHT.-For early deliveries, order from J. Barran-Ackroyd Hyde Park Corner, Leeds, [7340 ONNAUGHT 2-strokes.—Early delivery of all models ' from the authorised agent, A. J. Luce, Humilton trage, Reading. 'Phone: 967.

9 20 Connaught Junior. 23(h.p., 2-stroke, 2-speed, 24in. wheels, new January 5th, unpacked; acot £62.—Box L6,541, c/o The Motor Cycle. [7479

9 15 25 h.p. 2-stroke Connaught, just paid £10 over-hauling, lamps, horn, pump; £24.—Waring, ewster Cottage, Dewsbury Moor, Dewsbury. [8798 ewster Cottage, Dewsoury attors, Dewsoury, 10NNAUGHT, countershaft 2-speed Sturmey-Archer with kick-starter, £75; quick delivery can be en.—Louis G. Ford, opposite G.P.O., Eastbourne. (E. 1906)

Coulson.

OULSON B 234h.p., 2-speed model, in stock.-Malvern Agents, Woodyatt, Ltd., Malvern, [3865 OULSON B.—The ideal spring frame.—Enquiries invited by J. Blake and Co., the motor cycle perts of Liverpool and Manchester. [6578

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COVENTRY EAGLE-JAP, 2-speed, clutch and kick start, delivery February; £79 16.- Louis G. Ford, opposite G.P.O., Eastleurie. (X3057)

Crescent

CRESCENT, 2-stroke Villiers, 2-speed, perfect, com-borne, road.—Clark, 8, Lerdswood Rd., Har-IX2997

CRESCENT 21(h.p., 2-speed, free engine, Villiers 2 stroke, brand new last Felnuary, perfect, racing bars, dises, sporty and fast; 4555, or exchange 25(h.t. 2-speed Douglas, not earlier than 1916.—Russell. 150. Earlham Rd., Norwich.

Diamond.

CYRIL WILLIAMS, for early delivery of all model Diamonds,—Chapel Ash, Wolverhampton, [X8622 JACK HEALY, Cork, official Diamond agent.-Rotational delivery. No premiums accepted, [6487]

DIAMOND—Chatham and District Motor Cycle Mart, Fair Row, Chatham, Earliest deliveries, 1 Q19 Diamond 2-stroke, good condition, under, 500 19 19 Diamond 2-stroke, good condition, under 500 miles; £50.—Lauric, Starleyhall, Burntisland, [8523]

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DUGLAS, 28h.p., W.D., in crate; bargain, 270.— Milton, 106, Cloucester Rd., Bristol. [3919]

DOUGLAS, 1912, 2-speed, lamp, good tyres, runs well; £36.-47, Hamilton Rd., Reading. [8313 DOUGLAS 1920 Models, order early from sold agent.—Longman, 97, Fisherton, Salisbury. [8621

⊇ 3 h.p. W.D. Douglas, as new, done 600; £80; Eastbourne.—Box 6,847, c/o The Motor Cycle. [8505 19 20 Douglas, 254h.p., brand new; 81 gus.-

19 20 4h.p. Douglas combination, in stock; 50.64 plus carriage.—Cross, Agent, Rotherham.

DOUGLAS 2.4h.p., new W.D. model, with lamps and horn.—Alphy, Box 6.816, c/o The Motor (2021).

Cycle.

DOUGLAS 25th.p., 1916 black model, complete, and in very good order; £65.—Hewson, Uplands, East [8844]

DOUGLAS 254h.p., 2-speed model, excellent condition, lamps, horn, tools,—Parker's, Biadshawgate, Bolton. [8350

ton. [8350] 19 17 Douglas, 25th.p., splendid condition: hargain, 59 gns.-116, Sternhold Av., Streatham Hill, S.W. [8799]

DOUGLAS, 1911, runs beautifully, new tyre, and belt; £26.—Write, Dixey, 49, Idlecombe Rd., Tooting.

Tooting.

DOUGLAS 254h.p., W.D. model, new, in crate; 275.-P. J. Hucker, 129, Alexander Rd., Acocks (N3100)

Douglas

DOUGLAS 25th.p., late, like new, 2 speeds: 57 gns; engine gear box parts, cheap.—55, Wiltsbire Rd., Brixton. [8753

D'UGLAS 4h.p. Tombination, hood, screen, acces, sories, good order; £100.—Dominy, Jewry St., Winchester.

23h.p. Douglas, sungle-speed, new Dunlop tyres and 4 belt, in fine condition; £28.-98, Oak St., Burton-on-Trent. [X3043]

DOUGLAS Solo and Combination; regular monthly deliveries from November.—Lloyd and Son. 29, Station St., Lewes. [9583]

1953.
19 9 Donglas Combination, launes, and horn; bargain, \$125.—Bitdge House, Manchester Rd., Hollinger, Manchester Rd., Hollinger, Manchester, Bollinger, State Combination, 1955, 2-speed, tyres in good combination, rast; bargain, \$48/10.—261, Mircham, Lane, Streetham,

(3) 3h.p. Douglas 1915, 2-speed, thoroughly overhauled, wife perfect condition; bargain, £48.—82, Church Rd., Mitcham, S.W. [8701

Rd., Mitchian, S.W. 1916, with sidecar chassis, 3-speeds, kick start, clutch; \$80; trial-199, King's Cross Rd., Lendon, W.T. 1916

DOUGLAS 22,4 p. and Sidecar, 2 speeds, excellent condition; £50.-Shuse, 70, Devonshire Rd., Lendon, W.T. 1916

DOUGLAS.—Large assortment of 25th.p. second-hand models in stock, all fully guaranteed.—Ross, 86, High Rd., Lee, S.E [5541]

rigin ad., Lee, S.E.

24. p. Opoglas, new in stock, W.D. model, makers'

24. colours, with lamps; £85:—Mason's Garage,
Letchworth, Herts.

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good condition; bargain, £26.—Bartlett, Lawn Cottage, Alliford-on-Sea.

DOUGLAS, 1916, 2%h.p., 2-speed, condition as new, mileage low, very fast; any trial; £65_179, Brixton Rd., S.W.9.

DOUGLAS.—New 1920 combination in stock: also 3-speed 2%h.p. model.—Edwards, 7, Exhibition Rd., South Kensington . [9014]

DOUGLAS 1918 4h.p. Combination, coachbuilt side-car, 3 lamps, horn; £95; any trial.+27, Crystal Palace Rd., East Dulwich. [8786

Palace Rd., East Dulwich.

D OUGLAS Abp., 3-speed kick starter, good condition, new tyres; £75.—The Premier Motor Co., Aston Rd., Birmingham (£622)

19 20 Donglas Models in stock; 6h.p. combination \$2,416, 224h.p. 3-peed £86.—Moffat, Denglas Agent, Yeovil. Phone: 50.

D OUGLAS 234h.p., 1916, 2-speed, splendid condition, only done 2,000; nny binal; £60.—174, Barcembe Ar., Streatham Hill, SW.2.

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1015

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DOUGLASES.—Call at Smith's for your next Donglas.—Smith's, 10-16, Haverstock Hill, oppo-site Chalk Farm Tube Station.

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DOUGLAS Combination, 1919, 4h.p., perfect condition, long exhaust, only wants seeing; £125.—
1919 Douglas 4h.p. Combination, speedometer, 1917, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 191

SMITH'S for Second-hand 1916 25th.p. Douglases, overhauled, from 50 gns.—Smith's, 10-16, Haver-stock Hill, opposite Chalk Farm Tube Station. [0092]

DOUGLAS, 2%h.p., 2-speed, uncartacl last October, absolutely perfect, well equipped, braud new condition; 465-60, Wallingsford Av. N. Kensington. [8552]

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1920 gear, forks, etc.; Orto screen, hood, Klaxo
horn, lamps, leg shields, spare tyre, helts, etc.; 214
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DOUGLAS, 1918, 3-speed, 4h.p., K.S., combins tion, renovated as new, head and tail lamp new coachbuilt body, very powerful, seen any time £105.—262, Blackhorse Lane, Waltbamstow. [899]

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COLONIAL Model Douglas, 254h.p., 3-speed, 1911 footboards, Klaxon born, lamps, nil accessorie just overhouled, beautiful condition; 470, or neare offer.—Write Rink, Solent Cliffs, Bournemouth. [X289

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IT Appears Ridiculous to Advertise when you have no stock, but we are giving deliveries to the earlier. Blace your order at once if you want delivery. Eli Clark, Donglas Agent, 196, Cheltenham Rd. Eristol.

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1919 4b., Douglas Combination, new Dec. 11h.
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VAUCHOPE'S, 9, Shoe Lanc, Fleet St., London, E.C.4, supply new 1920 Douglas machines from et al. St., and the strength of the supply new 1920 Littly also 4hp, buglas combination, 2110; 2°, hp. lady's Douglas, 1917, 5.

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9 19 (Sept.) 22;h.p. Donglas W.D. Model (makers) 25;h.p. Donglas W.D. Model (makers) and L. Roo old makes. Watford trip solome the solome trip of the solome trip of

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DZMO 314b.p. Single and 8h.p. Twin. Orders in strict rotation. Deliveries commence February.— Lancashire and Cheshire enquiries to Leuch and 4, 16, John Dutton St., Manchester. (Z2657

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for selling, having Ford van.—Purser, Hampden House,
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F.N. 5-6h.p., 2-speed, everything splendid condition £30.-4, Norton Rd., Leagrave, Beds. [880 F.N.-Chatham and District Motor Cycle Mart, Fair Row, Chatham. Earliest deliveries. [8557

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Forward.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, engine; £25. Forward motor cycle, twin [9186]

Harley-Davidson.

JACK HEALY, Cork, official Harley agent.—Ro-tational delivery. No premiums accepted. [6488] HARLEY-DAVIDSON, all models, immediate de livery.—Mandes, Motor Mart, 100, Paris St.

19124 1920 Harley-Davidson, just out of crate, list price; £153/16/3; accept £150. — Reynolds, Water-beach.

1916 Harley Combination, electric model, in perfect condition, disc wheels; £150, or offer.—Herschell Robinson, Dalton-in-Furness. [8337

1917 Harley-Davidson, 7-9h.p., 2-seater sidecar, acety-lene lamps, horn, speedometer, screen, fine out-fit: £170.—E. J. Philpot, Canterbury. [9078]

19²⁰ Harley-Davidson, brand new, Model J, just delivered, only done 200 miles; £160, or nearest offer.—Phone: Tilbury 522. [8726 HARLEY DAVIDSON.—New models can be delivered from stock by the City agents, Elee and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0067

HARLEY-DAVIDSON Combination, 1919, new Sept., only done 500 miles; price £185; mag. model.—Apply, Robt. Rankin, Market St., Stranraer. [8803 HARLEY Combination, 1915, mag., C.B. sidecar, dises, screen, Cameo, lamps, etc., good condition; £120.—39, Kirkstall Rd., Streatham Hill, S.W. [8992]

HARLEY Coach Combination, 1915, guaranteed pertect order; best offer over £95 secures.—12, Jessop's Rd., opposite Turnham Green 'Bus Garage); W.4. [8784]

HARLEY-DAVIDSON and Sidecar, 4h.p., lamps, horn, in good running order; price £75; Birmingham distict.—Box 6,871, c/o The Motor Cycle. [8739

HARLEY-DAVIDSON 1918 Khaki Model, dust wheels, in grand condition: £150, or nearest offer. -5, Bromtelde Rd., Jeffreys Rd., Clapham Rd., S.W.4. [8846

H ARLEY-DAVIDSON Combination, magneto model 1915, Swin wind screen, disc wheels, leg shiel £90, lowest.—47, Lansdowne Crescent, Learnington S 19 15 Harley-Davidson Combination, 7-9h.p., Magdyno lighting, electric horn, perfect condition; any trial; £140.—Bedford Garage, Walsall. 'Phone: 270. [X3107]

HARLEY-DAVIDSON 7-9h.p., 1916, double sidecan, delectric model, wind screen; £145.—White Heather Laundry (London), Ltd., Garage, Stonebridge Fark, N.W.

19¹⁵ Harley-Davidson Combination, professionally coach-painted latest khakt, superb condition; 2130, or near.—Rippingale, 20, Canterbury Rd., Croyfon.

HARLEY-DAVIDSON Combination, 7-9h.p., 1915, dynamo habting, just back from complete overhaul; £125; Saturday or Sunday.—58, Ley St., Ilford. Essex.

19 (late) Harley Combination, mag. model, hood, screen, Klaxon, Wattord, all as new, mileage just over 2,000; highest offer £185; Sheffireld.—Box 6.86c, v/o The Motor Cycle. [8599]

19 15 Harley Combination, 7-9h.p., electric model-lamps and horn, in splendid running condi-tion; £120; would exchange for solo and cash.—352, High Rd., Willesden, N.W.

19 19 Halley Electric Combination, new types all round, speedometer, mileage under 2,000, mechanically perfect, owner haying car; £190.—Logan, Bellast Bank, Central Branch, Belfast. [9052]

HARLEY - DAVIDSON 1916 Combination, mag. nodel, fitted up complete with all lamps, horo, hood, screen, disc wheels, first-class condition, been well kept; £140.—Campion Garage, London Rd., Derby,

7-9h p. Harley-Davidson, brand new, complete with lamps and hour; cash £168, or on extended payments 4% extra.—Harnods' Motor Showrooms, 116-118, Brompton Rd., opposite Main Building, London, S.W.1.

19 15 Harley-Davidson 7-9h.p., 3 speeds, dual controlled, clutch, kirk starter, Bosch, acetylene, Millford sidecar, tradesman's box, new tyres, overhauled, re-enamelled; £120,—Motor, 174, Hanover St., Sheffield,

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—7-9h.p. Harley-Davidsons, solos and combinations, new 1920 models from stock; also 7-9h.p. Harley-Davidson combination, 1919, £185; 1916 Harley-Davidson combination, £150.

PLAT Twin 1920 Harley, 3-speed, lamps, horn, discs sporting metal torpedo sidecar to match, just fitted, full A.A.M.U. insurance, cost over \$170; accept hest offer.—Harley, 7, Orleans Rd., N.19. Cronch End (G.N.R.), Highgate (Tube).

HARLEY-DAVIDSON Corbination, 1915, mag, gas lighting set (3 lamps), luxurious sidecar with large locker and large luggage grid, mechanical horn, good tyres, kick start (will start first kick), machine in splendid condition throughout, any trail; £130; exclange, letters.—Green, 35, De Grespigny Park, Denark 1019, 83.5.5.



Having placed a very large Contract we can offer early delivery of

The Classic NUT

$3\frac{1}{2}$ h.p. twin solo machine equipped with DynamoLighting

and every possible refinement.

May we send you particulars?

Full value allowed for machines accepted in part and deferred exchange, payment terms arranged to suit the convenience of purchasers.

Eastern Garage Co.

418 Romford Rd., Forest Gate, E.7

Telephone: 490 East Ham

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Telegrams: "Egaraco, London."

MOTOR CYCLES FOR SALE.

Harley-Davidson.

1919 Harley-Davidson, electric model, duxuri coachbuilt sidear, wind acreen, apron, di evamel, plating as new, only run 500 miles, full of tools, spares; \$210, or nearest offer; seen by pointment; any trial given.—Coles, 86, Westbourne 3

(ace, W. HABLY-DAVIDSON Combination, late 1915, little need till 1919, 2 spare cheins, 2 spare tyres a tube, 5 lumps, 2 generators, spare pluss, tools, et insurance policy; owner ordered abroad, seen at Layl Games, High St., Oxford 110 gaz, or near officionism, Ger Gubles, Monton, Ayrahue.

Collins, Grey Gables, Monkton, Ayrsinic. [57]
19 19 Hafley-Bavidson Electric Model, just-toperiod condition, one of the best Harleys ever pperiod condition, one of the best Harleys ever p70 m.p.h. on top; will exchange for C.X., repl.
with cash adjustment, or sell outlight.—Offers for change, or cash offers about 150 gns., to F.G.
Elsworthy Rd., N.W.3.

Hazlewood.

19²⁰ 5-6h.p. Hazlewood Combination in store £186.—Bellwood, Victoria Rd., Scarborough

HAZLEWOOD Combination, 6h.p. twin J.A.P., only done 1,400 miles, date gnaranteed, just thoroughly overhanded, hood, side curtains, 3-speed hox, K.S., guaranteed perfect; £125.—Kinnhurd, Portobello Ed., W.10.

HR

H.B. 1920, 234h.p. Blackhurne engine, 2-speed, k starter; 85 gns.; early delivery from sole dist agents, Joseph Derey and Co., 50, Durlington Wolverhampton, Tel.: 606.

H.B. Cycles now on view at Guthries, Ltd., the G gow and district agents. Spare parts made sumple or sketch; gen cunting, machining, and rep tion work; repairs to all makes of motor cycles cars; frames braned or welled; accessories, oils; pet classes, clocked.—Ghrines, Ltd., 368, St. Vincent G. Giagow. Tel.; No. Central 2591.

Henderson.

HENDERSON, latest model issued, electrics equipped, mileage about 250; offers.—Box 6,9

NOW on View, new Henderson Model Z2 and 2 Sole Midland distributers, The Premier Moto Aston Rd., Birmingham.

ANCASHIRE, Cheshire, North Wales, and Isle Man.—Enquiries for Heoderson 4-cyl. wanted J. Blake and Co., Official Dealers, Liverpool-M. Hiskison.

HISKISON.-Delivery from stock.-Chatham District Motor Cycle Mart, Fair Row, Chatha

HOCKLEY 1917 2-stroke, 25(h.p., 2-speed counshart, almost new condition; £42; only was seeing.-35, Freegrove Rd., Holloway, N.7.

Humber.

WAUCHOPE'S, 9, Shoe Lane, Freet St., Lo E.C.4.—8h.p. Humber combination; twin,

3 1h.p. Humber, Renold chain drive, new tyre 3 2 Senspray; £18, carriage paid.—Box 6,846.

The Motor Cycle.

1 h.p. Humber, 2-speed, F.E., good order: £25, 22 gain; sidecar £5.—Balme, 19, Lee St., Ray thorpe, Dewsbury.

FOR Sale, a new Humber twin combination; the cheque, £143.—Apply, H. Dix, Arcady, H. worth Av., Cambridge.

11b.p. Humber, 2 speeds, F.E., Bosch mag., B.
B. carburetter, lamps, horu, etc.; £28/10.—St
Mile End, Colchester. H UMBER 3½h.p., 3-speed and clutch, and Canon sidecar; best offer over £50.—MacKinnon, 1 Dame Agnes St., Nottingham.

19 11-12 31/5h.p. Humber, 2-speed gear, lamps, g running order, tyres very good; £35.—The J.C 124, Holdenburst Rd., Bournemouth.

31h.p. Humber, 2 speeds, with Cancelet si 2 good running order; £60, or near offer.— 4, St. Mary Abbott's Place, Kensington.

3 h.p. Humber C.B. Combination, 2-speed, ha 2 start, good condition; £59/10.—Williams, Dyson Terrace, Blanmerle Rd., New Eltham, S.E.9

2 1b.p. Humber, 2-speed, engine inst overhauled.
2 2 tyres and tubes, new Millers head lump; bur 233.—J. Atkinson, Crosslands, Endunoor, Kendal, Marchand.

HUMBER Lightweight, 2h.p., good condition a powerful, Bosch, Amac, almost new tyres, lamborn, pump, etc.; burguin, £25.—Hogg, 25, Moss Huddersfield.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lond E.C.4.—Sh.p. Humber combination, twin, 19

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Advertising and Publishing Offices: 20, Tudor St., London, E.C.4. Editorial Offices: Hertford St., Coventry.

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UNITED STATES—The International News Agency, New York.

CARLAND.—Toronto News Co., Ltd., Toronto; Montreal; Windows Co., Ltd., Toronto; Montreal; Windows Agency, New York.

CANDA—Toronto News Co., Ltd., Toronto; Montreal; Windows Co., Ltd., Toronto; Montreal;

The International Congress.

SIGN that we have finished with the war. and that more or less peaceful conditions now prevail, is that representatives of the world's motor cycle organisations met last week in London. The conference of delegates of the Fédération Internationale des Clubs Motocyclistes was notable for the undoubted good spirit which animated the whole proceedings. The Motor Cycle was closely in touch with the visiting delegates, and the result of our conversations with them appears in another part of this issue.

An outstanding impression of the gathering in London was the evidence of a great potential demand for motor cycles in every country represented-and also in the Antipodes. It was affirmed that in New Zealand there are more motor cyclists in proportion to population than any other part of the world-not excluding, the United States of America—while the potential demand is enormous. In France, Belgium, Holland, Switzerland, and America, demand and outputs continue to grow, placing the world's motor cycle industries in an important position in the commerce of the nations.

The position of Germany and Austria as members of the F.I.C.M. is now defined. Our late enemies are to be permitted to join when they are admitted to the League of Nations.

An interesting point was raised in connection with America, in which country the body governing competitions is a Trade organisation. It has been a general idea in this country that trade control of the sport and the development of the motor cycle is highly undesirable, and, no doubt, there are many arguments to support this contention; but in the United States conditions prevail of which the average British motor cyclist is not cognisant. It may be said that the motor cycle movement across the Atlantic has been built up more by trade propaganda than by riders themselves. The system has been highly successful, and since the

"trade" took over the duties, for which, in this country, the A.C.U. is responsible, there have been better organised competitions than at any time during the life of the Federation of American Motor Cyclists, which has now ceased to exist. The Motor Cycle and Allied Trades Association of America, therefore, is accepted, subject to endorsement by the Automobile Club of America, as a suitable body to represent United States motor cyclists at the F.I.C.M.

Home-produced Fuels.

F ever argument was wanted to emphasise the desirability of encouraging in every possible way the production of homeproduced fuel, either power alcohol or benzole, the constant threats of increased petrol prices, once more before the motoring public, provide it. For some time carefully prepared propaganda has been appearing in the daily press preparing consumers of imported fuels for impending rises in prices for which the increased cost of freightage is largely blamed. So long as imported petrol is the fuel used by the majority, the chances of an unexpected rise in price will always threaten motor cyclists and motorists of this country. journal has ofttimes pointed out the absurdity of an important key industry, such as the automobile industry of this country represents, being nominally "controlled" by the petrol ring. The British Government has constantly been urged to take action to develop a home-produced fuel and to centrol our own oilfields abroad.

Unfortunately, there is no direct competitor to the petrol trusts. The distributing of benzole leaves much to be desired, and, in spite of the propaganda to convince fuel retailers that benzole has no detrimental effects upon engines, to counter the efforts of the petrol trusts to prove otherwise. No one who uses N.B.A. fuel has any doubt as to its all-round efficiency, while the recent A.A. ro,000 miles test proved that no deleterious effects accrue.



Helmets-for Wet Weather.

KINDLY correspondent, noting my wails about suitable headgear for motor cycling in wet weather, informs me that he uses helmets. He carries two spares in wet weather, and hangs them on the plate rack over the kitchen range on reaching home. Next morning they have quite recovered. This gentleman is evidently a bit of a wholesaler. I should hate to ruffle his feelings, but if by helmets he means those pseudo-airman, hun-crash, leather skullcap brain-warmers, I have no use for them. If the sun is shining, you get dazzle-blindness. If it hails, your eyes get mashed to a plup. If it rains, there is a river down your back. Dismounted, you feel-and look-an idiot, unless you carry a Saxeblue velours flapper-dazzler crushed up in your side pocket, and at the present price of velours I cannot afford to do-that. When the war was on, things were different. You could walk down Bond Street in one of those helmets, and some dear old patriot probably. mistook you for Warneford or McCudden, and invited you to refresh at his expense. Nowadays one just feels silly in them. Next, please. .

A Goak.

OME famous literary man—I forget whether it was Uncle Remus or the chap who wrote the was Uncle Remus or the chap who wrote the office boy's column in Ally Sloper—used to append the phrase "N.B,-This is a goak" to any remarks of a humorous nature. This legend ought certainly to have been inscribed on a label attached to a new machine of leading make recently delivered to one of our readers. He took delivery, and, after repeated failures to start the engine, he began to dismantle sundry items. Finally, he discovered that the carburetter jet was so far from having been flowmetered that it had not even been drilled. The point of the drill had been entered in the jet plug, but had been stopped before it broke through, so that there was no spraying orifice at all. As if this were not enough, the oil feed pipe to the crank case was neatly blocked with a blob of solder. This is sabotage of the first order. I should advise my correspondent to investigate. He will probably find out that he cut out the head tester with a pretty flapper. Revenge is sweet.

Against Naked Chains.

HAVE always been puzzled by the discrepant testimonies produced by apparently honest men as to the working life of a chain. The last year or two has given me a glimmering of the key to such contradictions. For one thing, some chain drives are poorly insulated from shock, whilst others run like oiled silk. For another, some chains are encased, and others are naked. I have just stabled a machine of the latter variety after a century run in heavy rain over sloshy roads. The chain is literally dripping with rain-diluted mud. Water is certainly present in all

its joints and on all its bearing surfaces. The only thing an engineer can possibly do is to defer the hot drink, hot bath, and hot dinner, of which I have been dreaming for the past four hours, detach that chain, and put it in a paraffin bath. Not being an engineer, but a plain John Citizen sort of fellow, with a slack mouth such as Poy loves, I shan't do it. To-morrow that chain will be red rusty in the portions which are not gunbarrel-finished, i.e., the invisible working surfaces. If I bathe it in paraffin all to-morrow, and then relubricate it, it will be a little the worse-not much, but a little. If I need the machine to-morrow, it will get no paraffin bath: it will go out with little orange flakes corroding every vital atom of it, and be in a worse mess to-morrow night. On the other hand, if I don't feel like a ride to-morrow (it is hailing as I write), I shall probably feel still less like befouling myself in the garage-being a plain John Citizen, as stated above, and self-indulgent when I know the Editor is away at Birmingham. In that case, the rust-coat will probably be paraffin-proof by to-morrow night; and if it isn't, the Editor will be back the next morning, I shall have to put up a show of work, and there won't be time for that paraffin bath. It is easy to estimate how long my naked chain will last under this treatment. On the other hand, I am daily expecting a machine with enclosed chains; and, if it had been my steed this day, you could strip and inspect its chains after the century runs, and find them lusciously oozing nice, green engine oil from every interstice. Vcrb. sap. All the same, just to be inconsistent, I'd sooner have chains naked than encased according to sundry fashions, which have afflicted me in the past. And that's just where the shoe sometimes pinches, isn't it?

The Chances of the Monocar.

Y paragraph on the monocar has tickled up several enthusiasts, one or two of whom are busily experimenting with a view to commercial production. The most obvious snag is indicated by the fact that 98% of the enquiries received by one firm specified the addition of an extra seat for occasional use! Such experiences dishearten designers, and switch them off into something which affords good flapper transport. On the other hand, it must ever be remembered that there are now at least 200,000 wouldbe motor cyclists in this country; and when we have written off the man who adds a sidecar or a carrier cushion, the surplus must include innumerable potential monocarists. The potential monocarist, to my mind, is the man who generally travels alone, whether by compulsion or for preference; who dislikes sideslip; who dislikes cold; who dislikes dirt; and who dislikes the weird garb essential to all-weather cycling.

Gentlemen, if a leading firm, e.g., the Triumph, marketed a monocar at a low price—a machine which could not and would not carry two people anyhow, which gave no more trouble than a motor bicycle, and

Occasional Comments.-

which cost comparatively little to buy and run—do we not all know that most of the roughriders would buy it? There are thus three requisites for the starting of a booin in monocars, viz.:

(1.) Quality. It must be good, and known as such.(2.) Self-restraint. Any form of dickey must be

anathema maranatha.

(3.) Price. At £200 it would hardly attract. It must be nearer the price of a solo mount.

My Dreadnought Kit.

DO not believe it is possible to devise a coldproof kit even for our comparatively mild British winter, but I have at last evolved a waterproof kit which is at least tolerably frostproof. In summer I wear Barbour oilies as drencherproofs: they fulfil their primary purpose admirably, and have the additional merits of being cheap, portable, and as presentable as any other motor cycling rig can be—which is not saying so very much after all. For winter I don, item, a leather helmet (Astrakhan or Bolshevist pattern) by Shekman

of Tyne Dock, with side and back flaps; item, a heavy twill suit by Irvine Smith of Bradford, which has not let a drop n anywhere yet put lots of leather inderneath, of ourse); item, either of two pairs of gauntets, one a special pair built by Dunof proofed will, lined leece, the other a nitt designed for he Archangel Force, with three kins-twill, para ubber, and camel leece; item, a pair of gum boots. The annular orifice" at he neck is the sole ulnerable point in uch a get-up, andhat is best guarded y having the collar the jacket careully tailored t close roundorresco referenscelluloid collar, he coat collar and he celluloid atrocity eing carefully apered to fit toether like the male nd female portions f a cone clutch. here are jugginses

broad who swear

by the sort of scarf which rowing men used to call a cravat. It certainly caulks the above-mentioned orifice successfully, but it is unco' clammy after an hour's rain; and my own dodge is far, far better. But of my hoary experience, I present the inwary with an invaluable tip anent celluloid collars. In my youth I regarded such collars as a social crime, on a par with shovelling peas into one's mouth with a knife. When I tardily discovered their celestial affinities with motor cycling, the sporting hosier who put me on to them gave me warnings. I must use a hinged stud, bien entendu. As an ordinary tie would seize in celluloid bearings, I must use a made-up stock, affixed by a spring pin in the back half of a special stud. His made-up ties were truly frightful. I finally selected a chaste pattern in Saxe blue with multigatawny dragons on it. Thus attired, I started out on a Six Days. At 7 p.m. we arrived at the Empire at Bath, or some such caravanserai. discovered my made up tie had projected itself automatically into the void. All the shops were shut. I · bribed a waiter, and dined in a pink sailor knot with

a semi-gladstone collar two sizes too large. Moral: if you motor cycle in a celluloid collar (and sooner or later you must), always carry a spare

tie.

Wrenched Sidecar Frames.

Y own enthusiasm for sidecars has always been somewhat tepid, and the present paragraph is inspired by several correspondents who have asked me to take the matter up. They find that with various makes of combination the rear cover does not give a satisfactory working life, and, on examination, they notice that the rear half of the bicycle frame has been badly wrenched over towards the sidecar. They allege that the rear connections of the sidecar to the cycle frame are responsible. I merely ventilate a grievance which reaches me with some insistence.



Now that one is free to tour in France and Italy, possibly the beautiful districts of those countries will attract many motor cyclists who viewed the exquisite scenery under war conditions. The photograph shows despatch riders in Northern Italy in less happy days.



WEIGHT, COMFORT, AND





VERY motor cyclist has his fads. Some men plump for a substantial simplicity, some for a sports model, others for a flat twin, and so forth. Personally, now that we can take cooling and climbing and reliability-the naked essentials of a usable machine-for granted, I attach increasing importance

to weight, comfort, and cleanliness. So far as weight is concerned, 1920 model's bring two plain tendencies into relief. The first is that general purpose touring machines are designed and constructed practically regardless of weight. It is hardly an exaggeration to say that nobody cares and nobody knows what is the ready-for-the-road weight of any machine exceeding 500 c.c. It is unquestionable that the popularity of the sidecar is answerable for Post-war machines which scaled this recklessness. less than 2 cwt. a year ago in their experimental form now tot up to nearly 3 cwt. The public does not complain. It buys these monsters with avidity. On the other hand, there is an equally clear demand for light machines, but no discriminating rider sets them on a level with the bigger machines in general quality; and dozens of them are still very dark horses indeed. Now, my main point is that these opposed tendencies are bound to react on each other. The machines which are easy to handle, cheap to buy and cheap to run, are not general purpose machines. They are being sold to people who dislike handling several hundredweight of metal, who do not care to expend. over £100 on a solo mount, and who wish to economise in petrol, tyres, etc. These buyers will, in most cases, yearn for a general purpose machine which is very light and very economical. Sooner or later a designer will produce a specification along these lines; and then the heavyweight firms will get busy on new lines. That day is not yet. There is an That day is not yet. immense advance in the number of lightweights of all patterns. Some of them are "designed" jobs from stem to stern, with nothing experimental, shoddy, or criticisable about them. The all-purpose mediumweight is almost conspicuous by its absence-even the dear little 234 h.p. Douglas has put on a lot of flesh since its original debut as a multi-speeder, and it has hardly a single competitor in its class. The big fellows are becoming extraordinarily heavy, what with their dynamos, spring frames, detachable wheels, and other bulky additions.

Comfort.

When we turn to the question of comfort, we note much riper progress. Designers admit that the layout of a perfect spring frame is an extraordinarily tough proposition. In spite of this, there are many new spring frames. Simultaneously a strong critical school has arisen. Some makers say in effect, "Extra insulation from road shocks is unquestionably needed; but the spring frame is the wrong means to a noble end." So a good many engineers propound special methods of mounting the saddle in lieu of springing the entire rear frame. The merits of this revived antiquity are obvious. It is neater, lighter, and cheaper than any spring frame can ever be. On the other hand, it has equally plain shortcomings. It furnishes no protection whatever for the chassis. It cannot endue the rider with as much comfort as a spring frame unless his footrests are also sprung (e.g., Bat fashion). In other words, it is a compromise. Next season will show whether riders will accept the compromise as a sound substitute for a fully sprung frame. I think it is quite possible, especially if spring footrests accompany it. In this connection we must rejoice that no previous year has produced such a luxuriant crop of new spring forks. The experts always said that the introduction of good rear springs would compel many front forks to be redesigned. They were right. The man who fits a good sprung rear frame immediately notices what a lot of jolts he gets from his front wheel. On the whole, however, the industry is in a remarkably healthy condition on the score of comfort. It has improved spring forks, added rear springing in one form or another, and standardised larger tyres. These are wise efforts to cope with the appalling badness of our roads, and the fact that many recruits to the sport are less hardy than the youthful sportsmen who once provided the majority of riders.

Cleanliness.

Scientific efforts-to produce a machine which will keep itself and its rider clean, or which will be easily cleansed of such dirt as it collects, are very few and far between. On the other hand, the "clean". machines are nearly all of the best grade in other respects, and will exercise an influence on development quite out of all proportion to their numbers. The commonest specification is somewhat as follows: The front mudguard is a little wider than it used to be, and has deep side flanges. You can say two things of it-that it will divert all filth flung from the top arc of the wheel (say from ten to five o'clock on the circumference, viewing the wheel from the near side), and that the wheel will never be jammed in the guard by accumulated dirt. But the designer has not thought what will become of the mud flung off the wheel. He has taken no steps to deliver it at the rear tail of the guard, or even to prevent liquid mud from being blown backwards off the entire arcs of the edges of the flanges. So in imagination we follow this flung mud

Weight, Comfort, and Cleanliness .-

backwards towards the chassis of the machine, and we find that it will foul the silencer (perhaps necessarily); besmirch the magneto in some cases, and on not a few flat twins the front cylinder head and especially the front sparking plug; soil the rider's legs and feet, and bespatter a host of awkwardly-shaped projections and inaccessible crannies in front of the engine, beneath the engine, and on both sides of the engine. There may be a small flap to guard the magneto; but nothing else is generally protected except the rider's boot soles, which 'lie flat on aluminium plates, and are already dirty.

Some Good Examples.

Contrast this thoughtless layout with that of the Douglas or A.B.C. or Cedos or Scott. These machines embody front, side, and underneath protection in various forms. The filth—solid or liquid—flung back from the front wheel is caught and diverted just about as efficiently as riding conditions permit. You must allow a good draught to impinge on the silencer and on the cylinder-cooling devices. In each of the above cases the front screening is as complete is is compatible with efficiency. In each case the cootboards either form part of a wide underscreen or me mounted upon such a screen. This screen extends ight underneath the machine from side to side, so that

an absolutely smooth surface is presented, and cleaning is proportionately facilitated. In the Cedos, in particular, the underscreen is carried right aft and joined up to the rear mudguard. No designer has gone the whole hog, in the sense of enclosing his power unit in a smooth, slab-sided casing, though I understand the Black Prince design allows for this. But these four machines present schemes for keeping all front wheel flingings off the rider and off the mechanism. None of them is appreciably heavier or costlier than the common or garden layout, which either deserves such a stigma as the word "naked" implies, or else hesitates and is lost. Many machines are fitted with contemptible little front shields, large footplates, and possibly a petty caricature of an underscreen. If these four items had been joined up into one big all-embracing protector, they would be rideable in cricket toggery, and would neither have cost nor weighed much more than at present.

Rustproof Finish.

A parallel tendency is apparent on different lines. A few machines—notably the Beardmore-Precision and the Cedos—evince far less nickel plating than we are accustomed to. Some years ago the Rudge took a bold stride in abolishing nickel-plated handle-bars. The two machines named go a step further in the same direction.

An Electric Sidecar Outlit.

Silençe, Even Torque, and Simple Control are its Chief Advantages.

T is perhaps true that the electric motor cycle is the ideal of the majority of motor cyclists. Whenever they are asked to prophesy the

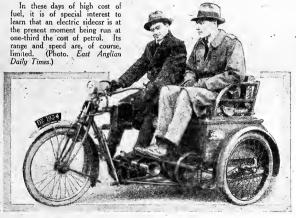
ype of machine f the future, they lmost invariably "Electric," lthough they may now little about lectricity. They ealise that, so rapid ave been developients in its connecon, sooner or later ew discoveries may iake possible the ight, powerful, lectrical vehicle a ractical propo-

The machine ilistrated was made the Orwell Works, pswich, where elecric commercial tacks are built, to the order and design f Mr. P. A. G.

Iossay for service when petrol was scarce. As will e seen, the nucleus of a petrol-driven machine was sed as the basis, and the electrical equipment was of designed specially for the machine; which might considerably modified and lightened for this purpose.

We are informed that, even in its present form, the machine has a thirty miles range at one charging, which from town mains at twopence per unit costs

sixpence (one-fifth of a penny per mile, as compared with three - fifths of a penny the average petrol machine costs for the same distance). With its present equipment, the machine is capable of about 12 m.p.h., but, we understand, it will climb any hill in the district. Its great advantage is, of course, its cleanliness and simplicity of control, there being one switch only, which operates very much after the manner of those on electric tramcars. The accumulators



are carried in the box sidecar. Obviously a good deal of space is occupied by the batteries, and the electric system could not readily be applied to a solo motor cycle; suitably designed, however, the sidecar accommodation need not be too much limited.

The BIG SINGLE as a

MOUNT

Experiences with and Impressions of a Norton "Big Four."

RYPERIENCE with the Norton "Big Four" has shattered all the writer's preconceived ideas of big single-cylinder engines. The first run with this 637 c.c. mount attached to a heavy sidecar was something of a revelation, especially to one who had always associated really fast sidecar touring with the 8 h.p. twin to the exclusion of smaller capacity engines.

A knowledge of the exploits of the Norton "Brooklands" model and, indeed, of the ordinary "Roadster" models, led one at the outset to expect something a little out of the general run of single-cylinder engines. There

was, however, at the back of the mind, a feeling that a big chain-driven single would lack the refinement of running, if it can be so expressed, that one obtains

with a multi-cylinder engine.

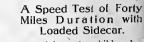
The first striking feature, however, on taking out the machine was the remarkable smoothness of the transmission and the manner in which the engine "turned over." It would be absurd to say that it was vibrationless, but it can truthfully be said that there was a good deal less vibration than is produced by many twins. One sometimes says in laudation of a rider that he was "part of the machine." In truth, one does feel part of the machine on some mounts, and many will recollect certain motor cycles which seemed to convey every movement, every bit of vibration of very working part—even to the studs on the tyre, via the hands through the body to one's very extremities.

Sitting on the saddle of the "Big Four." one feels very little of the engine; its "kick" is devoted to its proper function, and not to making the rider un-

comfortable.

In these brief notes, a mention, too, might be made of the sidecar that was attached. This was a double-sprung Grindlay. It will be remembered that the wheel of the sidecar is carried between two long semi-elliptic springs. For very particular reasons, the writer was most anxious to obtain a sidecar which insulated the passenger from all road shocks, and also was roomy enough to take a child, and the choice was completely justified.

A long run from Coventry to mid-Lincolnshire was the first serious test of the combination, when



two adults and a child and a quantity of heavy luggage constituted the load. On this occasion, the newness of the engine dictated the policy of moderate speeds, and the long straight stretches of the Fosseway between Leicester and Lincoln were covered at It was on this a "trot." road at a later date, when the engine was well "run in," that a test was undertaken which few private sidecars ever undergo. In the interval, the Norton's capacity and positive liking for hill-climbing was fully realised. On one occasion a fast run was undertaken from Birmingham to the Worcestershire Beacon.

With a passenger in the sidecar and with a warm engine, the hill through Malvern to the cutting at the top of the Wyche, leading to the actual track up the Beacon, was climbed on top gear. The Beacon itself is, of course, an ordinary climb, and the summit was easily surmounted.

Good results on freak hills are no criterion as to an engine's "suitability" for touring. The most important thing is to know whether the engine will tire after a long run at speed on the road, and whetherit can stand stiff climbs against the wind on a road deep in mud with the hood up and carrying a bigload after it has covered sixty miles non-stop.

This the Norton has done, and the following test—really a more severe one than it appears—proved conclusively that it can do, as much as the 'great majority of 8 h.p. machines. When riding along that fine speedway between Six Hills and Lincoln—forty miles—probably the longest straight stretch of engineered roadway in England—the writer wondered what would happen if he rode that distance "all out" with just one slowing up in Newark. Would it be valve, chains, plugs, or tyres that would give up the ghost, or would the engine simply "peter" out through oferheating?

"They Rode Straight, those Old Centurians."

It eventually happened that Six Hills was reached one fine autumn morning with a heavily loaded sidecar, and there and then a decision was reached to make a "record" run.

With windscreen up, the throttle was opened and plenty of oil supplied. The ribbon of roadway lay

The "Big Single" as a Sidecar Machine .-

straight as a spear in front. The old Romans scorned hills and dales—they cut straight across them—there was no deviating to avoid a rise. The actual speed need not be mentioned; the engine roared on full throttle as fast as it could be driven for mile after mile. There are no villages, and only one or two minor cross-roads quite visible. It was no temporary speed burst, but a gruelling such as probably could take place nowhere else in this country, except at Brooklands.

At first there was an uncomfortable feeling that

it was not fair to the engine; one thought of broken chains, then of the valves. After five or six miles of "blinding," commonsense dictated a more moderate speed, but it was to be a test, and so onward. Down one. or two small declines the road speed was slightly slackened, but not sufficiently to cool the engine in the slightest legree.

At Newark there was, of course, an down—the aarrow "gates" of the old town necessitated this. First hrough Millgate,

hen Castlegate, Bargate, and finally Northgate, and in to the straight flat stretch of Lincoln Fossway. On this run of sixteen miles, there are no villages intil four miles from Lincoln and full throttle was given again immediately on leaving the town. It was on this stretch that a modern 8 h.p. sidecar was observed ahead and finally passed after a tussle—and a sporting contest it was too. The run culminated in the climb of Lincoln cliff past the cathedral; his acclivity needing only second gear at the bad bend before the archway.



The "Big Four" Norton on the road. An outstanding feature of this machine is its ability to maintain high speeds with heavy loads without overheating.

It was a great run, and on dismounting the writer metaphorically patted the machine. It had stood practically full throttle—old motor cyclists will know what that means—for forty miles without the slightest feeling of distress, and was as lively at the end of the run as it was at the beginning. It should be remembered, too, that a heavily loaded coachbuilt sidecar was futed, and that this was equipped with a screen, side curtain, and a grid carrying a quantity of luggage, enough to dry up the best of engines when driven all out for many miles.

After such a test, one was constrained to ask, "Why run a twin?" Well, Why?

The single cylinder has the advantage of the simplicity which, even in these days of "no trouble" twins, is something of a comfort. To the gallon of petrol, sixty-six miles can be covered, and the oil consumption is also low. Valve trouble is practically unknown on Nortons, and the engine is quite happy with carbon deposit of many hundreds of miles running still within the cylinder.

With the exception of a minor repair to the chain case and rear brake adjustment, nothing whatever has been done to the machine since taking delivery. "A good wine needs no bush," it is said, yet a good thing should be known, and, from the writer's experience, the Norton "Big Four" is everything the makers claim for it. A final word also is needed for the sidecar—Mr. Grindlay's patent suspension has proved particularly efficient; one can pass over the most atrocious pot-holes at a speed impossible with a rigid wheel sidecar.

A.F.J.

THE TRADE AND COMPETITIONS.

ROM a recent interview with Major Watling, the general manager of The Cycle and Motor Cycle Manufacturers' and Allied Traders' Union, we vere very favourably impressed by the general feeling f the trade concerning competitions. Despite thenany difficulties under which the makers are now vorking, the motor cycle section of the Union has greed to support all the twenty open events for which he A.C.U. has granted permits. This, of course, loes not mean that all makers will necessarily support Il these trials; it is recognised that certain trials ppeal to certain manufacturers. No doubt those eld in the motor cycle manufacturing centres will eceive greater support than others further afield, lthough it is to be hoped that many will seize the

opportunity of entering in the latter events and so widen the field of their efforts and publicity. Such propaganda work cannot fail to become ultimately of benefit to them.

It is desirable that the public view average performance in these trials rather than assume that, because a certain machine is not entered in a particular trial, perhaps far afield from his district, its makers lack the confidence to enter it. We do not think that the public is prone to draw such conclusions, but there appears to be a tendency among some manufacturers to think such might be the case. No doubt most trials held in the London and Midland districts will be well supported by trade entries, and that all others will receive full consideration on the part of manufacturers.

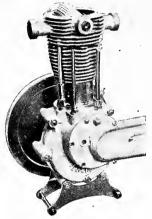
An Oscillating Cylinder Head.

Further Details of the Lightning Valve.

WHILE at the works of Mr. Leopold Ward, experimental engineer,
Harmood Place, Chalk Farm,
London, N.W.1, the other day, we inspected an engine ready for test which was fitted with the Lightning valve described in the issue of The Motor Cycle of December 18th.

of December 1001.

We may remind our readers that the valve consists of what is practically a rocking cylinder head working within a spherically sided chamber and oscillating so as to open and close the exhaust and inlet ports, which are at opposite ends



The Lightning valve engine on test.

(Left) The special cylinder head with the valve tilted to show its construction. (Right) One set of

valve ports will be observed on the right. orifice on the top is for the sparking plug. -

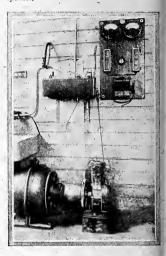
of a diameter. The valve is furnished with a couple of rings, which share a common groove, and is actuated by rockers from a "tramway" cut in the face of the flywheel. A diagrammatic view of the valve is shown in the issue previously referred to, but we are now enabled to illustrate the valve, and also to present a view of the piston head in which the ports may be clearly seen. The engine has already run, and run satisfactorily, but we have received no reports up to the present of the power it has developed. With the exception of the valve, special cylinder head, and valve operating mechanism, the engine is a 23 h.p. Blackhurue

MOTOR (YCLE

Ideal Gas Flow.

It is claimed that a considerable increase in "revs." and power can be obtained, and this should certainly be obtained, and this should certainly be the case, as from the point of view of gas flow the design is well nigh ideal. At the same time it will be interesting to hear how the operating mechanism stands up to the sudden changes of acceleration. The valve, however, is very light, and the movement comparatively sm.ll, so that if any difficulty is experienced in this direction it should be interpretable. not be insuperable.

In addition to any other advantages it may possess, that of mechanical silence is sufficient justification for such a radical departure from standard practice, pro-vided, of course, the rocker gear is silent. The Lightning valve was one of the few really novel and interesting developments shown at Olympia, and its progress will be closely watched by very many motor



A Blackburne engine fitted with the Lightning valve connected up to a testing apparatus at the Leopold Ward Experimental Works.

cushion, and a spring seat. .

It will be seen that the lines of the body illustrated are graceful, and yet, by means of the door provided, access to the locker may be obtained without disturbing the passenger. The body is well upholstered, has a spring-back

An Attractive Sidecar Body:

Comfortable Accommodation for Passenger and Ample Space for Luggage.

WHENEVER a successful design in motor cycle or sidecar has been evolved there has always been a tendency for that design to be followed closely by a large number of makers. The rear locker in sidecars is now regarded. as an essential, but the majority of bodies follow more or less set outlines. A side-car which shows individuality, however, car when shows individuality, nower, is that constructed by Messis. Bright and Hayles, 78, Church Street, Camberwell, London, S.E., who do away with the bulbons back, thereby providing a spacious locker at the rear of the body, which will carry two gallons of petrol, spare tyre, a gallon of oil, and other accessories. Many types of bodies have a fairly large locker at the rear, which is only accessible by tilting forward the back of the seat, which is very annoying, necessitating the passenger getting up if anything is required from the locker.

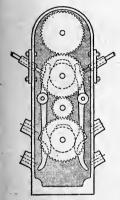


A sidecar body of graceful design.

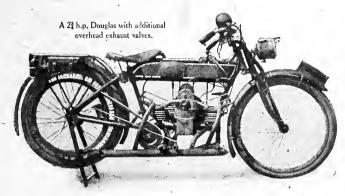
Altering the Makers' Design.

An Enthusiast's Experiment with Extra Exhaust Valves.

KEEN Douglas rider of many years' standing, Mr. W. F. Brook, of Martock, Somerset, has carried out matrock, Somerset, has carried out interesting experiment which, heams, emphasises the value of increased thaust port area. He has fitted an ittra exhaust valve to each cylinder of a 23 h.p. Douglas. Mr. Brook states



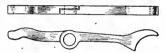
How the extra valves are operated by a am on the shaft of the intermediate timing



that he found a slight tendency for his engine to "dry up" or overheat after a prolonged speed burst, and, after a a protonged speed burst, and, after a process of elimination, thought that this was due to imperfect scavenging of the exhaust gases. To obviate this, he designed auxiliary exhaust valves and pockets which take the place of the usual inlet valve cap. The auxiliary valves have the same lift as the standard exhaust valves have the same lift as the standard exhaust valves, but are given a slight lead to prevent the hottest gases im-pinging upon the plug points.

It will be observed, from the accompanying illustrations, that the extra valves are operated by a cam on the shaft that carries the intermediate wheel of the timing gear. Additional rockers are carried on the same pivots as the standard rockers, but in order to accommodate them, it was necessary to inter-step them with the standard inlet rockers.

We are told that the attachment has been in every way satisfactory, and that all signs of overheating have vanished. Tune is also maintained for longer periods, and oil consumption considerably lessened.



Showing how the extra rocker is attached by stepping the existing rocker.

While the attachment is not yet on the market, we understand that Mr. Brook is seriously thinking of manufac-turing it commercially, as it can be fitted to any standard 2½ h.p. Douglas in a few hours by any good mechanic.

CONTROL FOR W.S.R. JET ADAPTER.

HE W.S.R. adapter gives very good results when nsed with a 2½ h.p. Douglas, but is somewhat awkward manipulate. The following handle-bar trol was sent us by a reader, and may useful to other owners of Douglas

A piece of 13 in. brass sheet was cut having a hole large enough to fit ify over the bush in the centre of the led wheel. The end was turned over ittle, drilled, and slotted to take the le and small nipple.

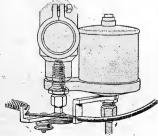
A Simple Adjustment.

Yow, before coupling the lever on to wheel, some means has to be devised arying the range over which the wheel be moved, so that the best positions be found. This was done by drilling in hole in the lever, and by means as small distance piece, a brass bolt, h a milled nut and fibre washer, the r was attached to the wheel. Now, slackening the milled nut, the wheel be rotated independently of the lever, can he clamped firmly when the best ition has been found.

he stop for the outer sheath of the le is also made of 3 in. brass, bent, as indicated, and drilled, and slotted to receive the cable.

It is clamped in place by a thin nut screwing on the same thread as the union nut, which had to be filed down a trifle to admit it.

If there is not sufficient room to take it, a hrass terminal could be soldered on to the bottom of the float chamber, and the outer sheath clamped in the same



The general arrangement of the variable jet control fitted to the Amac carburetter.

way as the wire is fixed to the terminal. A small spring fixed to the cylinders, and the lever providing the means of return, and a lever on the handle-bar, completed the fitting.

In my case, the extreme range of the wheel is an arc of about 30°, whose central point is about 110° from the closed position of the valve; and the lever on the handle-har has a movement of about 45°.

Practical Advantages.

Lest any should say that they dislike having four levers to play with, let me say that I found there are only three positions of the jet lever which need be considered, namely, a small opening for town work, and the full 30° opening for town work, and the full 30° opening for town work, and the time 30° opening for special hills. But, of course, the rider who is willing to take a little trouble over the jet lever will find his trouble amply repaid. My petrol consumption now varies from 130-140 miles per gallon on let had but however and petrol mixture. a half and half benzole and petrol mixture and a still greater mileage is obtained on undiluted benzole, so that the henefit derived well repays the slight trouble of fitting.—X.J.C.



A Commentary based upon Practical Experience and a Study of Overseas Opinions.

A Great Overseas Demand.

THE demand for British motor cycles Overseas is so great that several makers need not trouble at all about the home market if they are so disposed. In fact, -

more than one of the smaller makers of first-class machines, who produce from one to two thousand machines per annum, have told us recently that any one of their Continental distributers would absorb their entire output.

The Needs of IT is satisfactory to note that the majority the Export of makers are allocating a fair propor-Trade. tion of their outputs to Overseas demands, but a few, perhaps, prefer to take the line of least resistance, and give the home market preference. There is, of course, a great temptation for them to do this, because, as one maker confessed to us, a better price is obtained from agents in Great Britain than from shippers, and, in addition, goods for "local" orders do not require special packing cases nor the necessary time-absorbing attention demanded by shippers. Such a policy is very shortsighted and unpatriotic, considering that Great Britain is in need of the export trade. There is a world-wide market for motor cycles, and those who help to meet the immediate demand will surely reap a big harvest later on.

The Big Question of Spare Parts.

WHENEVER British export trade in motor cycles is discussed, the question of spare parts almost invariably crops up. It is a most important problem, and one which

may be difficult to solve. Frequently the good American spare parts service is quoted by Overseas readers, but very different conditions prevail. America is exporting machines of only three or four makes. and, therefore, these firms can profitably send out adequate spare parts stocks. With British machines it is different. There are at least fifty more or less well-known

makers exporting motor cycles, none of which attain the number of a concern like the Hendee Mfg. Co., for instance. Therefore, instead of, say, a dozen chief distributers required by an American firm, most of the British firms employ that number each, so, instead of three dozen stocks of spare parts required by American manufacturers, there are probably over a thousand "sole agents" for British machines, who, to give the same service, each require a stock. 0 0 0

of Firms.

AMERICAN manufacturers have also Amalgamation opened branches in the important Overseas centres from which their distributers are supplied. No single British manufacturer could do this profitably, hence it would appear that it is a matter for the trade as a whole

to consider, in which connection we once more reiterate our suggestion that spare parts depots are established by combinations of firms. Just as the many clubs in England are to-day amalgamating for purposes of running competitions, so should manufacturers combine to establish spare parts depots in the various Overseas markets.

\$ \$ \$

Central Depots for Spare Parts.

Such an idea could be carried out in many ways. For example, small companies could be formed composed of those who export motor cycles to a

certain country. Holdings in such companies would be in proportion to the amount of trade done in that country. Each would contribute and maintain stocks of spare parts for a central depot. Another method

would be to have, one larger company working from a main distributing depot in London, which would supply the distributing depots in various countries according to 'requirements. A seroutlined vice as above is capable of being developed by the British motor cycle trade, and we urge manufacturers to give it their earnest and most considera careful tion.



A YORKSHIRE "ROAD."

"Overseas conditions" abound in many outlying districts in Great Britain. This is a road recently encountered in Yorkshire by a member of The Motor Cycle staff.

JANUARY 29TH, 1920.

BICYCLES. MOTOR

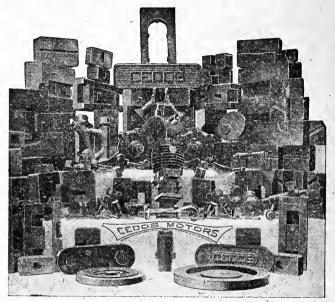
HE thorough reliability of B.S.A. Motor Bicycles under most exacting conditions, was conclusively proved in the strenuous A.C.U. Trials, held last Sept. over the mountainous Llandrindod Wells district of Wales, where B.S.A. Motor Bicycles were successful in securing the Team Prize (the chief award) 3 Gold, 2 Silver, and 1 Bronze, medals. The same sturdy construction and scientific design which ensured their success under these adverse conditions guarantees to vou a trouble-free and reliable mount in a B.S.A.



For Solo and Sidecar







THESE ARE THE ORIGINAL CEDOS PATTERNS

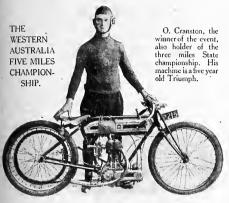
Made in our own Pattern Shop at Northampton,

A GOOD CEDOS POINT

And proves CEDOS is not an assembled components machine.

Cedos Motors, Hanwell & Sons, Northampton.

A Selection of Letters from Readers scattered all over the World.



Gudgeon Pin Fixing.

MR. H. PETHICK, Broken Hill, New South Wales, writes: Being a constant reader of The Motor Cycle for the past four or five years, I thought I would write to you about a most important subject hearing on the design of the motor cycle engine. I refer to the different methods employed in eyele eignie. I refer to the different methods employed in fastening the gudgeon pin into the piston, shown in describing various engines. I enjoyed the article recently about the different magneto drives and position, but I noted amongst the illustrations you never included the Singer magneto drive. I have ridden at different times various makes, but none that I have ridden would compare with the singer for an ellegand magnitude. It was fast and powerful Singer for an all-round machine. It was fast and powerful, reasonable in fuel consumption, and free from that rattle that so many machines seem to develop. It also had decent sized bearings, not microscopic like some I have seen. In fact, the only fault I found with the Singer was that the gudgeon pin used to become loose after a good mileage and through the victor abbranch is marked to be a seen. and turn in the piston, although it was a driving fit when fitted. I rather fancy the idea of fastening the pin in the rod, and allowing it to turn in the bosses of the piston. This idea seems to have been well tried out now. The only other idea that appeals to me is that of a mortised end gudgeon with the special ring to keep it in position. British machines are going strong here, despite Yankee competition, and my next machine will be British also."

Trade Abroad.

"FACTS," Virarajeudrapet (Coorg), India, dilates on the subject of prices, and says: "It is with great pleasure that I read, under the heading 'Profiteering,' in The Motor Cycle of September 11th, that manufacturers of motor cycles have for some time been considering the various steps that can for some time been considering the various steps that can be taken to prevent agents from profiteering when selling machines to the public. The public in England will no doubt feel thankful to the manufacturers and to the Manufacturers' Union if agents are made to sell machines at a reasonable profit, as now contemplated. I would ask our reasonable profit, as now contemplated: I would ask our leading manufacturers to allow their agents in India a fixed discount, or to fix the price of machines, and to get their agents in India to sell them at that price. Of course, we should not grumble if the agents here were to charge us the actual cost of machine—retail price as sold in London, plus freighters, that the cost of machine—retail price as sold in London, plus freighters, that the cost of machine—retail price as sold in London, plus freightage, duty, etc.

freightage, duty, etc.

"I am sure most of our English manufacturers are not aware of the prices charged by their agents in India. Such profiteering will in the long run only result in keeping out the well-tried and time-honoured British products and introducing the cheaper American stuff, as there is no such thing as 353 % duty here on the latter as in England.

"The following list will give you an idea of the prices charged by one of the leading agents in India for most makes of the well-known machines. I do hope our leading English manufacturers will shake off their lethargy and fix the

prices of their machines, which we in India know to be the best the world can produce to-day:

"1919 Models, New Machines. , (Prices do not include lamp or horn, or any other accessory except tools as sent out by the makers.)

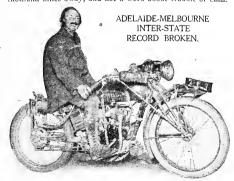
 4 h.p. Triumph, three-speed gear 		£150
2. 24 h.p. Baby Triumph, two-speed		£115
3. 4 h.p. B.S.A., three-speed		£150
4. 31 h.p. Ariel, three-speed		£150
 31 h.p. P. & M., R.A.F. model, two sp 	ced	£150
6: 31 h.p. flat twin Humber, three-speed		£160
7. 23 h.p. Douglas		£115
		£150
9. 23 h.p. Invicta-Jap, two-speed		£100
10. 6 h.p. Enfield and sidecar		£240
11. 6 h.p. Enfield and sidecar, electric light	ing	£280
"The agent quotes the above as approximate	te pi	ices."

An "Ideal" Specification.

MR. C. HOLLAND, writing from Ishaporo, near Calcutta, says: "I often note different riders' appeals for an ideal says: "I often note different riders' appeals for an ideal motor bicycle. They differ from mine in a good few details. What I want is a 3½ to 5 h.p. h.o. twin, three-speed gear (all one unit), swivelled from front down tube, divided chain case behind the gear box, drive to be on right-hand side, magneto high up behind the cylinders, or on top, all silent chain drive, clutch on left hand, brake on right-hand side, quick detachable aluminium chain cases, wheels to drop. out the same as the Indian front wheel, back chain wheel to remain on separate ball race on back stays, on removal of the back wheel and connected when together by a, dog clutch, chain cases to be held together by half a dozen small bolts, sprung fore and aft, electric lighting, mechanical oiling; and hand pump reserve or drip feed, inside belt rim brakes, as per B.S.A .- in fact everything to be accessible and quickly detachable, contact breaker, and carburetter adjustable from the right-hand side, and no trouble with sidecar attached.

"I notice in recent issues that some motor cyclists are satisfied with makers' and repairers' courtesy. What about

this?
"I got a 3½ h.p. Douglas through agents in Quetta,
Baluchistan. On receipt I noticed the carburetter to be Baluchistan. On receipt I noticed the carburetter to be cracked The makers promptly sent one out. After three months' riding I complained about on leaking from the valve guides and gear box trouble. I wrote to the Douglas Co. Never addressed them before. They promptly sent me an entire new engine and gear box, and waited about six months for the old one to be returned, through the fault of the shipping agents, and not a bit of a grouse about it either. Mind you, this is not at home, on the spot: all seven to eight thousand miles away, and not a word about trouble or cash."



C. W. A. Korner (7 h.p. Indian), president of the M.C.C. of S. Australia, who rode from Adelaide to Melbourne, 583 miles, in 19 hrs. 35 min., breaking the first official record between the two capitals, set up the week before, by 4 hrs. 47 min., thus winning the Dunlop trophy for the first rider to cover the distance in less than twenty hours.

THE A.C.U. ANNUAL DINNER.

Prince Albert to be Patron of Auto Cycle Union.

Distinguished Visitors.

M UCH has happened in the history of the A.C.U. since the last annual dinner of that body in 1913. Still, many well-known faces were to be seen among the guests of the Royal Automobile Club on Wednesday last week at the thirteenth annual dinner, many of whom had done noble service for their King and country. The chair was taken by the Hon. Sir Arthur Stanley, G.B.E., Ob. the Holl. Sir Arthur Stating, G.B., M. C.B., M. V.O., president of the Auto Cycle Union, and chairman of the Royal Automobile Club. The dinner was a particularly interesting affair for several reasons. larly interesting affair for several reasons. There were many distinguished guests, among whom may be mentioned Maj.-Gen. Sir G. P. T. Feilding, K.C.B., C.M.G., D.S.O. Sir Julian Orde (secretary of the R.A.C. and a vice-president of the A.C.U.), the Mayor of Marylebone (Mr. Duncan Watson), Lt.-Col. A. Hacking, D.S.O., M.C., Brig.-Gen. Sir H. Capel-Holden, K.C.B., F.R.S., and Major Watling (General Manager of the Motor Cycle Manufacturers' Union).

Guests from Abroad.

The diuner preceded the conference of the International Federation of Motor Cycle Clubs, and so several foreign delegates were present: MM. A. Michant and G. A. de Ro representing the Belgian R.A.C., Mr. Graeme Fenton, O.B.E., representing the French Motor Cycle Union, Mr. Frank R. Jones representing New Zealand, and Mr. W. H. Wells America. A most interesting announcement was made by the Chairman after the toast of the King. He pointed out that those present were, of course, aware of the interest the Royal Family took in the sport and prosperity of the community. The King was patron and the Prince of the International Federation of Motor The King was patron and the Prince of Wales vice-patron of the R.A.C., and he was glad to be able to announce that Prince Albert, himself a motor cyclist, had consented to become patron of the Auto Cycle Union, and he hoped to convey the Union's grateful thanks to the Prince for his biggers. for his kindness, and trusted he would occupy the chair at the next A.C.U. annual dinner.

The toast of "His Majesty's Forces" was proposed by Mr. E. S. Shrapnell-Smith, C.B.E., who, in his speech, referred to the excellent work carried out by the Union and its members during the war in the Navy, the Army, and the Air Force. The Union consisted of members mostly on the right side of forty, a large percentage of whom joined up even before war was declared. The war had naturally brought down the Union's revenue, but it had now made a splendid recovery and hoasted of over 60,000 members. It had not only helped the right men to join the Forces, but had helped them when on leave to get them petrol. In return for their services, he hoped that those responsible for the proposed new taxation would place the solo motor bicycle weighing up to 200 lb. in a low classification—in fact, as some recognition of what motor cyclists had done during mostly on the right side of forty, a large of what motor cyclists had done during the war he trusted that it would come under half rates.

under nail rates.

Gen. Feilding, in reply, said of the three Forces mentioned he would confine himself to the Army. His first acquaintance with the A.C.U. was in 1912, when the Union representatives met the War Office and a discussion ensued as to how motor cyclists could be utilised in the event of war, with the result that when war was declared in 1914 a perfect organiwas usual in force, and some 11,500 motor cyclists were enrolled through the A.C.U. alone, showing that the work done in peace was justifiable when war broke out. In peace we must be prepared, and if America and England stood together they

could preserve peace.

A Wake-up-England Speech.

The toast of the Auto-Cycle Union was proposed by Alderman Duncan Watson, Mayor of Marylebone. His only complaint, he said, was that Mr. Shrap-nell-Smith had covered so much of the ground he intended to cover himself. Every sport and industry had its union, and unless its policy was representative and constitutional it could not succeed. The A.C.U.'s policy, he was glad to say, was both. Its age was, he believed, seventeen years, an age always associated with imagination and promise. As the Jockey Club, by its devotion and support of racing, had improved the breed of racehorses, so the Auto-Cycle Union had not only developed the motor cycle, but had sustained and encouraged a great national industry. It had great opportunities and great responsibilities; it helbed a great-mass of people to enjoy it helped a great-mass of people to enjoy a healthy and helpful recreation, and assisted the worker to transport himself to the open country. Among our Allies and foreign representatives the prestige of Great Britain had never been so high.—In the great work of reconstruction all eyes were upon us, and we must go ahead or sink into indifference.

Mr. Watson's was a real "Wake up. England" speech, which he concluded by saying, "May Fortune's golden smile attend every effort of the A.C.U." Mr. A. W. Torkington, chairman of the Union, spoke of the motor cycle and industrial discontent. How, he asked, could a man be discontented when he could leave a city like Manchester, of which-he assisted the worker to transport himself

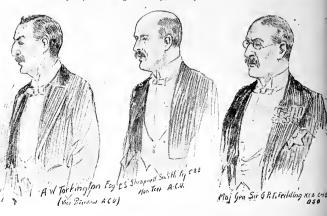
leave a city like Manchester, of which he (the speaker) was a native, and reach our that speaker) was a have, and read out beautiful country. He was glad to say that during the war he had been success-ful in obtaining petrol licences for men working in Sheffield and other industrial

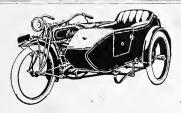
centres.

Financial Position.

As regards the Union's financial condition in 1914, it owed the R.A.C. over £700, which took three years to pay off; it now had thousands invested in War Loan. He referred to Sir Julian Orde and Mr. Armitage, of the R.A.C., as great sources of strength, and Sir Arthur Stanley as a great rock to cling to. The A.C.U. had schemes for the future. It should encourage the cheap and light motor cycle to get the masses out of the towns, a machine which could be bought by the rank and file of working men. It had been suggested that the reason of the existence of the Union was to run competitions and issue bronze instead of As regards the Union's financial con-









Of high-class and distinctive appearance

Sadione.

Motocycles

are noted not only for the quality of materials and the conscientious methods of manufacture but because of the fact that 20 years' experience in motor cycle building has gained for us valuable knowledge as to the severe conditions under which motor cycles are used.

AND WE BUILD ACCORDINGLY

Catalogue sent free on application : :

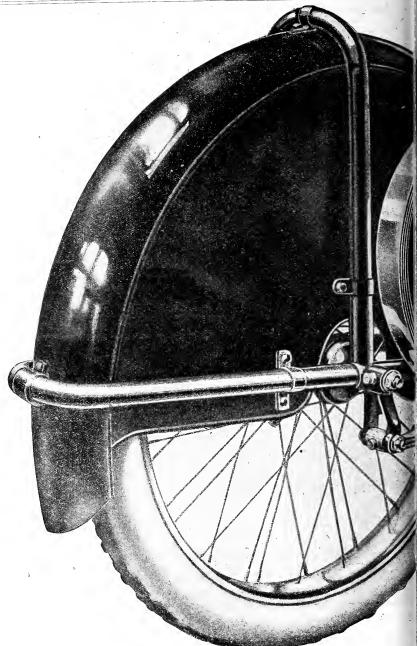


HENDEE MANUFACTURING CO.,

"Indian House," 366-368, Euston Rd., London, N.W.

Telephone: Museum 1643. Telegrams: "Hendian, Eusroad, London,"

AUSTRALIA—109-113, Russell St., Melbourne. AFRICA—Indian House, 127-9, Commissioner Street, Johannesburg. Indian House, 579, West Street, Durban. Indian House. Strand Street, Port Elizabeth.



In answering this advertisement it is desirable to mention "The Motor Cycle."

The A.C.U. Annual Dinner .-

gold medals-(laughter)-but this was not its main object.

Sir Arthur Stanley, in proposing "The Guests," said he had been compared to a rock, and was not sure if he liked it. Androneda had rather a close attachment to one, and he was sure she did not like it. He spoke of Sir Julian Orde and Mr. Arnitage and their work during the war, of the other gnests, Sir Elmsley Kerr, the press and the assistance they had been to the R.A.C. and A.C.U., paying a great tribute to the newspapers of the country. He also mentioned Mr. T. Clarkson, president of the Society of Antomobile Engineers, Mr. S. Henshaw, and Mr. A. S. Hill, the president of





MOTOR (YCLE

Brig Sen Sie H Copol-Hollin KCH, FRS.

the Motor Cycle Manufacturers' Union. He concluded by referring to the delegates of the foreign motor cycle organisations, and mentioned the glorious stand made by Belgium in the early days of the war, and Col. Hacking, secretary of the Motor Legislation Committee.

Mr. G. A. de Ro, in reply, made a brief and graceful speech in French, telling of an incident in 1914, when the Policies are proposed to the description of the secretary of the secr

Mr. G. A. de Ro, in reply, made a brief and graceful speech in French, telling of an incident in 1914, when the Belgian Army was in a bad way; then came their, friends the British troops, and those were the happiest days of the whole campaigu. As interpreter of the Allied clubs, he thanked Great Britain, King George, and the great British people for saving his country.

people for saving his country.

Col. Hacking, also in reply, paid a humble tribute to the despatch riders. He remembered finding one in France grievously wounded and at the point of death, lying by his battered machine,

who, placing his hand on his waller, could only mirring. Despatches, despatches, before he expired. That was a tribute to the espirit de corps in the D.R.'s. There was the same espirit de corps in the Motor Legislation Committee—a valuable asset to any body or industry.

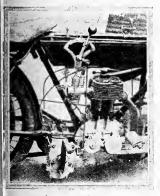
The Rev. E. P. Greenhill then proposed the toast of "The Chairman," mention ing his great work for the British Red Cross Society. When he (the speaker; sought to culist his services, he found Sir Arthur the man to go to. He only wished they saw more of him in the ACM.

Sir Arthur Stanley, in reply, expressed his thanks to the proposer, and mentioned the indefatigable work of the Chairman of the Union and its secretary, Mr. T. W. Loughborough.



Modernising Out-of-date Models.

A MONG the multitudinous queries which reach this office a large number ask us how to fit modern hree-speed gear boxes to an old machine.



Modernising a 1911 model Bradbury. A Binks carburetter and three-speed gear box was fitted.

Looking round the show rooms of Messrs. Wauchopes, Ltd., 9, Shoe Lane, London, E.C.4, the other day, the works manager pointed out to us a 1911 Bradbury, which he had most successfully modernised. This particular machine strongly appealed to us as being an excellent example to show our readers how easily modernisation could be carried out provided the necessary parts could be obtained from the manufacturers. The photograph of the power unit shows a Juckes three-speed gear box and kickstarter, which is made by Messrs. Juckes, Efficiency Works, Bilston Road, Wolverhampton. Suitable fittings for the bottom bracket for this gear box, the works manager informed us, were supplied.

supplied.
The other photograph shows the clutch and chain drive. The original pulley was removed, a complete new boss turned up, and a sprocket screwed up against this. Gear levers are usually designed to

fit on to the top tube, or to the secondary tube of the frame, but in this particular instance this method of fixing was not convenient, and so the lever was botted directly to the tank.

Another interesting conversion has been made to the rear wheel. This was turned completely round, so that the free wheel was on the near side, instead

of on the off side, and the belt rim was changed ov.r. The free wheel was then removed, and in its place a drum was screwed, on which an excellent band brake was mounted.



Transmission side, showing the sprocket screwed on to the special boss.

CURRENT CHATIE



Gimes to Light Lamps.

	GR.	FEN MICH	113	IE.	
Jan.	29th			5.9	p.m.
,,	31st		٠	5,12	٠,,
Feb.	2nd			5.17	,,
,,	4th		• • •	5.20	,,

The Institution of Automobile Engineers.

Mr. A. P. Young and Mr. H. Warren will read a paper entitled "The Process of Ignition" at the meeting of the Instiof Ignution at the meeting of the institution of Automobile Engineers, Storey's Gate, St. James's Park; London, S.W.1, on Wednesday, February 4th, at 8 p.m.

An Inter-'Varsity Trial?

The secretary of the Cambridge University M.C.C. desires to arrange an omiversity m.c.c. desires to arrange an inter-Yarsity trial, and will be glad to hear from an official of the Oxford University M.C.C. The secretary of the former clob is Mr. G. A. Jenkin, 28, Malcolm Street, Cambridge,

At the Sign of the Tin Hat.

An association, called the Ex-Service Professional and Commercial Association. has recently been formed, with the idea of providing means of distinguishing the fact that members served in the war. A badge, called "The Sign of the Tin Hat," will be issued to members, which can be displayed in office or garage, as the case may be. The head office is at 38, Piccadilly, London, W.

Police Activity.

The police at Alton (Hants) are taking active steps against all infringements of the lighting regulations on both motor cars and motor cycles.

Some activity is being displayed by the Exeter police, who issue summonses if motor cyclists' tail lamps are not alight. They are also keen to see that motor cycles are fitted with two brakes.

A police trap, or traps, are operating at various parts of the high road, Wood Green, for the purpose of catching motorists without rear lights.

Motor Cycling in New Zealand. Beach Races at New Brighton, Christchurch.

The Pioneer Sports and Motor Club, Christchurch, New Zealand, conducted two beach races at New Brighton on November 29th. The beach was in fair condition, with a strong wind blowing. The following are the results:

| Time |

In this event the beach became very rough, thus preventing faster time being

"The Motor Cycle" Mail.

Every morning The Motor Cycle letterbag reveals the extent of its world wide circulation Seldom a morning passes without correspondence reaching us from the farthermost parts of the earth. This last week letters were received from Belgium, France, Austria, Australia, Canada, India, Japan, West Africa, Egypt, Peru, and the Straits Settle-

IMPORTANT DATES.

Fri., Jan. 23rJ, to Sat., Jan 31st - Scottish Motor Show, Glasgow.

Thurs., Jan. 29thnurs., van. 29th— Institution of Automobile Envineers. Paper by Dr. A. H Gibson on "Air-cooling of Engines," Chamber of Commerce, Birming-ham, 7.30 p m.

Fri., Feb. 13th, to Mon., Feb. 16th-Paris-Nice Trial

Mon., Feb. 23rd, to Sat. March 6th— British Industries Exhibition, Firmingham

Sat. Feb. 28th utton Coldfield A.C. Trial for Colmore Cup Mon , March 1st, to Tues , March 16 h-Lyons Fair.

Good Friday, April 2nd-Inter-club Meet at Richmand, Yorks.

Sun., May 30th— Motocycle Club de France Grand P. ix Race

Fri., May 21st-M.C.C. London Edinburgh Run. Tues, June 15th-Junior T.T. Race, Isle of Man.

Thurs. June 17th-Senior T.T. Race, Is'e of Man. Wed, and Thurs., July 7th and 8th-Arbu-hnot Trophy Trial.

Sun., July 25th, to Aug. 1st – International Six Days Trial in France. Sun., Aug. 1st, to Wed, Aug. 4th— Anglo Dutch Trial.

Mon., Aug 23rd, to Sat, Aug. 28th-A.C.U. Six Days Trial,

The Paris-Nice Trial.

The following entries from teams com-Journal have been received: Motocycle Club de Lyon, Darier, Yenné, Lapallud; Motocycle Club de France, not yet nominated; Motocycle Club Parisien. normated; Motocycle Club Parisien, not yet nominated; Junior Car Club, Kaye Don, R. C. Empson; Cumberland and Scottish Border M.C.C., T. Gillies, T. Rutherford; Birmingham M.C.C., A. Milner; Liverpool M.C.C., M. Greenwood, Harold Petty, and V. E. Horsman.

To the list of entries published last week the following names should be added: No. 53, Lieut. Virginio Appiani, Italian (James); 54, Kaye Don (Zenith); Fred Dover (Triumph); 123, Varlaine, Belgian (Sarolea); Rolly, machine not mentioned and entry not classified.

Entries at double fees close on Saturday, the 31st, and should be sent to M. G. Sweerts, Motoryclisme, 1, Cité Paradis (Xe.), Paris, France.

Special Features.

WEIGHT, COMFORT, AND CLEANLINESS. THE "BIG SINGLE 'AS A SIDECAR MOUNT. SPEED WORBLE.

f ever Alcohot Investigation.

Col. Sir Frederick Nathan; K.B.E., late R.A., has been appointed Power Alcohol Investigation Officer under the Fuel Research Board of the Department of Scientific and Industrial Research. It or Scientific and Industria Research. It is hoped that this indicates that the extreme importance of producing on a commercial scale alcohol for power purposes is not to be overlooked.

Nice Club's Members' Triats.

The Moto Club of Nice is arranging a series of trials for its own members. whereby anyone can undertake a long-distance trial between January 1st and December 31st, notifying the secretary by means of postcards from different points on the road. Distances under sixty-two miles and altitudes reached under 3,300 feet will not count. Prizes will also be given for rides exceeding 310 miles in twenty-four hours.

Artist's Licence?

Mr. J. B. Dunlop, the inventor of the first practicable pneumatic tyre, is bringing an action against the Dunlop Rubber ing an action against the Dunlop Rubber Co., Ltd., to restrain them from publishing in their advertisements the figure now so well known, and which represents Mr. Dunlop in "absurd costumes." For some time, Mr. Dunlop complains, the Dunlop Co. have used, without permission, pictures obviously intended to represent him, but the features adapted from a portrait were placed on the body of a very tall man, dressed in an exaggeratedly foppish manner, wearing a tall white hat, white waistoot, and carrying a cane and an eye-glass, none of which it was his custom to wear. Below we give a portrait of the veteran inventor, who is now seventy-nine years of age, together with the figure way in the Dayley C. is advertisement. used in the Dunlop Co.'s advertisements.



etrol Shortage in Italy.

It is difficult to obtain petrol in Italy. Il motorists are on strict and low ations. Tyres, too, it is stated, are ifficult to obtain,

6 Hour Winter Trial in Holland.

There were sixty-three competitors in the recent 36 Hours Winter Trial, held thought Holland, of which fifty-five finished to course of ninety-four miles. The start as at five a.m., and the competitors ere divided into three classes: 350 to 00 c.c., 500 to 1,000 c.c., and sidecars, riumph, Matchless, Scott, and Douglas. ere among the British machines cometing, the last-mentioned capturing the remier award.

etrol in France.

The R.A.C. are advising members who itend taking their cars to France to ljourn their visit if possible until the etrol situation is easier. At present, wing to the shortage of coal, there is ig difficulty in the distribution of fuel. certain districts in the South of France e hear that, petrol is almost unprocurile, but this temporary shortage is only a local nature.

iternational Trials. -

At a F.I.C.M. gathering, last week, r. T. W. Loughborough, secretary C.U., referred to the Freuch Inter-tional Trials. The first trial was held 1913. The 1914 Trial was abandoned the eleventh hour, when war broke the secretary of the companyity of the secretary of the secretary of the secretary in the secretary of the secretary tt—many of the competitors being at renoble, the centre of the trial, and id difficulty in getting back to Eng-nd. In fact, several had to abandon eir machines there. The Anglo-Dutch rial is another international trial which very popular. It was suggested that, ter the French event, competitors onld proceed to Holland for the Angloutch Trial, and that the A.C.U. should be a supple to the competition of fer a special prize to those competitors ho had a clean sheet in (1) the French x Days, (2) the run from Paris to olland, and (3) the Dutch Trial. Mr. H. Wells suggested that the technical pers should ask their readers to ballot r the four private owners and four ade riders to represent England in the st-mentioned event.

ore Motor Cyclists than Car Owners.

There were only 116,600 motor cycles gistered in Great Britain and Ireland to March, 1919-a figure less than e weekly circulation of The Motor ycle. In 1915-16 158,000 motor cycles ere licensed, and it is expected that hen the figures for March, 1920, arc railable, it will be found that the 1915-figure will be at least equalled. In 1915-16 there were 9,200 fewer cars

gistered than motor cycles, while the 19 figure shows 3,600 motor cycles in

cess of cars. At the last census taken in this untry, the population was given as ,370,530, and, taking the 1915-16 ures of motor vehicle licences, it is en that one out of every 125 was the mer of a car, motor cycle, or hackney hicle. The latter type numbered ,400 in 1915-16 and 43,400 in 1919. It is estimated that by March, 1921,

ere will be at least 200,000 car licences.

hat will be the motor cycle figure?

THE NEXT STAGE!

MOTOR CYCLISTS interested



the forerunner of all motoring fournals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal,

A.C.U. Consul in Coventry District.

Mr. T. Mallilieu, the hon, secretary of the Coventry branch of the N.M.C.F.U., has been appointed A.C.U. consul for Coventry district.

Antidote Against Bolshevism.

Speaking at a dinner, last week, at which all the foreign delegates of the F.I.C.M. were present, Mr. W. H. Wells, of Indian fame, said that the motor cycle was the surest antidote against Bolshevism.

The Scottish Show.

What may be said to indicate the trend of public feeling-or rather public finance—is the fact that the cycle cars and light cars attracted more attention at the Scottish Show than the larger cars. There were no motor cycles at the Show. .



A scene during the recent Presidential Election at Versailles. It will be observed that the despatch rider who is, incidentally, posed before a statue of Louis XIV., is mounted on a B.S.A., to which is attached a French military pattern sidecarrier.

Benzole Un.

N.B.A. henzole is now 3s, Id., to which figure it was raised last Monday.

The Anglo-Dutch Trial.

This event has now been arranged to take place from August 1st to 4th. Holland is the venue this year. The trophy—or rather the N.M.V. Beker won by the British team in 1913, was on view at the A.C.U. dinner last week.

Mr. George Robey as Auctioneer.

On Wednesday of last week Mr. George On Wednesday of last week Mr. Coorge Robey, O.B.E., gave his assistance as auctioneer at a sale at the premises of Messrs. Knight, Frank, and Rutley, Lon-don, W.I., in selling a selection of articles for the benefit of St. Bartholomew's

There came under Mr. George Robey's hammer a Coulson two-stroke, which went for sixty-five guineas; an Albion two-speed gear box presented by the Albion Engineering Co. Ltd., 94 10s.; a number of smaller and money contributions. tions were also contributed.

An Informal Dinner.

Unfortunately, the delegates to the Congress of the Federation of International Motor Cycle clubs from Holland and Switzerland were unable to attend the annual dinner of the Auto Cycle Union on Wednesday last, so at the conclusion of the congress on Thursday, they were invited to an informal dinner by the chairman of the A.C.U. on Friday last. It was a most enjoyable little gathering, totally without ceremony. There were present Mr. A. W. Torkington, chairman of the A.C.U. (in the chair), M. Jules Neher (Union Motocycliste Suisse), Mr. G. E. Sharp (Treasurer F.I.C.M.), Mr. W. J. Becker (Konninklike Nederlansch Motorwielrijdes Vereenigen), Major Dixon Spain (assistant secretary A.C.U.), Mr. T. W. Longhborough (secretary A.C.U.), Mr. E. M. P. Boileau (A.C.U.), Mr. Nico Jannink (K.N.M.V.), Mr. -W. H. Wells (M.T. and A.T.A. of America), and M. G. A. de Ro (R.A.C. of Belgium). by the chairman of the A.C.U. on Friday

The Moulders' Strike Ended.

After holding up the engineering industries for over three months, the moulders' strike was concluded by an agreement reached last week. A large number of men resumed work on Monday of this week, but it will be several months before the ill-effects of the strike disappear. So far as the motor cycle industry is concerned, the loss must have been heavy, and probably outputs of the present financial year have been reduced at least 20%. The public will be called upon to pay extra for their machines, because the cost of a machine is considerably influenced by overhead or establishment charges. If production is reduced, then a lower number of machines has to bear these charges, in addition to any increased cost of production caused by the labour rates. concerning which the strike was organised. Decreased ontput means also that demand will be greater in proportion, which also influences prices, both of new and second-hand machines. Finally, the influence of the strike will be felt at the T.T. Races, for a number of manufacturers have had to abundon the idea of entering.

World's Motor Cyclists' Representatives Meet in London

The First Post-war Conference of the Federation Internationale des Clubs Motocyclistes.



THE F.I.C.M. IN CONFERENCE.

Reading from left: Nico Jannink (Holland); W. J. Becker (Holland); A. V. Torkington (Chairman A.C.U.); H. P. E. Harding (A.C.U.); W. H. Wells (America); G. F. Sharp (Treasurer F.I.C.M.); Hon. Sir Arthur Stanley (G.B.E., C.B., M.V.O., President F.I.C.M.); T. W. Loughborough (Sec. F.I.C.M.); Rev. E. P. Greenhill (Chairman Competitions Committee, A.C.U.); Graeme Fenton (France); A. Michant (Belgium); F. A. Jon is (New Zealand); Jules Neher (Switzerland); E. M. P. Boileau (A.C.U.); Maj. Dixon-Spain (Assist. Sec. A.C.U.)

first post-war congress of the HE first post-war congress of the Fédération Internationale des Clubs Motocyclistes was held at the Royal Automobile Club on Thursday last, the 22nd inst. Before the meeting we had had several interesting talks with the representatives of various Continental motor cycle organisations.

Talks with the Delegates.

Belgium sent two especially interest-ing men-Messieurs A. Michant, secre-tary of the Royal Automobile Club of Belgium, and G. A. de Ro, a member of the committee of the same club and a member of its board of directors. Of these, M. Michant is a great devotee of sport, and before the war he used to visit this country practically every week in connection with swimming, boxing, football, etc. He spent the whole of the period of the war in Brussels, and was particularly eloquent concerning the horrors perpetrated by the Huns on his fellow-countrymen. He himself was put in prison because he could not produce in prison because he could not produce certain cars which he was ordered to requisition. His colleague, M. de Ro, has been a motor cyclist since 1904. He served with the Belgian Staff, and was in charge of seven curs. He then served with various regiments and units, and finally became a liaison officer at the Air Ministry in London. During his period with the Belgian Army he had various British motor cycles under his care, including the Enfield, James, and B.S.A. He greatly admired the Scott machine guns. Asked if there would be any motor cycle racing in Belgium this year, the Belgian delegates informed us that they did not think so, but they had a good course near

Dinant for 1921. The prospects of the industry and pastime in Belgium are particularly rosy.

France was represented by Mr. Graeme Fenton, an Englishman, who has spent most of his time in that country. He is a keen sportsman, an active motor cyclist, and has done much valuable work in bringing the two countries together in the motor cycle movement. He has helped Englishmen who have entered competitions in France, and has belped Freuchmen to develop their machines on British lines, and to run the sport according to English ideas. He was formerly connected with the Clément firm, but since they have ceased to manufacture motor bicycles he has joined the French manufacturers of the A.B.C., and will be riding one of these machines in the Paris-Nice Trial. He has long been connected with the F.I.C.M., and has done very valuable work on its behalf.

As a contrast to Belgium, where there are a hundred British machines to one of Belgian make, and British machines are in great demand. Mr. Fenton told us that there are comparatively few British motor cycles in France, but that the industry is going ahead, the workman has settled down to work hard, and prospects gener-

ally are brighter.

Switzerland was represented by Switzeriand was represented by M. Jules Neher, a great admirer of this country. He also is an active motor cyclist, and devoted to the Motosacoche of the Mann factory, of which firm he is managing director. He prefers a motor cycle to a care. Excelunation to the statement of the same for th to a car. For a long time he has taken an active part in the Swiss Motor Cycle Union, of which he is president. He is a keen follower of all competitions, and

does his best to see that the rules are established on a fair basis so as to encourage the production of the best possible machine. M. Neher is frequently in this country and follows the movement with the greatest enthusiasm. Impartial to a degree, a thorough sportsman in the best sense of the word, he is a real asset to the International Federation.

Dutch Representatives.

Holland was represented by Mr. Nico Jannink and by Mr. W. J. Becker, the latter an enthusiastic rider of an American Excelsior. Both these gentlemen informed us that motor cycling was booming in the Netherlands, but that motor bicycles were exceedingly hard to obtain. British machines are in great demand, but there are many American mounts on the road. The trade in 1920 bids fair to be most prosperous, provided the supply could meet the great demand. These gentlemen told us that track racing was popular on a 500 metre wooden track in Amsterdam, and they were greatly looking forward to the Anglo-Dutch trial this year.

From these interviews with the delegates representing Holland and Belgium, it will be seen that the demand for British-made motor cycles in these countries is enormous, and if British prestige is to be maintained it is up to every man in the industry, from the managing director to the humblest worker, to do his best to see that production is such that this great demand

may be met.

Views from the Antipodes.

Our final interview was with Mr. Frank R. Jones, who represented the Pioneer Sports Club in Christchurch,

World's Motor Cyclists Meet in London .-

New Zealand, and attended the Congress unofficially. His club was a prosperous one, and consisted of some 300 members, but of these 50% had been lost during the war. Talking of the conditions in the South Island, he informed us that there were quite good roads, a longer summer and a milder climate than in England; there was no excessive heat nor cold, and the conditions for motor cycling were ideal. There were 10,000 motor cyclists in Christchurch, and motor cycling is rapidly increasing. He concluded by telling us, that New Zealand was doing three times more motor cycling business in proportion to its population than any State in the U.S.A. or the British Empire.

The Congress.

The Congress was held at 2.30 p.m., in the Committee Room of the Royal Automobile Club, under the presidency of the Hon. Sir Arthur Stanley. The Chairman welcomed the delegates, and stated that he was pleased to say that happy and peaceful times prevailed once more. After the minutes of the last Congress, held in Paris, on October 25th, 1913, were read, the Hon. Sir Arthur Stanley was re-elected president, while MM. G. A. de Ro (Belgium), J. Neher (Switzerand), and G. Longuemare (France), were elected vice-presidents; Mr. T. W. Loughborough being re-elected secretary, und Mr. G. F. Sharp treasurer. It was lectided to hold the next conference in Paris, about the 1st or 2nd of August, und at the conclusion of the International Six Days Trial.

Germany and Austria.

An interesting discussion then followed is to the position of the Imperial and doyal Automobile Club of Austria and he German Club as constituent bodies if the Federation. The suggestion of the Ealiman that these bodies no longer elonged to the Federation, as they had out paid their subscriptions, but that heir applications for re-election might

be considered after Austria and Germany had been admitted to the League of Nations, was adopted.

M. Jules Neher spoke at some length on this subject, and concluded by saying that he would be happy on his return to Switzerland to place the declsion arrived at before the Swiss Motor Cycle Union.

Trade Control in U.S.A.

Another interesting point was brought up by Mr. W. H. Wells, who applied for the membership of the newly constituted body representing motor cyclists in the U.S.A. taking the place of the F.A.M., which had now renounced its rights. This was the Motor Cycle and Allied Trades' Association, whose secretary, Mr. W. H. Parsons, was a man entirely unconnected with the motor cycle industry. It was rather curious, he said, that a body composed of the trade held this position, but it had carried out its duties very successfully and its rules were almost word for word the same as those of the Auto Cycle Union. It was finally decided that this body should be admitted to the Federation on its status being confirmed by the Automobile Club of America.

The International Trials of 1920 and 1921.

The promotion of the 1920 International Trial by the Union Motocycliste de



M. Jules Neher, of the Motosacoche Co., Geneva. France at Grenoble from July 25th to August 1st was then confirmed, and it was next decided to hold the 1921 International Trial in Belgium.

International Classification

The next two items on the agenda dealt with the rules for the classification of motor cycles in open competition, and international rules governing the recogni-tion of records. A long discussion then ensued, the first part of which dealt with such details as the definition of a motor cycle, the definition of a cycle car, the size of tyres, mudguards, and luggage carriers to be allowed on various sizes of motor cycles in open competition, and similar details. No definite decision was come to, and while it is expected that the lines followed by the A.C.U. will be adopted, it was agreed to refer the matter to an International Competition Rules Sub-committee, consisting of Messrs.
Graeme Fenton (France), Jules Neher
(Switzerland), W. J. Becker (Holland),
G. A. de Ro (Belgium), and Mr. T. W. Loughborough, secretary (Great Britain). This body will also have to decide the question of records, and it was generally agreed that the A.C.U. procedure as regards the taking of the mean of two attempts should constitute the record up to records of one mile.

Towards the end of the meeting the secretary read letters from clubs in countries which were not members of the Federation. The Royal Automobile Club of Spain replied that there were plenty of clubs in that country, but none sufficiently strong to be representative. M. Neher then made the happy suggestion that a union of Spanish clubs should be formed. The reply from Norway was to the effect that the matter had been handed over to the Motor Cycle Club of Norway, whose reply was awaited. No answer had been received from Sweden. The Danish Club replied that it regretted the delegate could not attend.

The meeting concluded with a financial statement of the Federation.



M. G. A. de Ro, member of the R.A.C. of Belgium.



M. Michant, sec. R.A.C. of Belgium.



Mr. Graeme Fenton, of the Union Motocycliste de France.



Mr. Frank R. Jones, of Christchurch, N.Z.

NATIONAL MOTOR CYCLISTS' FUEL UNION.

Birmingham Branch.

The Birmingham branch of the LM.C.F.U. is holding a concert in the dibion Hotel, Livery Street, Birmingham, 5-morrow, the 30th, at 7.30 p.m. A good rogramme has been arranged, and all old, ew, and intending members are invited. Ion. district secretary, Mr. F. Murray, trathmore, Wharfdale Road, Acoeks reen, Birmingham.

Leeds Branch.

A highly successful dinner was held at the Hotel Metropole, Leeds, on Wednesday of last week. Mr. L. W. Hague, vice-president, presided. Mr. L. Wozencroft, vice-chairman of the National Executive, was the guest of the evening. The hon. secretary of this branch of the N.M.C.F.U. is Mr. T. W. Lancaster. 7, Evelyn Street, Leeds.

Coventry Branch

A whist drive and dance has been arranged for Wednesday, February 4th, at I.L.P. Rooms, at 7.30 p.m. Tickets may be obtained from the committee or the secretary, Mr. T Malillieu, 70. Gorton Road, Coventry.

Club News and Fixtures will be found on page 128.

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CLUB NEWS.

Renewed Activity and Several New Clubs.

Bristol M.C.C.

The date of this club's speed trials at Weston has been changed from May 22nd to May 8th.

A New Club for Barnsley.

Mr. J. S. H. Davies, of Newholme, Pollitt St., Barnsley, and several motor cyclist friends, are desirous of forming a club in their district, and invite local motor cyclists to communicate with Mr. Davies

Ilkeston and District M.C.C.

The annual meeting and dinner will be the annual meeting and dinner will be held on Tuesday, February 17th, at the headquarters. Ladies are cordially in-vited. Tickets, 5s. each, from the hon-secretary, Mr. W. Thornley, 1, Station Road, Ilkeston.

A Bromsgrove Club?

Motor cyclists who are anxious to help to form a club in Bromsgrove and the to form a cub in Bronsgrove and the surrounding district should communicate with Mr. P. J. Hayward, 71, Grantham Road, Sparkbrook, Birmingham.

Cumberland County M.C.C. Lectures.

Mr. A. P. Young, of the British Thomson-Houston Co., Derby, recently delivered a lecture on magnetos before members of the Cumberland County Club, who proved to be a keenly appreciative audience.

A Club for Pembrokeshire.

A club for motor cyclists in the county of Pembrokeshire is under consideration, and any prospective members should communicate with Mr. W. L. S. Ludwick, 2, Meyrick Street, Pembroke Dock, or Mr. W. Fox, c/o Greens' Motors, High Street, Haverfordwest.

Sheffield and Hallamshire M.C.C.

The annual general meeting of the Sheffield and Hallamshire M.C.C. will take place on Thursday, February 5th, at headquarters, the Angel Hotel, Angel Street, at 8 p.m., when it is hoped all members will assist the committee by attending and giving their views on the 1920 programme.

Bedford and District M.C.C.

A meeting will be held at the Rose Hotel, High Street, Bedford, on Saturday Holel, High Street, bedford, on Saturday evening next, the 31st inst., at 7.30 p.m. All local motor cyclists—ladies and gentlemen—interested are cordially invited to attend. There is ample accommodation for all motors and a private entrance to the club room.

Leicester and District M.C.C.

The above club has been revived under the management of a keen, hardworking committee and officers. The revival of the club is to be marked by a smoking concert at the club headquarters, the De Montfort Hotel. Wellington Street, Leicester, on Thursday, February 5th, at 7.15 p.m., to which all motor cyclists or those interested in the movement are cordially invited. The hon, secretary is Mr. F. Leslie Barratt, 78, St. Peters Road, Leicester.

Future Events.

Jan. 30.—N.M.C.F.U., Rotherham. Meeting, Y.M.C.A., 730.
Jan. 30.—Reading and District M.C. and L.C.C. General Neeting, 8th Motel, 730 p.m.
Jan. 31.—Bedford and District M.C. Son Meeting, 8th Jan. 31.—Bedford and District M.C.C. Meeting, 8th Jan. 31.—Bedford and District M.C.C. Sonting Run under "Colonial" Conditions. Sonting Run under "Colonial" Conditions.
Feb. 3.—Dorchester M.C.C. Meeting, King's Arms, 730 p.m.
Feb. 4.—N.M.C.F.U. (Coventry). Whist Drive and Feb. 4.—N.M.C.F.U. (Coventry). Whist Drive and Feb. 5.—Sheffield and Hallamshire M.C.C. Annual Feb. 5.—Sheffield, and Hallamshire M.C.C. Annual Feb. 6.—Nottingham and District M.C.C. Reunion Dinner, Webbee Ham. M.C.C. Annual Dinner, Grosveror Restourent, 7 p.m.
Feb. 11.—Exercit M.C. and J.G.C. Annual Dinner, Feb. 11.—Rechester, Chatham, and District M.C. Whith Drive and Dance, Queen's Holl.
Feb. 11.—Rechester, Chatham, and District M.C. Whith Drive and Dance, Queen's Holl.
Feb. 11.—Rechester, Chatham, and District M.C. Melling and Dinner of Meeting and Dinner of M

York and District M.C.

The York and District Motor Club held-a supper and concert on Wednesday of last week, at the Windmill Hotel, over seventy members attending. Mr. G. A. Reed, the hon. secretary, gave a brief review of the past year's work, and of some of the events for the coming

Western M.C.C. (Glasgow).

The Glasgow Western M.C.C. holds its first annual dinner and presentation of prizes in the Grosvenor Restaurant, Glasgow, on Saturday, February 7th, at 7 p.m. The tickets can be obtained from the secretary, Mr. J. Robinson, 1, Yarrow Gardens, Glasgow.

Dorchester M.C.C.

With the object of reviving the above club. a meeting will be held at head-quarters, King's Arms Hotel, Dorchester, on Tuesday, February 3rd, at 7.30 p.m. All old members and any interested motor cyclists in the district are invited to attend or communicate with the secretary. Mr. Arthur G. Stone, Lloyd's Bank House, Dorchester.

Reading and District M.C. and L.C.C.

A general meeting of the above will he held at the Ship Hotel to-morrow, the 30th inst., at 7.30 p.m. Members are particularly requested to attend for the purpose of electing officers and committee, passing balance-sheet, and discussing the general future of the club. Hon. secretary: Mr. T. Len. Morley, 40, King's Road, Reading.

North-Western A.A.

The above Association, which constituted the North-western Centre of the A.C.U., suspended activities early in 1916, and the co-trustee, Mr. C. E. Kettle, is now anxious to get into touch with the honorary secretaries of the clubs interested, with a view to calling a meeting at an early date, either in Manchester or Liverpool, with a view to immediate reconstruction. Mr. C. E. Kettle's address is 34, Chester Road, Southport.

Wakefield and District M.C.C.

The annual general meeting of the Wakefield and District Motor Cycle Club was held on January 19th at the White Horse Hotel, when the officials were duly

elected for the ensuing year.

At the termination of the meeting a presentation was made to the hon. sec. (Mr. S. E. Wood) of a silver-plated spirit flask as an appreciation of his services.

Sutton Coldfield and North Birmingham A.C.

The above club are holding a Panto-The above clib are holding a Fallu-nime Night at the Alexandra Theatre on March 8th. They have already in-vited all the Midland motor clubs to join them, and named the event the "Midland Motor Cyclists' Night."

The social secretary is Mr. Sam Hall, 24, Frederick Road, Gravelly Hill, Birmingham.

Nottingham and District M.C.C.

The Nottingham and Dis. M.C.C. dinner will take place at the Welbeck Hotel on February 6th, and not at the Albert Hotel, as first announced. An invitation is extended to all local motor cyclists. The sale of tickets closes on February 2nd. Tickets, 10s. each, may be obtained from the hon. secretary, Mr. J. Simmonds, 10. Cranmer Street, and from all the local garages catering for motor evelists.

Amalgamation of Clubs in Durham District.

A general meeting of the Durham and Dis. M.C. and the Chester-le-Street M.C. was held on January 20th. It was decided that the two clubs should amalgamate, and that other local clubs be invited to join, so as to have one strong club for Durham and District, with head-ouarters at the Neville's Cross Hotel.

Plymouth and District M.C. and L.C.C.

The annual general meeting of the above club was held at Genonis Café, Plymouth, on January 14th, and was particularly well attended, the interest shown boding well for the prosperity of. the club in the coming year.

It was decided that the club should

become affiliated to the A.C.U.. The secretary is Mr. Lionel B. Jackson, Langham House, Plymstock, S. Devon.

Mid-Bucks M.C.C.

It is the intention of the committee of the above club to hold the annual general meeting, followed by a dinner, on February 26th, at the Bull's Head Hotel, Aylesbury. General meeting at 6 p.m. Dinner at 7 p.m. Motor cyclists will be heartily welcomed, as it is hoped to secure a successful season for 1920.

A New Club for Newcastle-on-Tyne.

At a meeting of about sixty of the sporting cyclists who had offered their services to the nation, it was decided to form a motor cycle cluh, to be called the Northern Counties M.C. A com-mittee was formed with Major Anderson as chairman.

The hon. secretary is Mr. J. M. Livingston, 160, Portland Rd., Newcastle-

TAXATION

A Possible Weight Basis for Motor Cycles.

S^o far as motor cycles are concerned, we are not sure that the abolition of the petrol duty, which the Chancellor of the Exchequer will, of course, announce in his Budget speech, will be an unmixed evil. We most naturally anticipate in place of it a somewhat higher annual licence fee on the machine, but so long as that fee is not fixed at

an excessive figure, we may not, under the new taxation regulations, be in a position appreciably worse than we are to-day.

At last week's A.C.U. annual dinner one of the speakers mentioned that a fair tax per year on a light solo machine would be 30s. We think it quite possible that this sum will be agreed to by the Government. If it is, we shall, as compared with the old licence fee of £1, be 10s. to the bad, but against that 10s. we may set off the saving of 6d, on every gallon of petrol we use. It would on this calculation appear that, after we have consumed twenty gallons, we shall begin to improve on matters as they are to-day.

A higher tax will, we anticipate, be exacted on the heavier class of solo machines, and one still higher on sidecar outfits, but if the figures we have here mentioned in connection with these two types are agreed to by the Treasury, we shall not have much cause for complaint, always bearing in mind that the licence fee will be in substitution for the present

impost of 6d, per gallon on petrol.

One decidedly bright spot is the probability of quarterly licensing being sanctioned; under that system, if the rider does not intend to use his machine for the period of three months, he need not

license it for that time.

The latest reports concerning the proposed new taxation of motor vehicles are such that the majority of motor cyclists may be led to suppose that riders of single track machines and sidecars will be taxed on the same basis as cars. An impost of £1 per horse-power in the case of private cars, it is said, will be a feature of the new scheme, which abandons the fuel tax and compounds it with a flat rate according to power. Whether such a basis would be fair to motor cycles would depend upon the formula used to calculate horse-power The present Treasury rating is grossly unfair to motor cycles, as it takes into account bore only, and cars have been developed on these lines, and generally have small bores in proportion to the stroke.

The unfairness of the present Treasury rating, as applied to motor cycles, may be gathered from the fact that a motor be gathered from the fact that a motor cycle single-cylinder engine with a bore over 80 mm. is rated at over 4 h.p. Certain two-cylinder light cars with engines around 1,000 c.c. are rated at 6½ b.p., while a J.A.P. 8 h.p. twin with an equal capacity is 9 h.p. An old four-cylinder F.N. (under 500 c.c.) becomes 6.86 h.p., and a 23 h.p. Douglas 4½ h.p. Thus at 81 to the provincial of the control of the control

Thus, at £1 per h.p., practically all single-cylinder sidecar machines would be £10, F.N. four-cylinder £7, and 23 h.p. Douglas £5.

TO LAND'S END AND BACK. BATH

MEMBERS of the Bath and West of England M.C. are to be congratulated on their enthusiastic support of the club trial held on Friday and Saturday last to Land's End and back.

Of the twenty-four entries twenty started on the long journey against a westerly gale. There were seven solo iders, one each Rudge-Multi, Levis, Pearson and Sopwith, Norton, and three Douglas lightweights. Of the eleven side car outfits there were two Indians, one Enfield, one Norton, and six Douglas. The ight cars that finished the course were Singer and a Douglas.

The first competitor, Mr. C. B. New-

man, left Queen Square on the Singer car at four o'clock on Friday afternoon, but he retired with gear trouble in the neighbourhood of Exeter. The other competitors followed at three minute intervals, and got well away into Devonshire with one or two exceptions, but the wild weather and atrocious roads accounted for many retirements. Ultimately, two riders only reached Land's End. They were E. G. Fery (4 Douglas sc.) and E. Colmer (2) Levis. The latter had retired somewhere on the return journey. Fery made good running, although somewhat behind time, but, by extraordinary misfortune, his big end bearing seized within ten miles of the

finish, no doubt due to hard driving in the attempt to make up time.

The large crowd which assembled to see the finish had to go away disappointed, as except for two or three riders who had not completed the full distance no one arrived back at the starting point. A schedule speed of 20 m.p.h. average running time for 416 miles on the route, with fifteen hours night riding included, is, undoubtedly, a very stiff proposition at this time of the year. Nevertheless, the enthusiasm displayed in Bath, both by members and spectators, augurs well for the future of this sporting West Country

PROGRAMME OF THE PARIS-NICE TRIAL.

THE following are the arrangements made by the organisers of the Paris-Nice Trial, which takes place on

ebruary 13th to 16th.

February 16th to 16th.
February 11th: Weighing in Laboraory, the Automobile Club of France,
soulevard Bourdon, Neurlly, 6 p.m. Reeption at the offices of the Petit Journal,
9, Rue Lafayette, Paris, where there vill be an explanation of the regulations o the French, British, and Italian cometitors

February 12th: Conclusion of weighig in. Afternoon: All the competitors vill start for Montgeron, where rooms have been booked for all foreign competitors. February 13th: Paris-Dijon, starting

February 14th: Dijon-Lyons, starting

5 a.m. February 15th: Lyons-Marseilles, start-

ing 5 a.m.
February 16th: Marseilles-Nice, start-

February 17th; On the Promenade des Anglais, starting from cold test and brake test: Afternoon: Conclusion of trial and examination of machines. Evening: Bal Masqué at the Opera, Nice.

February 18th: Competitors are free to explore the Riviera on their machines. February 19th: Nice-La Turbie Hillclimb. This is a separate competition

for special prizes and cups. British competitors who want to go to

British competitors who want to go to the Bal Masqué or show places of Nice are advised to take evening dress. Luggage for Nice must be handed to the depot of the Voyages du Chemin, 10, Cité Moynet, Gare de Lyons. Com-petitors can obtain this luggage from the Nice depot of the Voyages du Chemin 16, Avenue Felix Faure, Nice, on the 16th February. 16th February.

BIRMINGHAM M.C.C. ANNUAL DINNER.

N Saturday last the Birmingham M.C.C. held their first post-war annual dinner at the Queen's Hotel, irmingham. Some eighty-odd members nd visitors were present, and the gather-ig was presided over by Mr. E. R. yeett, while quite a social touch was nt to the occasion by the presence of veral ladies.

After the loyal toast had been drunk, Mr. Charles Hyde, of the B.S.A., proposed "The Club," and touched on the difficulties of manufacturers and the need for increased production.

Replying for the club, Mr. E. W. Winchele gave a short account of the sound position of the club, both financially and numerically. The prize list was the

largest in the history of the club, and was valued at over £300.

was valued at over 2500.

Maj. R. V. C. Brooke then proposed "The Visitors," and Lt.-Commander G. Pierce, of the A.C.U., replied.
Mr. F. E. Baker, in proposing "The Press," gracefully acknowledged the services rendered, and Mr. A. D. Arter then proposed the health of the Chairman.



Some Light on a Phenomenon Occasionally Experienced by Track Riders.

N a recent morning, some friends and I armed ourselves with a surveyor's tape and stopwatch and at dawn sallied forth for a test. Our destination was about ten miles away, where there was a dead straight road whose surface was practically new Tarmac. We selected a stretch between two almost imperceptible elevations situated so that a clear view of approaching traffic (if any) was assured to the time-keeper and starter at their respective ends and measured carefully a distance of 660 yards.

In one of the tests I noticed a most decided attempt on the part of the steering to defy my control as the pace increased, so I experimented by gradually closing the throttle and releasing the clutch. This had the desired effect of steadying the machine.

What Happened.

On a further test at a fair rate of speed the front wheel began to oscillate laterally in spite of my attempts to steer a straight course. Releasing the clutch gradually had apparently no effect. From previous experience of speed wobble, I decided not to apply the brake, but slightly and slowly closed the throttle.

The oscillations, however, increased in amplitude, until the machine occupied practically the full width of the road, and I awaited the result.

The machine seemed to slide from under me and my shoulder grazed the ground. A moment later I was sliding bodily on my side watching a shower of sparks in my vicinity, caused by the abrasion of the nut on the near side front footrest.

My own injuries were confined to a few very slight skin abrasions on the knuckles, a bruised elbow and hip, and torn clothing.

We examined the food to try and find a cause of the mishap. The slightly greasy state of the surface accounted for the comparative lack of damage done, but the tyre marks were a source of surprise.

Seventy-four yards from the point where the machine stopped, we saw where one of the tyres had commenced to sideslip. First to the amount of about two inches, then a couple of yards further about four or five inches, increasing at intervals until sideslips of three to four feet were plainly visible before the final slip of twenty yards in length where the machine had evidently progressed sideways.

Scratches caused by footrest nuts were in evidence about thirty yards from the commencement of the skid marks, alternately on either side of the marks until the final slip.

My personal skid mark was fifteen yards in length

measured by the road grease displacement.

The figures may be taken as correct, being measured immediately after the spill: A singular thing is that the opposite side footrests should have touched the ground alternately several times. This points to the fact that some dynamic influence was at work more powerful than the gravitational effect of the weight of the machine, which did more than restore it to the vertical position, even after a succession of sideslips.

We intend to dismount the steering head, measure the steering angle and fork offset, and ascertain the weight on each wheel with both riders mounted to see what difference exists in weight distribution with tall and short riders. The handle-bars were wide and fairly low, similar in dimensions to a W.D. Triumph.

Riding Experience.

As regards the question of riding experience, my friend has the benefit of some Brooklands training, whilst I have only been riding since 1899, and naturally have a lot to learn yet. Incidentally, in the early days of variable gears, I rode almost every make of machine, new ones and old crocks in all weathers and on all roads.

Why could I not manage that 6 h.p. twin? My own theory is that the front wheel is out of lateral balance, much in the same way as a two-throw crankshaft is, and at high speeds it attempts to revolve around its centre of gravity which does not lie on the hub spindle centre. This tends to cause a corresponding reaction of the hub spindle, and thence of the forks.

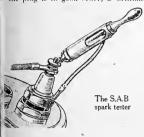
In the case of a fairly heavy tyre having light and heavy places in the side walls, it is quite conceivable that the disturbing action must attain a very high value at high speeds, especially when it is remembered that the disturbing action varies as the square of the speed, being two and a quarter times as much at sixty miles per hour as it is at forty miles per hour.

I. COHEN

HE S.A.B. SPARK TESTER

THE S.A.B. spark tester consists of a glass vacuum tube enclosed in a metal receptacle to protect it, with opening so that the tube can be clearly Within the tube are two platinum ectrodes through which the spark undle and a terminal for connecting up e plug terminal, and a small lead to the etal terminal which comes into contact ith any convenient metal part of the

By means of the S.A.B. spark tester, it easy to judge the condition of the sparkg plug and the nature of the mixture. the plug is in good order, a brilliant,



ep purple spark will be noticed; if e points are too far apart, a weak pink ark is seen; if the insulation of the ug is cracked, an irregular spark is sticed; in the case of a sooted plug, a eak spark is all that can be detected,

d if the plug is really dly sooted up no spark

pears at all. The tester is useful not ly for diagnosing faults the plug, but in the agneto, too. One of the vantages of the tester that it can be used witht the necessity of reres. The protecting se is made of non-oxidisg metal, blackened in-le, so that the spark can

clearly seen even in ight daylight. It is ld in a wooden tube, so at it can be safely put a tool kit, and cannot me to any harm. The device under review

handled by The S.A.B. ark-Tester, 133, Broadway, Crickle-od, London, N.W.

CONCEALED SIDECAR HOOD AND SCREEN.

N ingenious sidecar hood and screen have been invented by Mr. G. W. Davis, 35, Britannia Road, Norch, the assistant managing engineer
Messrs. Mann, Egerton and Company,
d., Prince of Wales Road, Norwich.
The hood is composed of sheet metal, designed that when out of use it discompletely out of view. The windreen is made up and fitted exactly on e same principle as the roll-top desk,

the laths being glued to the fabric, and let into the roll is a sheet of celluloid secured to the inside beading with threeply material, which is screwed on to the laths. As soon as the bood has attained a forward position, it is easy for the

passenger to draw down the screen and be completely protected from the elements, and when erected it is capable of being locked in position by means of a locking device.

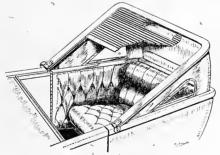
The apron runs across this body in grooves and is composed of soft

material which will not sag to any appreciable extent. It is designed on the spring roller-blind principle, and when pulled ont to its fullest extent the rail on the end of the apron engages with the corresponding rail on the windscreen. When the apron is released it automatically rolls back.

Celluloid Side Windows for Hood.

The seat is of the bucket variety, suitably upholstered, and surrounded at the top by a beading, which gives a generous clearance for the hood. This idea is distinctly ingenious, and should ensure complete protection for the passenger, while it possesses the distinct advantage of folding neatly away when not in use.

It will be noted from the illustration that side windows are provided for the hood.' These are of thin celluloid let in with oval aluminium beading on each

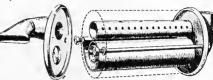


A combined hood and screen designed to fold out of sight when not in use.

A hood may now be regarded as one of the sidecar passenger's necessities, but it is to be hoped that, in their search for luxury, manufacturers do not overdevelop the sidecar to such a degree that the price becomes prohibitive and the weight excessive.

GRADUAL EXPANSION OF EXHAUST GASES.

T is very satisfactory to note that the question of silence is receiving the attention of both makers of motor cycles and those who specialise in fit-ments for them. There are two distinct sources of noise in motor cycles, i.e., mechanical and exhaust. The former is a problem for engine manufacturers to solve, but the latter may be attacked by almost anyone having the necessary knowledge and facilities. Messrs, Robin son and McNeill, of Napier Road.



The Robinson and McNeill silencer.

Wolverhampton, evidently have both, for they have produced a silencer for existing machines which should be highly efficient both in reducing the exhaust note and in preventing back pressure. Instead of a sudden expansion of exhaust gases into an empty chamber, as in the majority of box or barrel silencers, with the Robinson and McNeill device the gasenter the centre of a spiral, and thence pass through a slot the full length of the silencer into a gradually increasing area of the spiral itself, finally passing into the atmosphere via a long perforated tube

At a later date we hope to test one of these silencers, when our impressions will be duly recorded.

PROTECTION FOR THE HANDS.

LTHOUGH fine weather is ahead, A there still remains the possibility of sufficient cold weather to induce the all-weather motor cyclist to invest in a pair of handle-bar muffs. Cameta muffs illustrated are made of a waterproof material, lined with extra thick felt, and in consequence they will find a place on many handle-bars through-. out the year, for there are few things so unpleasant as driving in rainy weather without adequate protection for the hands. They are made sufficiently large to accommodate present-day levers, and the design is such that they will retain their shape without aid of supports. The method of fastening and attaching per-mits of them being opened out over all levers, and to be fitted in the minimum of time.

The price is 12s. 6d., from agents or the manufacturers, the from



Handle-bar muffs made by the Cameta Rubber Co.

Cameta Rubber Co., 93, John Bright Street, Birmingham, which firm, we may add, is composed of practical riders who are able to judge the motor cyclist's requirements from their own experiences on the road.



The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

HONOUR TO WHOM HONOUR'

Sir,-I should be greatly obliged if you could find space in your paper to publish the following example of the kind and considerate treatment recently shown me, which is not too often found, I fear, nowadays. The other day I was returning from Edinburgh to Glasgow on my 7 h.p. American The other day I was Excelsior when I had the misfortune to shear the key holding my clutch on. I took the machine into Kyle Brothers, of Coatbridge, and, notwithstanding the fact that the next day was Christmas Day, they immediately set to work and took down my clutch. A new key was made, hardened, and fitted, and the clutch entirely cleaned. The machine was also cleaned and generally gone over, and the controls were readjusted. The charge made was only 7s. 6d., and the treatment I received was most courteous.

It is indeed a pleasure to be able to find someone who will go out of his way to tackle a job at once.

Usual disclaimer. ALAN L. B. DOUGLAS.

T.T RACES AND THE I.O.M.

Sir,-Your correspondent, "R.M.," who complains of motorists having to register themselves and their cars within twenty-four hours of landing in the Isle of Man commits the pardonable error of assuming that the Island is a part of the United Kingdom.

The R.A.C. is perfectly aware of the reason for the regulation. It is because the Isle of Man is not in the United Kingdom that the Club runs the T.T. races here, the necessary

legislation being easily and cheaply accomplished.

Let us suppose the vexatious regulation were abolished—
the new order of things would, of course, cut both ways—
then Manx (and pseudo-Manx) car owners could romp about Great Britain without purchasing a British licence or paying the Inland Revenue tax. If such a state of affairs obtained. very few cars would be registered in the United Kingdom! It might mollify "R.M." to learn that when he comes to

the Isle of Man he will not need to show a rear light on his HOME RULE. motor cycle.

Douglas, I.O.M.

SPEED ON THE ROAD AND PILLION RIDING.

Sir,-May I encroach on your valuable space and make a few remarks on the above much contested questions?

I have seen many articles in The Motor Cycle (of which

I am an ardent reader) on speed, and many readers aver that it is impossible to do more than 60 m.p.h. on the road, and that one gets a speedman's "wobble." I very strongly disagree, and the only thing I can suggest is that the owner does not know how to drive. I maintain that it is possible to do any speed up to 70 m.p.h. on the road, provided that the surface is good and straight.

As regards wobble, I find that if the hands are rested lightly on the handle-bars, instead of gripping them tightly, the speedman's wobble will not occur. It also depends largely on the type of handle-bar fitted to the machine. I certainly agree that it is impossible to do high speeds with touring handle-bars, as there is not enough weight on the front wheel. I have done 65 and over many times on the road on different machines, and shall always maintain that it is both possible and safe, provided the driver is experi-

As regards pillion riding, in my opinion there should be a law passed to the effect that no rider should be allowed to take a passenger on the carrier unless he has had over six months' experience. I will go even further, and say that no one should be allowed on the open road until he

has passed a test in driving. It is not the driver who drives fast and has had experience on the road who is a danger tast and has had experience on the road who is a total to the public, but the new owner, who thinks that everyone else should get out of his way. To be really safe on the road one should imagine that everyone else is a fool, and E. B. BALL. does not know how to drive.

THE PATENT LAWS.

Sir,-It will be of interest to your readers to know that the Patent Act of 1919 contains material alterations in the practice of procedure of protecting inventions by letters

The most important of these are;

(1.) The period within which a complete specification can be lodged on an application filed with a provisional specifica-

tion is extended from six to nine months.

(2.) A patentee can have his patent so marked as to indicate that he is prepared to grant licences under it.

(3.) The investigation as to novelty is extended to publication in any document published in the United Kingdom.

(4.) The term of a patent is extended from fourteen to sixteen years.

(5.) Any patentee who can show that he has suffered loss or damage in the matter of a patent, owing to a state of war, may be granted an extension of the term of said patent.

(6.) No one other than a registered patent agent may describe himself as a patent agent, i.e., one who for gain carries on the business of applying for or obtaining patents in this country or elsewhere.

PHILLIPSS.

SIDECAR COUPÉS.

Sir,-Your interesting article in The Motor Cycle of January 8th describing and illustrating a coupé sidecar ends with these words: "We think a little experimenting will prove that a draughtless sidecar can be produced without resorting to a coupé body."

May I take this opportunity of informing your readers that this has been done, and that all interested in weatherproof sidecars, cycle cars, and rnabouts, especially manufacturers, should communicate with me at 28, Ravenshurst Road, Harborne, Birmingham, when I shall be pleased to give them

particulars of an invention I have just protected.

The coachbuilt coupé body is not the solution of the draughtless sidecar problem as it has the following defects: (1.) It is a horrible affair to be saddled with during the beautiful runs in the summer months.

(2.) It is impossible, without making the body unsightly and the wind resistance serious, to make a door hig enough for a fully grown person to enter with comfort.

(3.) It is on the heavy side.

(3.) It is on the nearly suc.

The weatherproof draught-light "top" I have invented does not depend upon a door for entry, and, in fact, the passenger enters in exactly the same manner as with an ordinary open hody. It has the following advantages:

(a) It is considerably lighter than the coupé illustrated,

and cheaper to manufacture, as in its simplest form it is made with ordinary hood canvas.

(b) It has the same graceful outline of Mr. Atkinson's coupé.

(c) It is instantly detachable at any time for a fine weather run, leaving the sidecar in the ordinary open condition.

(d) It is applicable to existing sidecar bodies without alterations and also to cycle cars such as the G.N., runabouts, such as the Morgan, and I have designed a special engine such as the Morgan, and I have cooling model for use with the monocars.

W. H. BURLEIGH.



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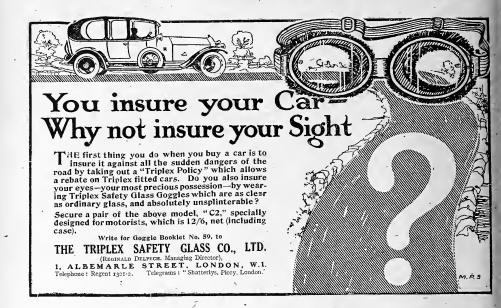
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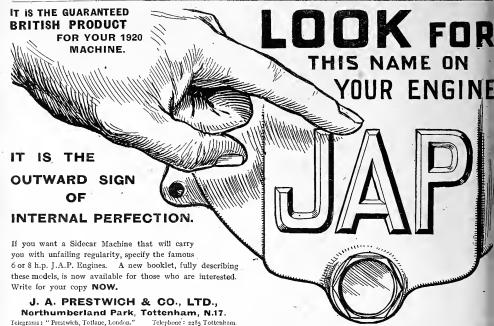
Please send me further particulars regarding the advantages of becoming a member of the A.C.U. together with Application Form tor membership.

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COMPETITIONS IN THE SOUTH.

Sir,-Having been a regular reader of your valuable paper for over five years (four of which have been spent in the Army), I have often read different readers' comments on various trials and sporting events that have taken place in several parts of England, but how many have taken place in the South or South-East? Aone, or very few. What I want to know is, why these parts of the country are neglected so much? Of course, there are not so many test hills, but, surely, there are some interesting places, such as Canterbury Cathedral, and several historic sights near; then there are various interesting places on the coast, such as Reculver Towers, Richborough, Dover Castle, Romney, and many places in Sussex So why not hold some events this summer in this part of the country?

There is no lack of hotel and garage accommodation in places like Canterbury, Margate, Ramsgate, Dover, and Folkestone. These events all help to encourage the motor Folkestone.

cycle movement and the trade.

I might mention that I was with the R.A.S. and M.T. at Peshawar, N.W.F. India, for 3½ years, and was always very glad to receive the "Blue 'Un' every week, as also were the other boys in my company, D. ARTER.

MOTOR SCOOTERS.

Sir,—May I be permitted to answer your lady reader, J. C. Patrick, regarding the "Shopping Scooter"? From personal experiences, I have found the ordinary lady's handle-bar basket as used on pedal cycles to hold a good

deal, but I am having a light box made to fit in under the saddle in the case of exceptional "loads," similar to the boxes fitted to the the Skootamotas at Cycle Motor. recent Show, the machines, I believe, being made for Messrs. Harrods. It must be remembered that everything added lo these little machines puts the weight up, which means spoiling their utility and handiness. Above 65 lb. in weight, the machine becomes a little clumsy for getting down the passage and a few steps at home.

Regarding the "holding on" of machine, can

this lady reader get a ageut (or, if I may be so bold as to ask if she lives in this part of the country, she can try my little machine with pleasure)? She will then see for herself that with properly designednount nothing is so imple. Certainly riding

over bricks or fields is different. My sole complaint so far s that there is too much nickel-plating; it looks pretty, out no one likes keeping it clean, so why not stove enamel he lot? HAROLD SOLOMON.

Bristol.

Sir, -As a very old motor cyclist, and latterly owner of scooter, I would like to give vent to my views on the setulness of these machines, and also as regards other joints. I agree with "Stanoop" that the price now generilly asked is too much, and that a good, sound practical scooter should be built for £50 to £35. As far as I can father, there is only one (the Autoglider) on the market hat is capable of climbing a really steep hill, and that one weighty machine, but sells at a more reasonable price 240) than some of the other puny devices. I have owned a scooter of foreign make, which is now being advertised in his country, sold at a price in excess of the above, which



Trying the real thing. A young scooter enthusiast interested in a "Skootamota." (See letter by Harold Solomon.)

has some quite good features, but I fear that they are doomed to cause considerable trouble and disappointment. They weigh well over 100 lb., have only one brake, rigid frame, and a most ungetatable engine, with automatic inlet, and that abomination, a drip vaporiser, in lieu of carburetter. My machine was absolutely incapable of climbing anything which could be called a hill, being only able to negotiate a very slight incline, say, about 1 in 18 or 20, at most. It could travel about thirty miles an hour on the level. The gear was undoubtedly much too high, the mixture was inconstant, and the exhaust valve in a sheltered position, so that the four-stroke engine knocked on the slightest gradient. These defects cannot be remedied without structural alterations. No; my idea of a successful scooter would be a machine having a valveless two-stroke engine of about 60 mm. × 65 mm. bore and stroke, cork clutch, 16m × 23m. tyres, disc wheels, two brakes, one on each wheel, footboard resting on thick rubber pads or else sprung, petroil lubrication (for simplicity), tank to hold about half or three-quarter gallon fuel, and with a steering column to fold down. For very hilly country, an engine having a bore and stroke of about 65 × 70 mm. should be large enough. Weight about 80 lb. at outside. Seat at option, but I would not use a seat myself, as I think that with spring footboards the standing position better, and certainly the steering is under better control.

If such a machine were geared to a limit speed of twenty-five miles an hour, I believe it would be a machine capable of anything a real scooter could be expected to do; it would be light enough for ladies' use, and a boon to many others. Such a machine could be sold at £35 to £40, even at the present time; indeed, with the smaller engine it should be possible to sell at £30 to £35, or even less—£50 seems a wicked price for a machine with tiny engine and unsprung SCOOTERIST. frame

Redhill.

SHAFT DRIVE.

Sir,-As a rider of an F.N., I am extremely interested in the recent correspondence about shaft drive. Mr. Burn and Mr. Smith use the word ideal, it would appear that this method of transmission is very much appreciated by those fortunate few who are the users thereof. I would not for a moment dream of going back to the primitive or belt system. The best belt slips at times, and even a chain stretches. Add to this the total absence of jerky take up, and the soothing hum when going at a decent speed. Only a user of shaft drive knows what this hum is like. In speaking of economy, well, I do not think the F.N. or other shaft-driven machines, if there are any, ever call for renewals. My 1913 'bus has bevel gears that are perfect, and the machine has done an average amateur's mileage. In reply to Mr. A. A. Smith, I would like to say that wear can be taken up, as there is an adjustable cone between the gear box and bevel cogs. The only sign of tear I find on the low side of the gear pi-ion. The shaft drive is "ideal." THOMAS A. WEDGWOOD.

A WINTER RUN.

Sir-I have had many delightful runs from South Lincolnshire and Leicestershire to Scarborough, but none pleasanter than the journey quite recently.

Departing from Melton Mowbray at 10.10 a.m. in a 1920 Indian Powerplus combination, we took the Nottingham Road for ten miles until we came to the Fosse Way, which took us right into Newark, one of the finest bits of road in the

Kingdom, I should say.

We did the first seventy miles of the journey in two hours. From Doncaster we took the Tadcaster Road, as in pre-war days it was always superior to the slightly shorter one by Selby, but at present it is bad from Wentbridge to a few miles east of Tadcaster. Once over that, a splendid run again on to Scarborough by four o'clock. Barring a little snow and a hailstorm at the outset we had fine weather and the sun on our backs all the way after Newark.

Having another fifteen miles to do over a moorland road, finishing with a descent of 1 in 4-an excellent brake testwe hurried on and completed the practically non-stop journey we intrited on an compress the practically hourself pounts, fresh and with the machine in perfect order, which only impresses upon one more firmly than ever that Indians are the acme of comfort and reliability. The machine was obtained from the Coventry Motor Mart, and I cannot speak too highly of their chief demonstrator's driving.
(Mrs.) S. TURNER.



MOTOR CYCLE TRANSMISSIONS.

Sir,-Your correspondent "All Belt," writing in the issue of October 30th, appears to miss two very important points in favour of the single belt type of transmission—the much greater belt economy afforded by this type, and the fact that, should a breakage occur no part of the transmission can foul

any other part and cause an accident.

While I quite agree with your correspondent as to the numerous advantages of the plain belt drive, there seem to

be two matters open to question.

(1.) Why is the spare belt of a T.T. machine easier to carry than that of the chain-cum-belt transmission of the usual type? Being a longer belt, it should be, if anything, more difficult to carry.

(2.) It would require a shaft on either side of the back

wheel to make it at all symmetrical.

Can "All Belt" tell me of any motor cycle having a symmetrical transmission, except perhaps one of the rare . birds with twin belt drive?

His own pet drive-single belt-drives only on one side of the wheel, and therefore is not symmetrical.

PISTON PACKING.

Sir,-On page 759 of The Motor Cycle for December 11th. 1919, there was shown a piston packing, a substitute for conventional rings, as devised by Mr. F. Shutler.

It may interest your correspondent and other readers to know that similar piston packing is already in use, and has been for years, on Tyneside shipyards, in oil pumps, and also in Diesel engines. It is only with the latter that I wish

to deal.

It is a fact that much trouble was (and is) experienced with the wear on cylinders of these engines, caused by great pressure behind the rings. So great was this pressure that it caused steel cylinder "liners" to be renewed after each voyage (about 2,000 miles). This wear was practically each voyage (about 2,000 mines). In swear was practically eliminated by the use of piston packing, on the same principle as that submitted to you by Mr. Shutler, the construction being different, as may be seen by my sketch

Three rings were used—A, B, and C. A was a dead fit to the piston; C was a dead fit to the cylinder (neither contracting nor expanding); B was an expanding ring press-ing C against the cylinder wall. The rings were all pegged together in an ingeni-





.See letter "Top Heavy."

multiple to prevent explosive pressure from getting behind the "compression" ring is thoroughly protected.

Wherein this device interests me is that I am unfortunate enough to be restricted to second-hand motor cycles, nearly all of which are sadly innocent of compression when they reach my hands. It would be a good thing if rings of this principle could be fitted to our mounts.

If three rings were too small or complicated, why not one "compression" ring with an L ring to keep pressure from the "inside" of it, as sketch? The downstroke of the L to be dead fit to piston, and may be made of sheet brass or copper (if practicable). Of course, pistons would require detachable heads. TOP HEAVY.

UNBUSINESSLIKE METHODS.

Sir,-I have noticed during the past year a large number of complaints published in your paper against British motor cycle firms on account of their mbusinesslike and discourteous treatment of customers. I do not think they at all realise the danger they are running in annoying and inconveniencing their customers in this very unnecessary

Just before Christmas I bought a new 3½ h.p. bicycle, fitted with low gears, for a sidecar, and as I wished to ride it solo I wrote to the firm asking if they would exchange the engine sprocket for a larger one. I received a reply in about a week, and on January 2nd sent off the sprocket and also a letter containing a postal order for some extra chain links. I received no acknowledgment, and having heard nothing from them by January 7th, I wrote again. On January 10th I received a reply, with no hint of apology, saying that they had the matter in hand, and would forward the goods on receipt of a further remittance, as the first did not cover. (This, in spite of the fact that I had obtained the prices from their own price list, sent only a fortnight before, and had added 75% according to their directions.

I only hope I shall not experience any trouble with the machine, as in that case it looks as if it will be in dock most

of the time.

This kind of treatment will inevitably bring its own reward as soon as production becomes normal again, and may do considerable injury to British trade. W. W. THOMAS.

THE A.C.U. REPORT.

Sir,—This report, together with the subsequent correspondence published in The Motor Cycle, is most interesting. In the first place, I was rather surprised that Mr. Norton should attack this report. I consider that the Notion should attack this report. I consider that the A.C.U. report is quite justified, and admire the outspoken criticism of motor cycle engines. That air-cooled engines are not ideal for these trials is quite evident to anyone who was there to observe. The average person, however, observes in the wrong place. He stations himself on the steepest part of the steepest hill, and, if the machine climbs this successfully, he knows it to be "some bus." If he went to the top of the hill and saw the clutch slipping and tap twiddling of the driver in the process of "changing up," he would be set thinking. Konking is by no means rare, and sluggishness, caused by an over-heated engine, very common.

I had hoped that manufacturers would benefit by their war-time experience on aero engines. But, as regards cooling, I think that it has influenced them in the wrong

direction—toward air-cooling is, as on motor cycles, only-fairly satisfactory. All large, long distance machines, in which the engine must keep its tune, are water-cooled.

The disadvantage of air-cooling on motor cycles is much more evident than on aero engines. There are no long hills to be taken on low gear by aero engines, and the speed attained by the machine always causes guite a resence table attained by the machine always causes guite a resence table. attained by the machine always causes quite a respectable cooling draught. Most motor cycles rely as much on oilcooling as on air-cooling, and after about two miles of 1 in 4 the riders have to drain some oil out of their crank cases, when they get to the top of the hill, if they do not want sooted plugs. I have seen this happen in many big trials.

Motor car drivers have not all this fuss, and, of course, the Scott, although it has a small oil sump, is not fitted with any means of draining out the oil. I have a

Scott combination, and it is a no-trouble machine. It is quite impossible to overwork the engine.

I consider the engine of the future is the two-stroke, but the advance in design of this type of engine is almost at a standstill, manufacturers being content to copy a few of the most successful makes. In its present form the two-stroke wastes more petrol than it uses. This drawback can be overcome easily. I wonder it was not done years ago.

I should like to see your paper open a competition for designing the best all-round engine. Most riders take a great interest in their engines, and nearly all have some little gadgets of their own for improving the running and power.

There is no knowing what such a competition would bring out. Perhaps, a petrol-driven turbine. . W. ROWLAND BROOKING:

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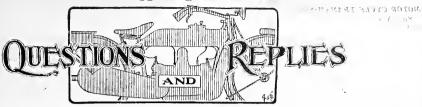
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A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Using Benzole.

(1.) When using benzole on a motor cycle, and more air is required than it is possible to give without altering the carburetter, is it more satisfactory to reduce the size of the jet or to attach an additional air inlet? (2.) If the former is the better plan, does it reduce the power of the machine?—J.M.B.

l.) It is better to reduce the size of the it. (2.) No, it increases it by improving se mixture.

Fixing an Exhaust Lifter Cable.

Will you kindly let me have instructions for fitting a Bowden exhaust lifter cable to a 2³/₄ h.p. Douglas?—W.L.

o particular skill is required to fit a sw exhaust lifter cable to a motor cycle. Il you have to do is to measure off the ble to the exact size, then you have to deer on the nipples. Before cutting, the ire should be tinned, as unless this is one the wire will fray badly and become omanageable. Having tinned the wire, ip the nipple in position, leaving about rin, of cable projecting, put a fairly reg lump of solder on the end of the ble, and let it run down well between unipple and the wire. When cold, arr the projecting end of the wire over, his is the only difficulty in fitting the blet, and let hough, of course, it must be proarly adjusted afterwards.

A Sticking Valve.

I have a 1914 6 h.p. Royal Enfield fitted with two-speed gear and sidecar. After a long run the front exhaust valve burntout. After renewing this, I found that on the road it would only fire on the back cylinder. The valves are properly adjusted. If I take off the back plug-it will fire on the front cylinder quite well, and if the front cylinder quite well, and if the front lug is taken out it will fire on the back one, but if the two are in position the engine will only start on two for about half a minute, and then the front cylinder gives up the ghost with a series of flashcs on the exhaust box, but the back cylinder, continues firing properly. I should be greatly obliged if you would give me some information on this matter.—I.W.

matter.—J.W.
he trouble is probably not due to the
lugs at all. Are you sure that the new
alve is not sticking and that it is seating
operly? It is possible that the stem
if the new valve is too tight and jams in
the guide as it warms up.

Side Play.

Will you be good enough to let me know if there should be any side play in the crankshaft of a Levis two-stroke, as my motor cycle has an appreciable movement from side to side, but no up and down motion in the crank case? If this is detrimental to the running of the engine? Please tell me if two very thin washers put between the inside of the crank case and the inner end of the shaft would be efficacious?—C.E.S.

Such a small amount of side play can be ignored; this is in no way detrimental to the running of the engine. There is no need to fit thin washers to prevent it.

Two-stroke Lubrication.

(1.) Will you tell me the setting of regulating screw for oil drip, average running, 23 "OK-Union"? (2.) Effect of longer reach plugs. If an advantage, or otherwise, in two-strokes?—G.B.P.

(1.) You can only find the setting for the oil drip feed by experiment; it entirely depends upon the normal speed and the nature of the oil used. It is usual to open the regulator until the engine permanently sinokes, and the setting can then be easily found by closing down the supply until the smoking ceases. (2.) Long reach plugs are not usually satisfactory on two-stroke engines.

Belt Rim Diameter.

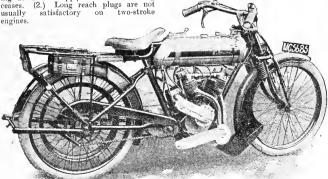
Will you please tell me what siz belt rim I shall require to give a 6 to 1 gear for a 3½ h.p. cycle car? I do not want to be under 6 to 1. I have 14 teeth on engine sprocket and 36 on gear box. The countershaft belt pulley is 7in. diameter.—J.C.

The diameter of the belt rim you require is 16; in.

Single Gear Riding.

I am thinking of purchasing a 23 h.p. single-speed two-stroke, and before doing so I should be glad to know if you think this a reliable machine. (1.) With ordinary handling, can I get up the hills usually met with on the roads in Ulster? I do not mean hills such as are traversed in the reliability trials, but such fairly stiff hills as are ordinarily met with on main roads. (2.) In case of failure on hills, can an adjustable pulley be fitted with good results?—T.F.O.G.

(1.) You will find that a 23 h.p. twostroke single-speed motor cycle quite capable of ordinary touring, and it should climb most main road hills in your district without difficulty. (2.) An adjustable pulley cannot be fitted easily to an engine with outside flywheel.



An Edmund motor cycle fitted with an M.A.C. engine, specially built from frame parts supplied in the rough by Messrs. Chas. Edmund and Co. Mr. Moran, who built the machine, was formerly with M.A.C. Engines, Ltd., and has been three years in charge of an R.A.F. workshop in France. He is now with Regent Motor Cycles, Ltd.

Electric Lighting.

(1.) I have a 4 volt 60 a.h. accumulator. What bulbs must I use for head light, tail and sidecar lights, to get best results-from above accumulator; series or parallel? (2.) Snitable size wire; would 7 mm. ignition rubber covered do? (3.) Approximate hours (all three lamps) from one charging, under normal road conditions?—C.E.T.

(1.) A 4 volt 2 amp, bulb in the head lamp and 4 volt 4 amp. in the side and tail lamps (all the lamps being in parallel) will be the most suitable. (2.) The wire known as Workshop Flex is most satisfied. factory for motor cycle lighting equipment. (3.) About twelve hours.

Firing on One Cylinder.

My 23 h.p. Douglas is in every way satisfactory, except that when I slow down to turn corners only one cylinder will fire, which means I have to drop into low gear to pick up speed. I have even found this happen on the straight when not going fast, but so soon as I open the throttle and ac-celerator, the two will get to work. Is this as it should be, and, if not, will you please advise me as to what, in your opinion, is wrong? (2.) Is a bare in. enough for the tappet to lift exhaust valve?-W.J.S.

exhaust valve?—W.J.S.

(1.) Probably you have not adjusted your tappets properly. The clearance should be equal to the thickness of the blue cover of The Motor Cycle. The valve springs, also, may be weak. Another possible failure is that the sparking plug points are too close together.

(2.) The valves should lift nearly a construct of winds. quarter of an inch.

Starting Difficulties.

I recently purchased a 3½ h.p. Rudge Multi, 1916 model, which was ridden a matter of twenty miles by the seller. I can twenty mies by time seller. I can get the engine to go whilst the machine is on the stand, but immediately the back wheel touches the ground it stops. I have started the engine on the stand with clutch in, and, also, with clutch out, and, in the latter case, gradually let in the clutch before pushing the machine off the stand. In addition, I have accelerated the engine, as advised by the Rudge people, before letting in the clutch-in my case, before pushing the machine off the stand. I have checked the timing, examined the plug and magneto, have tested the compression and carburetter, and the belt seems to have the right tension, yet, although it will start on the stand, directly it is pushed forward and the back wheel touches the ground it stops, not inimediately, but after about half-a-dozen vards.-F.K.

You are apparently itempting to start your machine incorrectly. You should not push it off the stand with the engine running, when the clutch is engaged. The correct procedure is as follows: Start the engine, fully lower the gear, disengage the clutch, and apply the foot brake in order to stop the wheel: now push the machine forward off the stand, then, having taken your seat, accelerate

MOTOR (FIGLE the clutch lever. If this is done on level ground, the machine should glide away without any effort. You will get full information on starting and all other points connected with the Rudge from the booklet issued by the makers.

Lubrication.

I have a 1920 23 h.p. New Imperial-Jap, fitted with clutch and kick starter. (1.) How often is a pumpful of oil re-quired? (2.) How is the gear changed-is it necessary to declutch? When I have started the engine and try to put the gear from nentral into low (with clutch out), the teeth seem to grate and the engine stops. What is the cause of this?—H.R.C.

(1.) Half a pumpful every five miles. (2.) You might either declutch and throttle down, or raise the exhaust lifter. (3.) Probably the gear operating mechanism requires adjustment owing to the gear box position having been altered to adjust the chain.

Overheating.

A few months ago I purchased a 1914 34 h.p. three-speed Rover, which appears to be in a fairly good condition, for with a pas-senger on a pillion seat I had no difficulty in hill climbing, generally on top gear. Recently, I have had a coach-huilt sidecar attached by a competent man. Our trouble begins at the first hill, for mnless we can take it at a rush, I have to change into second or third gear at the start, and, as the engine heats up, the machine slows down, and either stops altogether, or we reach the top of the hill at a crawling pace. I have noticed, when taking a hill at a rush, I can keep going until the throttle and air lever are opened to just over half-way; any attempt to open out more slows the machine down, but this is not the case when the passenger is on the pillion seat. Thinking to solve the difficulty, I removed the cylinder and thoroughly cleaned the piston and rings, but the result is the same. Is it necessary to lubricate the valves, as they always run dry? I might add that the top gear is 51-1, belt in., carburetter Brown and Barlow, and I run on half benzole.-W.H.

The trouble you refer to may be due to too large a jet, or to a sparking plug the points of which become incandescent and cause pre-ignition. It should not be necessary to lubricate the valve stems, and lubrication will not remain on them for long, but you night rub on a little graphite the next time you have the engine down. A lower top gear would certainly be advisable; try.6 to 1.

READERS' REPLIES. Flooding Carburetter.

Re query by "J.V." in your issue for January 15th on carburation trouble with a Big Four Norton. 1 think it quite possible that the trouble is caused by the pilot jet being in operation continually. This may come about by the sleeve which acts as a throttle for the pilot not being turned by the small lever. The lever is only held on the sleeve friction tight by a small screw. Also, it appears to me

that the pilot jet would do with a reduction in size. I found the pilot on my own 3, h.p. Norton about .025in. diameter and excessive. On reduction to .010in, diameter—by soldering over the end and reaming out with a small jeweller's broach—the engine starts more certainly and the carburation is not upset if the pilot is left in operation, though, of course, the consumption of spirit is somewhat increased.—J. C. Bennet Mitchell.

Belt Trouble.

In one of your recent issnes I , read the comment, re belt wear with variable gears; with much interest, and I should like your readers to hear my opinion. Having owned a Rudge Multi, I found the Multi gear ideal, in practically all conditions. Three years ago my wife and I went touring in the Lake District. my wife as pillion passenger. We climbed all hills, such as Kirkstone and Honister Pass, in wet weather, with absolutely rass, in wet weather, with absolute, no sign of belt slip, our one and only trouble being a sooted plug. Now, as regards belt wear. The Rudge Multi had the same belt on when I sold it as the day I first rode it, and at the time of selling it had over 6,050 miles to its credit, as registered by a Jones speedo-meter, and the belt was still in a condition to do another 1,000 miles. During the whole of my riding with the Rudge Multi I only experienced one break, due to the fastener pulling through. In conclusion, I may say that, should I ever again require a fast, sporting, reliable, trusty, single-cylinder solo mount, I shall get the good old Rudge Multi. Usnal disclaimer. - WILKIE.

Referring to 'H.W.J.'s' suggestion regarding belt wear, I should strongly advise the use of the Rapit belt end protector, marketed by H. B. Sanders, 14, Woodhonse Parade, N.12. I have just completed 3,000 miles with one of these useful little accessories fitted, and the belt ends show no signs of wear at all. Making, as they do, what practically amounts to an endless belt, I should imagine that they would be particularly suitable for machines fitted with expanding pulley gears.—D.J.C:

EXPERIENCES WANTED.

"K.G." (Bedford).-Paragen folding

RECOMMENDED ROUTES.

HINCKLEY TO DOVER .- J.M.

Hinckley, Daventry, Towcester, St. Albans, Hatfield, Waltham Cross, Wal-Anoans, Hattell, Waterland Toloss, Waterland Abbey, Romford, Tilbury (ferry), Gravesend, Sittingbourne, Canterbury, Dover. Approximately 175 miles.

NEWPORT PAGNELL TO CLACTON .- F. W. Newport Pagnell, Woburn, Dunstable, Luton, Chiltern Green, Kimpton, Welwyn, Hertford, Ware, Bishop's Stortford, Dunmow, Braintree, Coggeshall, Marks Tey, Colchester, Clacton.

SWINDON TO IPSWICH .- A.B.H.

Swindon, Faringdon, Kingston Bag-puze, Oxford, Thame, Aylesbury, Aston Clinton, Ivinghoe, Dunstable, Luton, Hitchin, Baldock, Royston, Whittlesford, Haverhill, Clare, Long Melford, Hadleigh, Ipswich.

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RESULTS

from small advertisements.

Corroborative Evidence.

The following letters confirm what has already been discovered by the majority of motor cyclists—THAT SMALL ADVERTISEMENTS IN "THE MOTOR CYCLE" INVARIABLY BRINGS THE BEST RESULTS.

The unrivalled circulation and influence of the paper explain the reason.

124 Applications

"I have much pleasure in offering you my sincere thanks for the wonderful results of advertising in your medium, 'The Motor Cycle.' I advertised a 2 h.p. Minerva and Cycle Car parts, etc., and sold both articles immediately after the publication of your book.

Altogether I have had 124 applications for both the

With such fine selling powers, I think your paper is deserving of every success.

Believe me in my great appreciation for same.

G. H. WILSON

15, Ashvale Road, Tooting, London, S.W.17."

"In reply to my last Advert in your valuable journal 'The Motor Cycle' a few weeks ago, I had no less than 40 Letters, 14 Telegrams, and about 20 Callers, one coming all the way from South Wales, which speaks wonders for your Advertising Medium You are at liberty to use this as an example should you care to. You are at inderty to accept example, should you care to.

F. P. Cook

12, Lesbourne Road, Reigate."

Enquiries.....Excellent Results...

"I am sorry I omitted to reply to yours of the 12th inst. before, but I have been so busy replying to enquiries received for the motor cycle parts which I advertised in your valuable paper. Very many thanks for the return of the amount which I sent in excess and also for the excellent results obtained.

A. W. MILLER.

Farm Street, Barrow-in-Furness."

Send your next advertisement to "THE MOTOR CYCLE," 20, Tudor Street, London, E.C.4, or Coventry.

MISCELLANEOUS ADVERTISEMENTS.

ADVERTISEMENTS in these columns First 12 words 2/6, and 2d. for every additional word. Paragraphs of under 8 words are-charged double rate, i.e., 5/-. Each paragraph is charged separately. Name and address must be counted. Series discounts. conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and he addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which cach advertisement, and the date of the issue in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is laken to avoid mistakes.

NUMBERED ADDRESSES.
For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. 123 When this is desired, the sum of 6d, to defray the cost of registration and to cover postage on replies must be added to the advertisement the same of the cost of the advertisement. All replies should be feel advertisement advertisements containing a remittances should be sent by the containing the containing and the containin

cases it is accusable to make use of the Deposit System. In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without first being iospected by the intending purchaser, advertisers will facilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal to perfect safety by availing themselves of our Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. If the money be deposited with "The Deposit System. Other advertisers may be equal to the deposit System. Other advertisers may be equal to the Deposit System. Other advertisers may be equal to the Cancelet D4.

SPECIAL NOTE.

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence at an indication that the goods advertised have already been disposed of. Advertisers often receive so mady enquiries that it is quite impossible to reply to each one by post.

Cannellet K3. Triumpho.

The Latest 1010

6 h.p. J.A.P. TWIN-O'RLINGER ENGINES.

From Stock. Trade supplied. Terms on application. These include extras 50 engines, for immediate delivery, 257 198, cach.

MOTOR CYCLES FOR SALE. A. R.C.

A.B.C., ordered March; Lancashire; what offer for option dehvery.-Box 6,983, c/o The Motor Cycle. 19286 A.B.C. 3h.p., late 1914, only driven few miles, me chamically as new; £100.-Box 7,050, c/o Th Motor Cycle. JONES' Garage, special agents for A.B.C., Broad-way, Maswell Hill, N.10, and Woodside Panade, North Finchley.

3 h.p. A.B.C. from first batch, expected any day; £5 deposit with agent since last April; offers.—Box 6,978, c/o The Motor Cyrle. [928]

9. Shoe Lane. Fleet Street London &C4

For square deals and Values ...

Our Stock includes the following Machines. NFW.

		NEW.				
	No. H		Year	. Pri	ce.	l
	12359.	23 ALLON	1920	£70	0	ļ
		8 REX twin Combination	1920	£198	10	ŀ
	12352.	21 CLYNO	1920	£70	0	
		— AUTOPED MOTOR SCOOTERS .	1920	£42	0	
	12291.	2½ P. & S	1920	£67	0	١
	12318.	42 QUADRANT Combination,	1920	£122	10	ì
		SECOND-HAND SOLO MACHI	NES			į
ı	12358.	31 I.O.M. RUDGE	1010	£110	0	ì
١		8 MATCHLESS, Gradua	1015	£57	10	
		31 SUNBEAM	1017		ŏ	
		31 SCOTT	1010	£32	10	
		4 BRADBURY	1011	£40	ŏ	
		8 MATCHLESS, single gear	1913	£72	10	
ŀ		31 RUDGE	1913	£45	0	
		GARFIELD	1920	£59	Ō	
		2 CALTHORPE-J.A.P	1014	£48	ō	
	12335.	ROYAL ENFIELD	1016	£62	0	
		23 DOUGLAS, lady's	1917	£75	0	
		SECOND-HAND COMBINATION	-			
	12104.	7-0 HARLEY-DAVIDSON Comb		£157	10	
		6 HUMBER and Sidecar, wc	1915	£175	0	
		4 TRIUMPH and Sidecar	1010	£9S	ã	
		4 TRIUMPH and Sidecar	1918		ŏ	
	12276.	7-9 INDIAN Combination	1014	£9S	ŏ	
	12273.	41 JAMES Combination		£125	ŏ	
		8 ROYAL ENFIELD Combination	1919	£167	15	
		7-9 JAMES-HOWARTH Comb	1014		ō	
		3 KERRY-ABINGDON Comb	1914	£72	19	
	12082.	5-6 INDIAN Combination	1013		ō	
	12000.	7-0 INDIAN Combination	1013	£85	0	
	12184.					
		6 ROYAL ENFIELD Combination	1917	£158	0	
		4 A.J.S. and Sidecar	1015	£130	0	
		4 A.J.S. and Sidecar	1015	£130 £111	6	
		4 A.J.S. and Sidecar	1015	£130 £111 £8/	0	
	12159.	4 A.J.S. and Sidecar	1915	£130 £111	6	

Gancelet Minor. Gancelet D4. Cancelet K4. Cancelet K3.

Royal Ruby.
"Wauchope's" No. 1.
"Wauchope's" No. 2.

8 h.p. J.A.P. Cylinders, including valves, springs, each Second-hand Machines taken in Part Payment. Good Price allowed. Maker's guarantee.

WAUCHOPE'S. 9. SHOE LANE, E.C.4.

'Fhone: Holborn \$777
'Grams: Obificer, Fleet, London.

MOTOR CYCLES FOR SALE.

WE Are Agents for the A.B.C. Plate voice or with us to score good delivery.—Apply King and Harper, 6, Bridge St., Combridge. [85]

A.B.C.—Book early and prevent disappoints
Specification and full particulars will be sen
application.—The Spaldiog Motor Co., Ltd., Spal
distributing agents for Lincolnshire.

19 15 T.T. Abingdon King Dick, 414h.p., fitted with S.A. 3-speed and clutch, a fine solo machine £60 cash.—Darby, Knibworth, Herts.

A BINGDON 6h.p., coachbuilt sidecar, recently over hanled, B. and B., Bosch mag., kick start, 2 petyres; £65.—The Nest, Lyeway, Ropley, Hants. [980] A BINGDON King Dick, 3½h.p., Bosch, Senson good tyres, good running order; ride away; 23 stamp, particulars.—Bartlett, Milford-on-Sea, Hants.

A BINGDON King Dick 6h.p. Twin, 3-speed kick starter, chan drive, complete with Celet sidecar; £160.—Frank Whitworth, Ltd., 139 St., Birmingham.

1913-14 Abingdon King Dick and Phenix ton sidecar, 3½h.p., 2-speed, free engine, clutch, I lop tyres, B.B., new mag., just overhauled: £55; safter 7 p.m.-21, Queen's Rd., Kingston Hill.

JACK HEALY, Cork, official A.J.S. agent.—Rotation delivery. No premiums accepted. [648 CROW Bros., High St., Guildford, A.J.S. agent since 1912, accept no premiums. [X794]

19²⁰ A.J.S. Combination: best offer: promised January of The Motor Cycle. 1946 LONGMAN Bros., Ealing and district A.J.S. agents 17, Bond St., Ealing, 'Phone: Ealing 689.

A.J.S. 6h.p. and C.B. Sidecar, in good order; examination; £80.—Bottesford, Western

:: DEPOSITS ::

SPECIAL NOTICE.

The attention of Advertisers is called to the fact that Deposits are now dealt with a

20, Tudor St., London, E.C.4,

to which address all communications relarm.

19 20 A.J.S. Combination, delivery March; deposit paid; offers.—Box 7,069, c/o The Cucle.

to deposits should be directed

A.J.S. Combination, 1916 twin, coachbuilt sidecar, speed, £110.-Wilkinson, 43, Washington Workington. WAUCHOPE'S, 9, Shoe Lane, Fleet St., London 4-Sh.p. A.J.S. and sidecar, 1915, 3-speed, clute and K.S.; £130.

19²⁰ A.J.S. Combination; what option? deposit Sept.; delivery shortly; Guildford district. 6,984, c/o The Motor Cycle.

O^{NE} 2³4h.p. A.J.S. motor bicycle frame, engine, gear box, and wheels missing.—Offer Macrae and Dick, Garage, Inverness.

19 16 A.J.S. 6h.p. and coachbuilt siderar, Lucas combination.—31, Hoghton St., Southport.

A.J.S. 6h.p. Combination, late 1915, complete will lamps nod horn, stored during war, splendid codition; £160.—Carter, 31, Wagg St., Congleton. [930]

WE Are Agents for the A.J.S. Place order with us to secure good delivery.

King and Harper, 6, Bridge St., Cambridge. A.J.S., 1915 25(h.p., 3-speed clutch, head and training excellent condition; £65, or near offer, exchange combination.—G., 58, Canning Rd., Croydo

A J.S.—Exeter Motor Cycle and Light Car Co., 1 Bath Rd., Exeter, and 28, Tavistock Rd., mouth. Sole agents. Now booking for earlies liveries.

A.J.S. 6h.p., 1914-15, engine just overhauled, C.B. sidecar, go anywhere, accessories end sparse week-end.—Goodwin, 47; Maple St., Bracebridge, Lin

BIS All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOP SALE.

1918 6h.p., military model, A.J.S. sidecar, are wheel, lamps, speedometer, whole lof as 1185; seen any time.—29, St. Leonard's St., 7-by-Uov. [9815]

Combination, 6h.p., late 1915, complete, spare sel and tyre, spring seat-pillar, wind serven, without speedometer, excellent condition; 1150, lexindra Rd., Winbledon, 8.W.17. [9769

lexundra Rd, Wimbledon, S.W.17. [9708]
fh.p. A.J.S., military model, with Suniseam
idecur, spane wheel, spane cover, hood, screen,
lighting, Khuon hera, speciameter, all necesgeriest condition; seen any time; triad by apti; 1195.—Bendah Spu darange, Piper Nowcool.
A.J.S. 6h,p. Combination, complete with spine
stipellite, hood, wind server, storm approxstipellite, hood, wind server, storm approxstream, the server of the server of the server of the
stream of the server of the server of the server
s, tomost in excellent condition, tross impona£195, lowest.—Bond, Waterloo Av., Leiston,
[9370]

A.J.S. Combination (Nov.), engine betfer than w, spare wheel complete, wind screen, apron, tras, hood, P, and H, large lamp connected to an, Hunt's electric subcorn lamp with accum-lowey hooter, etc., £195; trial by appointment; lgc.—Box 7,044, c/o The Mator Cycle. [9618

gge.—Box 7,044, cro Ine Motor Cystr. [9018] Hrmal Now ship, A.J.S. Combination, fiste be-vived, all latest detail improvements fitted, emip-gue wheel, hoad, screen, side cartinis, storm ood cover, and Lieus hora, King or Road head alones electric sidecar and tail lamps, all new: ling piec £235.—Browning, 5, 8ylvam Rd., co8, E.11.

Spares; engine and gear box repairs; prompt ivery.-Cvril Williams, Chapel Ash Depot, Wol-ion, T.A.: Parts. [2237]

"Alder.

R 25/h.p., 2-speed, 2-stroke, 1916, stored 21/grs, lamps, mechanical horn, etc., excellent conf40,-King, 2, Westwell Rd., Streatham. [9431

· Alecto.

PO 1920 314h.p. 2-stroke K.S., 2-speed; 3/7; in stock - Wilkins and Co., 635-7, Eccle, Sheffield. [1044]

Alldays.

OR Oak Motor Mart.—Book now, Alidays Allon, 29, Brockley Rise, S.E.23. [9461 N 254h.p., 1919, new condition, accessories; 1 gus.-51, Montholme Rd., S.W.11. [9495]

CHOPE'S, 9, Shoe Lane, Fleet St., London.— h.p. Allon, new 1920 model; £70. [9936 1918 Allon, 2-speed countershaft model, splen-order.-F. Hull, 36, Goldsworth Rd., Woking.

23th.p., late model, excellent tyres, s ge; £40.-49, St. Leonard's Rd., Mort

AYS Allon, 1917. disc wheels, lamps, and iter, perfect condition; £50.—Hare, 13, Lontes attord. [9998]

Alldays Allon, in first-class condition, tyres new: £45.—Piddoux, Dudley, Fairfield Rd., ark, S.E.12. [9874] F Garage, special agents for Alldars Allon, indway, Muswell Hill, N.10, and Woodside North Fluchley. [0027]

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MOPE'S, 9, Shoe Lane, Fleet St., London.— h.p. Ariel, new, 1920 model; £100. [9930 Garage, special agents for Ariels, Broad-Maswell Hill, N.10, and Woodside Parade, Johley.

1920 3½h.p., 3-speed, new, in stock; £100. 29 and Co., 15-16, Bishopsgate Av., Camo-E.C.3. [0069]

Ealing and Acton District Ariel Agents. ly deliveries.—Longman Bros., 17, Bond St., Phone: Ealing 689. Late 1919 6-7h.p. Twin, as new, 3-speed, E.L.C., Amac, Dunlops, last machine; best acey, Beamington, Herts. [9686]

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B.S.A.

19 19 B.S.A. 41/h.p., Model H., brand new condition. 19600

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1919 B.S.A., Model K. and Canoelet heavy siderar, etc., good condition; £120; Greenwich.—Box 7,042,0c/6
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DOUGLAS 1917 2%h.p., fully equipped, little used, excellent condition; £65.—15, Warwick Court, Holborn. (Before 6.)

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DOUGLAS.—Large ossortment of 2%h.p. second-hand models in stock, all fully guaranteed.—Ross, 86, High Rd., Lee, S.E

DOUGLAS 4h.p., 3-speed, kick starter, good condition, new tyres; £75.—The Premier Motor Co., Aston Rd., Birmiogham. [9967]

1976 234h.p. Douglas, No. 35555, as new, new chain, helt, and tyres; inspection invited; £70.—Alfred C. Drake, Sutton, Ely.

19 15 Douglas 2 34h.p., 2 speeds, new spare tyre and tube; £65; call after 7 p.m.—30, King Sq., Goswell Rd., E.C.1. [9731

DOUGLAS 4hp. C.B. Combination, 1918, perfect run-ning order; £110.—H. 3, Broadway, Ludgate Hill, E.C. Phone: City 4191. 34hp. T.T. Douglas, 1916, uncrated July, 1919, 800 44 miles only, specially tuned; £65.—18, Bonn-daries Mansions, Balham.

19 20 Douglas Models in stock: 45 p. combination £145, 2%h.p. 3-speed £86.—Moffat, Douglas Agent, Yeovil. 'Phone: 50. [1103

DOUGLAS 4h.p., about 1917, very little used, thoroughly overhauled; £90.—Bell Enginee Works, Bell St., Maidenhead.

DOUGLAS 2%h.p., single speed, footboards, smart, easy starter: £32; first checae secur 23h.p. Douglas, 1916-17, replated and enamelled, 24 as new, perfect running order; £68.—Griffin, Coombend, Radstock, Somerset. [0103]

DOUGLASES.—Call at Smith's for your next Douglas.—Smith's, 10-16, Haverstock Hill, oppo-site Chalk Form Tube Station.

DOUGLAS 25/h.p., 2-speed, overhauled ind re-enam-elied makers' colours, equal to new; £50.—Owen, 59, Scholefield Rd., Holloway. [X3452]

DOUGLAS 1920 4h.p. Combination, in stock; 1915 254h.p. models, £50 and £53.—Edwards, 7, Exhibition Rd., South Kensington.

DOUGLAS 1919 4h.p. 3-speed Combination, speedometer, etc., new condition; £130.-29, St. Leonard's St., Bromley-by-Bow. [9816

DOUGLAS 254h.p., 2-speed, uncrated in Oct., absolutely perfect, well equipped, as new; £65.-60, Wallingford Ar., N. Kensington. [9486] DOUGLAS 2³/₄h.p., 1916, 2 speeds, Amac, en perfect; 50 gns.; snip; evenings or Saturda i2, Beechwood Av., Thornton Heath. [9 engine

23h.p. Donglas, as new, complete with speedometer, head and tail lamps, horn, etc.; price £62.—Wallet, 39, York St., Baker St., W.C. [9374

DOUGLAS 4h.p. and Millford coachhuilt sidecar, good condition, engine No. 1021, lamps, horn; £100.-25, Ashmore Rd., Paddington. [1079

19 25th.p. Douglas, unused, complete with lamp, horn, and tools; best offer over £80.—Morris, 61, St. Germain St., Farnworth, Bolton. [9268

[9268 19 19 4h.p. Douglas Combination, perfect condition, son, Dover St., Kibworth, near Leicester. [9356]

3h.p. Douglas 2-speed, W.D. model, appearance as new, £59; or fully equipped £67; before 4 p.m. —189, North End Rd., West Kensington. [9478

19¹⁶⁻¹⁷ Douglas, 2⁸4h.p., 2-speed, in perfect condition, nearly new tyres, lamps, accessories, etc.; £75.-1, Melrose Rd., Merton Park, S.W. [9641

19 13-14 Douglas, 25th.p., semi-T.T., 2-speed, makers' colours, engine perfect, Bosch, very fast: £46.—Anderson, 125, High St., Merton, S.W.19. [9974]

MOTOR CYCLES FOR SALE. Douglas.

19 16 Douglas, W.D. model, 2-speed, splendid dition, very fast, lamps, etc.; after 7 o'clor Tandy, 122, College Rd., Bromley, Keat. spleadid con-19678

DOUGLAS 1920 4h.p. Combination; £145, plus carnage: immediate delivery.—Arthur Horafield
(Motore), Ltd., 19-20, North Andley St., Wt., 19228

1915 Douglas 2; Ab.p., 2-speed, new Dunlop heavy
and Hutchinson, Amac, original ename, excellent condition; £55.—65, Solon Rd., Brixton. 19771

DOUGLAS 2%h.p., 1915, tip-top condition throughout, enameling and plating like new, first 56 gos. secures.—216, Corporation Rd., Newport, Moa. [9595] DOUGLAS 244.p., W.D., 1919, perfect condition throughout, mileage 4,000, lamps, hom, tools, spares; £70.—Cox, 76, St. John's Rd., Oxford. [9451]

D^{0UGLAS, 1920, 23}/h.p., 2-speed; £80 plus carriage; immediate delivery.—Arthur Horsfield-(Motors), Ltd., 19-20, North Audley St., W.1. [9227

19²⁰ Donglases.—By one who knows: delay is dangerous.—Order yours now from the Douglas Specialist, Gibb, Gloucester. Phone: 852. [6340]

DOUGLAS 25/h.p., 2-speed, uncrated July, 1919, equipped, perfect and unscratched; £62.—Dentist, 216, Portobello Rd., North Kensington, W. [X3356] DOUGLAS 2%h.p., 1915, new 1916, 3 speeds, new back tyre, perfect condition, very tast, all accessories; £60,-145, Widmore Rd., Bromley, Keat. [9377]

SMITH'S for Second-hand 1916 2%h.p. Donglases, overhauled, from 50 gas,—Smith's, 10-16, Haver-stock Hill, opposite Chalk Farm Tube Station. [0092 DOUGLAS 1917 4h.p. Combination, just been over-hauled, new tyres, lamps, spares, etc.; £110; can be seen by appointment.-5, Thornhill Rd., Croydon.

DOUGLAS 2%h.p., 3-speed, kick starter, actual olympia show model; 100 gus.—Loogman Bros., 387, Uxbridge Rd., Acton. 'Phone: Chiswick 1578.

DOUGLAS. 23/b.p., 2-speed model, completely 907. hauled and recovated, fully equipped with all spares; 865.—Parker's, Bradshawgate, Bolton. All Physics and Parker Spares; 865.—Parker's, Bradshawgate, Bolton. Physics Spares; Spares, Physics Spares; Physics Physics Spares; Physics Physic

19¹⁴ Douglas, thoroughly overhauled, good condition, 27th.p., 2-speed, and equipment; 248.—C.B., 20, Rathcoole Parade, Tottenham Lane, Sey.

DOUGLAS 1916 4h.p. Combination, 3-speed, kick start, lamp, etc., spleadid outfit, only wants recing; £100 for quick sale.—85a, Upper Tooting Rd. S.W.

DOUGLAS 4h.p., 1919, good condition, complete with lamps, speedometer, horn; £105; seeo Saturday, or by appointment.—Holmesdale, Hadley Wood, Barnet.

19 19 Douglas 2%h.p., new October, very little used, P. and H. lamp set and Douglas spares, guaranteed in excellent order; £73.—Robinson, Fulbourne, Cambs.

19 19 Douglas, 27th.p., for sale, nearly new, electric lighting, Klaxon horn, unpunctured tyres, disc wheels; £90, or offer.—Shaw, Spade Oak, Bourne End. 1934

1915 4h.p. Douglas Combination, special 2-senter sidecar, complete with kick start and electric lighting outfit; £85.—Virgo, 156, High St., Hounslow. Phone: 125.

DOUGLAS 1915 2%h.p., 2-speed, new tyres, inner tubes, and belt, recently overhauled, good nunning order; \$50.—Dr. Talbot, District Infirmary, Ashton-(9492)

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DOUGLAS 1915 21/h.p., in most exceptional condition, just overhauled, tank re-enamelled makers' colours: £55; exchanges.-R. D. Varty, Thundersley, Rayleigh, Essex. (19743

DOUGLAS 25(h.p., 1916, W.D., uncrated July last, long copper exhaust, buffer spring torks, horn, tools, insurance, excellent condition; £70.—Emsley, 22. Morley Rd., Pioncaster (D) [9575

23h.n. Douglas, Bosch, thoroughly overhanded, jully dequipped, new crankshaft, etc., appearance as new; genuine bargain, £45, of nearest offer.—256, Caledonian Rd., King's Cross. [9428]

doman Ru., Ming's Cross.

A CTUALLY in Stock for immediate delivery (no premium), brand new 4hp. Donglas combination; first cheque scoures.—Edwards and Parry, 4, Blenheim St., Bond St. Mayiair 2666,

19 19 2Mh.p. Donglas, 2-speed, accived from makes end September, 2 laups, speedemeter, Klaxon, all new, bike looks brand new; must sell; £80.-199, Fox Lane, Palmer's Green, N.

DOUGLAS.—We have a number of new and second-hand 2%h.p. models in stock. Please call and inspect.—Elee and Co., Douglas Agents 15-16, Bishopsgate Av., Camomile St., E.C.3.



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DOUGLAS 28/h.p., 1913, 2 speeds, excellent tion, tyres, lamps, etc., good; ride away; cal Saturdays from 1 p.m. uotil 6 p.m.; no dealers, Sullingtoo Lene, Storrington, ear Pulborough.

23h.p. Douglas, W.D. model, just re-enan 44 (makers' colcurs), new tyres fitted, P. an lighting set, very fast and reliable machine, spl condition; 246.—171, Camberwell Grove, S.E.

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T Appears Ridiculous to Advertise when you no stock, but we are giving deliveries to the birds. Place your order at once if you wan livery.—Eli Clark, Douglas Agent, 196, Cheltenham Bristol.

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T.A.: Bicycles.

DouglAS (Oct., 1918) 4h.p. Combination, else cally equipped, Klaxon, new condition, £120; 1915 23th.p. touring model, clutch, kick starter, shields, unused 3 years, £60.—72, Longridge Rd., £60cut. Western 1344.

19 hp. Douglas Combination, new Dec. unscratched, latest type clutch, 3 lamps, 2 rators, spare tyre, etc., not done 800 miles; going abroad with regiment; 2145.—Lt. Barric Clovelly, Junction Rd, Andover.

19 20 4h.p. Douglas Combinations, latest premises for immediate delivery; £145, plus cracarriage.—Robinson's Garage, 32-35, Green St., bridge, Tel.: 995, T.A.: Bicycles.

Druges, 22/h.p., 1916, overhanled, ename nad as new, very fast, lamps, 2 horns, footboa keee grips, tools, pump, etc., aluminium chain new taok, tyres, tubes and belt excellent; 277170, ofter.—Spencer, Castle Sk., Trownidge.

10 15 Douglas, 2-speed, tourist model, with boards, £42; another, 1915, 2-speed, model, £48; both good running order and m colours; or exchange both for good combinat 456, Whitehorse Rd., Thornton Heath, S.E. 19 9 4h.p. Douglas Combination, delivered Noven lamps, horn, Wattord speedometer, tools, insur policy; officer going ahrond; perfect; £150; inspeedometer, delivery, officer going ahrond; perfect; £150; inspeedometer, delivery, delivery,

—Richardson, Pyde Court., Canada, Oraca D O'UGLAS 4h.p., 1917-18, like new, Thomson-B cett, Amac, tyres all new; accept £85, or change C.B., combination or high-power soln, casa jbstment, waated to pay debt.—Apply by letter, 8 mour, 158, Landell's &d, E. Dulwich, S.E.22. 19

DOUGLASES, 1920 models—The noted bons the South for early deliveries. We are special and stockists for Douglas machines only for a 11 years—Sole District Agents, Thompson and 408. Commercial Rd., Portsmouth. Thone: 712

Duzmo.

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DUZMO 3½h.p. Single and 8h.p. Twin. Orders strict rotation. Deliveries commence February. All Lancashire and Cheshire enquiries to Leach & Seed, 16, John Dulton St., Manchester.

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ELSWICK 21/h.p., 2-stroke, 1915, perfect; 2 25, Clitherow Av., Hanwell, W.7.

19 14-15 21/h.p. Elswick Precision, waterproof)
B. and B., good tyres, just overhauled a
of £10, nice little lightweight; cash or deposit
offers.—Jarvis, Coates, Circocester.

Empire.

3 h.p. Empire Motor Cycle, 1919 T.D.C. eogie. 1
4 speed geur box, semi T.T., fast, reliable, will to light sidecar; \$43.—Chamberlain, Deshorough. [96]

Enfield.

Enflett 1920 Models, order early from sole ages Longman, 97, Fisherton, Salisbury. E NFIELD 1914 C.B. Combination, all a 290.-C.S., 14, Swaton Rd., Bow, E.S.

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th.p. Enfield, recently overhauled, condition dlent; £60.—Lobb, 1a, Lador St., Fulliere LD 6h.p. Combination, 2 speeds, condutor as £115.—London Rond Garge, Learning for the condition of the co

Royal Enfield, 21th.p., 2-stroke, 2-spr rps, horn, tools, as new; £65, - West, Harins

HOPE'S, 9, Shoe Laue, Fleet St., London.— field combinations, 1916, 1917, 1918, 1919, [9941]

LD 6h.p. Combination, spleudid conditions nearly new; quick sale, £90.-95, Acres 1840.

Gurage, special agents for Enfields, Broad-Muswell Hill, N.10, and Woodside Parade, [0031 nehley.

nchley,
Royal Enfield Combination, accessories, pertt; what offers?—Chilterns, Cliffsen Groze
[9257]

LD single-cyl., good tyres, magneto needs respectively. The for immediate sale.—45, Duke St., [1006]

corpul Enfield 6h.p. Combination, excellent conlion; trial; £130.—The Studio, Draycott Rd.

[2476]

Witts.

D Combination, 1917-18, £135; ditto 1915, r smart, £98/10.—Halifax Motor Exchange, South, Halifax.

LD Combination, 5h.p., 1914, conchimit, did condition; £95.—145, Stephens Rd., Tunells. Thone: 946.

Combination (55.)

Ens. Phone: 946. [1953]
Ens. Phone: 946. [1953]
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Ens. P LD 3h.p., 1914, 2-speed, clutch, Bosch, like ... mechanically perfect; 38 gns.—Simpson, re Park Rd., Fulham, S.W. [9718]

LD 6h.p. Combination, 1916, complete with Dp. perfect, £115; also 1917 ditto, £125,—40, um Rd., Southfields, S.W.18.

Royal Enfield, twin-cyl., Bosch mag., Amac buretter, very fast; no offers; £35.—Mr. B. High St., Ilminster, Som. [X3531

LD 6h.p. Combination, J.A.P. engine, electighting set: bargain, £115.—Seen, Manor fanor Place, Walworth Rd., S.E. [9715]

LD 1920 6h.p. Combination, hood, screen, 8, etc., not done 100 miles: £180.—C.S., 14, td., Bow, E.3. Tel.: E. 3155. [9707

LD 2½h.p., November, 1919, mileage under lamps, horn, insurance, etc., as new; £57.— ngate, Hawke Rd., Upper Norwood. [9687

ngate, Hawke Rd., Upper Norwood.

LD 1913 Combination, not used during war, ine in excellent condition; seen by appoint15, or offer.—Box 7,071, c/o The Motor Oycle.

[1172] ENFIELD Combination, gears just overled by makers; open to examination; believed 115.—E. Powell, Ltd., High St., Tunbridge

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D 1918 8h.p. Combination, dynamo light. horn, speedometer, hood, wind screen, lugange 8, as new, fast, £170; also 1917 6h.p. En intotton, 5 Lucas lamps, 3 generators, horn, id. thoroughly overhauled and enamelled, as 0.—Bissell, Bramhall, near Stockport. [9870]



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BRITISH EXCELSIOR J.A.P. 2 dr.p., 2 sprad, in stock; £70:10.— Lenis G. Ford, opposite G.P.O., Eastbourne.

Rasthourne. [1010]

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The lightweight with a better ficish than most of the hindred pound heavyweights. American Exsessor field Place, Leamington Spa.

AMERICAN Excelsior 1916 7-9hp. Coachbuilt Combination, clutch, kick starter, completely equipped with hood, screen, electric lighting, magnificent condition: \$155; deferred payments arranged.

But and Space Exclusing, Wealthcome. [3728]

A MERICAN Excelsior 1916 Combination, 7-9h.p., A Sepeed, hand and foot clutch, kick starter, mechanical lubrication, torpedo sidecar, complete lighting set, excellent condition throughout, 3 spare tyres new, 2 spare chains, pump, tools after 6 or appointment; £110.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment; £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment; £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment; £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment; £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment; £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2 spare chains, pump, tools after 6 or appointment, £102.—Grove Villa, Highfield, West Bydek, Surger, 2

fleet, Surrey.

A MERICAN Excelsior 1916 Combination, 7-9h.p., 5 speeds, clutch, kick stuter, in perfect mechanical condition throughout, fitted with Sandaum sporting torpeds sidecar, powerful metylene lights, disc wheely a state of the sidecar powerful fleet wheely sidecar powerful fleet with the sidecard powerful fleet with the s

Fainir.

FAFNIR, 3h.p., F.E., clutch, Bosch, B.B., copper tank, new valves and guides, rubher studded tyres, new tubes; £40; after 6.—10, Byrne Rd., Balham. [1093]

F.N. 5h.p., 4-cyl., 2-speed, clutch, lamps, horn; £38.

7 h.p. F.N., 4-cyl., and 2½h.p. 2-speed, new 1920 models. Orders now booking Birmingham only.— The Premier Motor Co., Aston Rd., Birmingham. [7702]

The Premier Motor Co. Aston AM. B. Hubes, tyres good: £55, lowest, or exchange decent 2-speed clutch Scott.—Foulger, Carleton St., Beechchiffe, Keight [9514]

F.N. 4-cyl. model, complete with Millford sidecar, £170: also 25-h.p. shaft drive 2-speed light-weight, £85.—Frank Whitworth, Ltd., 139, New St., Birmingham, [1136] Harley-Davidson.

JACK HEALY, Cork, official Harley agent tational delivery. No premiums accepted. Harley-Davidson, 1915 model, with sidecar; £125; in good order.—Brook Bros., Barrhani,

HARLEY-DAVIDSON.—Book now for early delivery.

Official Agents, The Motor Cycle Mart, Stafford St., Walsall.

HARLEY-DAVIDSON 7-9h.p. C.B. Combination, equal to new; price £145.—Ashby House, York Av., Hunstanton. [X3345]

L ONGMAN Bros., 17, Bond St., Ealing. Tel.: Ealing 689.—Sole district Harley-Davidson agents.

SPORTING Harley-Davidson Combination, of wheels; £135.—Navarino, Salisbury Av., Fin ley. 'Phone: 1119. [96] HARLEY 7-9h.p. Solo, 2-speed, lamps, etc., elent condition, fast; 75 gns.-76, Western Southall, Middlesex.

19²⁰ Harler-Davidson Sports Model, just delivered, all accessories; £140, or nearest.—Fielding, Crossfield, Greetland, Halifax. [X3464

1014-15 Harley Combination, paint poor, but mechanical condition guaranteed; offers; appointment—137, Cambridge Rd., S.W.19.

TWO Harley Khaki Combinations, any trial or expert examination; 170 gas, and 155 gas.—Sterens, 184, Pentonville Rd., London, N. [1018]

19 19 Harley-Davidson 7-9h.p., electric madel 191, hardly been used, and well kept; 150 gns.-10, Clifton Terrace, Prescot Rd., St. Helens, Lancs. [9863

MOTOR CYCLES FOR SALE.

Harley-Davidson.

Harley-Davidson.

HARLEY-DAVIDSON 1919 Electric Model, with
Mills-Fulford sideon, only un about 200 miles;
what offers over £175?—Box 7,035, c/o The Motor Cycle.
[9484]

1915 Horley-Davidson Combination, professionally coach-painted latest khaki, superb condition; £150, or near,—Rippingale, 20, Canterbury Rd., Croydon.

HARLEY-DAVIDSON Combination, 7-9h.p., 1915, dynamo lighting, just back from complete over-haul; £125; Saturday or Sunday.—58, Ley St., Ilford, Essex. [9095]

HARLEY-DAVIDSON 1915 7-9h.p., in fine running order, new mag., new tyses, tools, spare inner tube, etc.; £110.—Chapman, Westfield Terrace, Gawthorpe,

Ossett.

HARLEY-DAVIDSON 1915 Combination, 5-speed, hand and foot chutch, extremely fast, and in good order; £100, or best offer.—Salvage and Sons, Fleet St., Syvindon.

[975]

HARLEY DAVIDSON 7-9h.p. Combination, 1916-17 model, equipped with lainps, horn, speedometer, screen; trial or examination.—Parker's, Bradshawgate, Bolton. (X3648

HARLEY, 4h.p. flat twin, completely equipped, care-tully run in, mileage about 500; seen in London by appointment.—Offers to Hovenden, H.M.S. Stork, [9599

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 7-9h.p. Harley-Davidson combination, 1919, £185; also 1915 Harley-Davidson combination, £157/10. [9940

HARLEY DAVIDSON Combination, 1915 electric unded (delivered February, 1916), 1920 Binks, sood condition; £140, or nearest.—Redhead, Kirkgate, 19265 Thirsk, Yorkshire.

HARLEY-DAVIDSON, 1915, 5-6h.p., 2 speeds, luxurious C.B. sidecar, all lamps, Klaxon, Tansad, nice order; 111 gns., lowest.—365, King St., Hammersmith.

HARLEY-DAVIDSON 7-9h.p., horn, new P. and H. lamp, special back tyre, exceptionally fast, grand condition; £98; no offers.—Gornall, Church St., Bishop's Castle, Salcp.

HARLEY-DAVIDSON 7-9h.p. Solo, believed 1916, handle and foot clutch, good tyres and condition, no lamps, very powerful, ready to ride away: price £100 cash.—Tegg, Camille, Pangbourne, Berks. [X3375

HARLEY-DAVIDSON Combination, electric model, dive green, sereen, Tan-Sad carrier, new Rom; tyre, mechanically perfect, and in new condition; £165.—Coles, 70, Coombe Lane, Raynes Park, 1991.

1915 Harley-Davidson, sporting sidecar, electric model, just been overhauled and re-enamelled and replated by the makers, property officer ordered overseas; £140; seen London.—Box 7,065. c/o The Motor Cycle.

HARLELY-DAVIDSON 1920 4h.p. Opposed Twin, new, in stock for immediate delivery at list price; also 1915 frombination, guaranteed condition, 125 gns.—Longman Bros., 17, Bond St., Ealing. Phone: Enling 688.

1920 Harley-Davidson, new 4b.p. horizontal miedel, lamps, horn, and speedometer, under 400 miede, immediate delivery, in splendid condition; hist price now up 10%; price £152.—Lt.-Com. Barrett, H.A.I.S. Vernon, Pottsmouth.

10:7. Harley Davidson with Herley Davidson Side year, magneto model, mechanically sound also powerful machine, spare tubes, choins, mechanical horn, mirror, large acceptene head lamp and tall lamp, excellent tyres, any trial; £129—Shelswell, 5. South Parade, Oxiord.

South Parade, Oxito.

HARLEY-DAVIDSON 1915 7-9h.p., clutch, kick start, special T.T. engine, with coachbuilt undirsung sidecar, complete with head lamp, rar lamp, sidecar lamp, 2 generators, horn, luggage, grid, spare tube, etc., insured till next September for £130 transportation, excellent condition throughout; accept £105; exchanges.—R. D. Varty, Thundersley, Ratheith, Essex.

1917 Harley-Davidson and bulbous cideor, sprung buggage carrier, mechanical horn, couplete acety. The state of the smartest and fastest outlits on the road, trequently midtaken for new, guaranteed perfect sensine burgain, £180; seen by appointment.—Harris, 14, Alexander Sq., S.W.S.

19. Jacksuser 19. 2019. The Most Cycle is dearly confidence of the Morting and sidecar, compiler with the test in lighting, speciometer, disc which, 2 sparse cycle in America in October last, and has run about 500 miles, condition practically as new, and in perfect running order; price £200, or near offer; Brad foul—Box 7,975, c/o The Motor Cycle.

Hazlewood.

HAZLEWOOD 5-6hp, with sidecar, 5-speed, kick start, 1916, all accessories, only had 6 mouths' use; owner been altraid; in perfect condition; £95-Jenkins, 137, Tredegur Rd., How, E.S. [9606]



Having placed a very large Contract we can offer early delivery of

The Classic

$3\frac{1}{2}$ h.p. twin solo machine equipped with **DynamoLighting**

and every possible refinement.

May we send you particulars?

Full value allowed for machines accepted in part exchange, and deferred payment terms arranged to suit the convenience of purchasers.

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Telephone: 490 East Ham

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MOTOR CYCLES FOR SALE.

H.B. H.B. 1920, 23(h.p. Blackburne engine, 2-specia starter; 85 gns.; early delivery from sole di agents, Joseph Devey and Co., 50, Darlington Wolverhempton, Tel.: 606.

H.B. Orden now on view at Guthries, Ltd., the gow and district agents. Spare parts and sample or sketch; gear cutting, machining, and ition work; fepairs to all makes of motor evoke cars; timuse brized or welded, accessories, olis, etc., stocked.—Guthries, Ltd., 250; St. Vinced Giasgow. Tel.; No. Ceutral 2581.

Henderson.

HENDERSON, latest model issued, electrical equipped, mileage about 250; offers.—Box 6

NOW on View, new Henderson Model Z2 and Z2 Sole Midland distributers, The Premier Motor Aston Rd., Birmingham.

ANCASHIRE, Cheshire, North Wales, and is Man Enquiries for Henderson 4-cyl. wan J. Blake and Co., Official Dealers, Liverpool-chester.

Hobart.

HOBART, 1916, 2-speed, excellent condition mileage; nearest £45.—11, Harley St., Co.

19 15 Hobart, Villiers 2%h.p., with lamps, app ance and running order excellent; £38.-7, lie Gardens, Gateshead.

1916 Hohart-Villiers 25th.p. 2-stroke, complete the complete strong of the complete strong

Humber.

HUMBER 3/h.p., C. and A., running order; C. and A., running order; X. ork.

WAUCHOPE'S, 9, Shoe Lane. Fleet St., Lon. 6h.p. Humber combination, twin, 1919; £

HUMBER Twin, 254h.p., 3-speed, clutch, fine tion: £50.—Garaged at Nurton, Montpeller Blackheath, London.

H UMBER 51/2h.p., handle start, 2-speed, sidecar, Dunlops; £50, or offer.—Stonhan Station Rd., Herne Bay.

HUMBER Coachbuilt Combination, 51/ah.p., 2 steed, overheuled by Humbers last week; cheque acceptable.—109, Leavesden Rd., Watton

FOR Sale, Humber combination, 5½hp., 5-handle start, coachbailt sidecar, in perfect dition throughout.—Write, Johnson, 293, Hainton Grimely.

19 19 314h.p. Humber Flat Twin and J.B. s electric lamps and horn, 2 pairs hand speedometer, delivered Nov.: £135.—Miller, 13, Terrage, Ferryhill, Durham.

HUMBER, 5-6h.p., W.C. 3-speed constending and generators, Triplex screen, hood, petro rier, tyres practically new; any trial; £140,-24, I tord Rd., Dartford.

Indian

INDIAN, 7-9h.p., 2-speed model; £70; bargain, Church St., Camberwell Green.

7-9h.p. Iudian Clutch Model, in first-class order: -Grimes, 18, Bluton Place, W.1. INDIAN 7-9h.p. Clutch Model, good condition, -Skinner, 14, Charnwood St., Derby.

STILL the finest and hest value for more, silent Indians; £158 solo, £190 combination THE Scout Model, £125 solo, the finest solo m

PLACE your orders now for early delivery. P 945 Holawill.—Castra Mator Cycle Garge Bridge St., Chester. INDIAN 7-91.p., clutch model, excellent cond £68 lowest.—77. Congreve Rd., Eitham.

1920 Indians: prompt deliveries.—E. Brows, 1 Specialist, 3 and 7a, Parker Laue, In Tel.: 194.

19 16 Powerplus Indian Combination, picked en splendid condition; £135.—Lobb, 1a, Lalo Fulham.

19 15 Indian, 5-6h.p., 3-speed, clutch, kick-and sporting sidecar; £110.—Wilsons and Ltd., Bedford.

POWERPLUS Indian, 1916, fully equipped, 5 K.S., perfect throughout; £76, no offers.— Shepton Mallet.

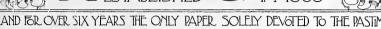
TNDIAN Combination, 7-9h.p., 1914, 2-speed, extlent condition; £75,—Skuse, 70, Devoushire B Walthamstow, E.17.

INDIAN 7-9h.p. Combination, 2-speed, hand clut spring frame, in good order; £90.—Salvage Sons, Fleet St., Swindon.

24 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue,



THE



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Weight the Governing Factor.

ESPITE the fact that a tax on fuel is the most fair method of taxing motor cycles, it is certain that the fuel tax will be abolished and that in all probability weight will be the factor used. Such a factor would be quite fair to motor cycles, provided the owner is only required to pay an amount in direct proportion to the weight of his machine, but we fear this will not be the case, and that weight will be used only to define classes of solo motor cycles.

The proposal has been made that motor cycles be taxed in three classes: (1) lightweights up to 200 lb. £1 10s., (2) solo machines over 200 lb. £3, and (3) sidecars £4. Considering the means of the average motor cycle owner, such figures as these are surely unreasonable. Although they are proportionate to the suggested new car taxes, which it is said will be on a basis of £1 per h.p., we feel that the acceptance of such proposals would have the effect of restricting the motor cycle movement and less revenue will be forthcoming than if the tax were lower.

We know there is a feeling among many motor cyclists that any appreciable increase in taxation will force them to give up using motor cycles. It appears to have been overlooked that the motor cycle is the poor man's mount, and is owned, as a rule, by a section of the public which has suffered more than any other by the general increase in the cost of living, and includes a large number of persons who, at the present time, are living very near to the limit of their income.

A clean cut between machines of under and above 200 lb. means that the difference of a few pounds in weight may subject two machines of practically identical design to 30s. and ± 3 taxes respectively. It is true that any sharp line of demarcation generally discovers such cases; there is room, then, for a more gradual scale. In no case with car taxation has there

been a parallel—a fraction one way or the other has not before involved double taxation.

So far as concerns the motor cyclists' contribution to the amount which the Government has decided that users of mechanically-propelled vehicles shall contribute, probably the estimated total is quite proportionate, but we feel that it should be more evenly divided.

The Number of Motor Cyclists.

N March, 1919, there were 116,600 motor cycles licensed in Great Britain and Ireland as compared with 158,000 in 1916. The former figure is due to the fact that the majority of motor cyclists had not returned to civilian life at the date mentioned.

In 1916 148,800 motor cars were licensed, and it is estimated that by March this year there will be at least 200,000 private cars in this country. If an increase of over 50,000 is reasonable to expect in the case of cars, then at least 75,000 may be added to the 1916 figure to obtain the possible total of motor cycles in use. Considering the comparatively high prices of motor cycles, this figure must be considered as highly satisfactory by all interested in the future of the industry. It reveals the possibilities of a general utility type of machine produced at a low figure, which will attract those who would use it in preference to trams, trains, and pedal cycles.

Whether there will be a quarter of a million motor cyclists in this country by the end of this year depends to some extent upon the new taxation, which we hope will not restrict the development of a young and growing industry and the training of men in mechanics, which has been of such value to the nation. But for the motor cycle, thousands of men would have never attained the degree of usefulness which was revealed during the war.

It should be pointed out that the 1916 and 1919 figures quoted represent the number of machines upon which the £1 annual tax has actually been paid.



The Stanger V Two-stroke.

R. MACBIRNIE, of the Birmac Aeroplane Co., tells me that the Stanger V twin two-stroke is not a mere glass case engine, an experimental brainwave, which has never sampled the roads, as some visitors to Olympia supposed. He was down in the Cotswolds the other week, and saw it romp up Nap Hill and the Nailsworth Ladder. At the top of Nap Hill Mr. Stanger asked him to put his hand on the cylinders, and they were so cool that it was possible to keep the hand on them. Is there any four-stroke of which the same could be said? Mr. McBirnie is my twin soul on the controversial question of silencers. He considers that his Powerplus engine is "positively dangerous" with the cut-out shut, and he only employs full silence when he is alone on the earth with an interesting passenger in the sidecar. By the way, if the Stanger twin can tackle Nailsworth Ladder without stewing its sparking plug, it may be just the cheap, high-powered engine for which the £100 monocar is still searching.

Big Trade Teams in the Six Days.

URING next summer we shall witness fresh attempts to "find a winner" on the part of ingenious trials organisers. At present the A.C.U. policy on the question embodies the following items:

i. Freak surfaces.

ii. Freak hills.

iii. Freak speeds over freak going.

Examination of finishing condition.

The first three items are admittedly counsels of despair, which permit good machines to be penalised by bad riders or by bad luck; they are mainly adopted because the distance would be inadequate to classify modern machines unless "stunts" were included. The fourth item is entirely sound in principle, but leads to friction, because

(a) It is difficult to justify all the penalties (a published report would occupy reams of paper; the marking of various defects stirs up criticism, and

secrecy makes for trouble).

(b) With a large entry it is impossible to one judge to overhaul all the machines. It is difficult to get a dozen reliable judges. It is difficult to obtain consistency in the markings of several judges.

To do the A.C.U. justice, they would probably have included a long sprint on Brooklands in 1919, if the track had been rideable. The track will be ready by August, 1920. If the freakish element in the route is largely reduced, and large teams of, say, six riders apiece are insisted upon, there will then be no difficulty in finding a winner, and the winners will win on merit. If the going is comparatively normal, the trade might evince no objection to each

team consisting of three professionals and three amateurs. Mr. Stanley Wells's analysis of the last Six Days proves how vital the size of a team is to an accurate estimate of comparative merit.

An Afternative Suggestion.

CORRESPONDENT has sent me quite a different suggestion of distinct though revolutionary interest. He considers that the familiar type of Six Days is as unnecessary as it is unsatisfactory. It fails to provide accurate tests of stamina and tune maintenance. It is no longer required for "exhibition" purposes, since the numerous local agencies enable the public all over Great Britain to inspect the various makes of machine, and loca owners provide opportunities for seeing them on the road. He considers that a comparative test of the efficiency and durability of the various makes is wha the A.C.U. ought now to furnish, and that this could be best provided in the form of a really prolonged trial on Brooklands. Entries to be limited to the trade, each concern to enter a single machine, with two, three, or four riders. The bulk of the trial to consist of high-speed reliability, say, 40 m.p.h. o more, with a change of rider every hour. Every stop except tyres, to count. Fuel and oil consumption to be recorded.

I dare say we shall eventually arrive at something of the kind. The natural tendency is for trials to become more and more technical, and the ideal is a long distance high-speed test of the reliability of the machine on the track, balanced by a prolonged test of the engine on the bench. But I fancy my correspondent has been born a few years too soon.

Pistons, Bearings, and Oil.

66 T BIQUE," who has forgotten more than I eve knew, lets me down lightly for daring to differ from him. Of course, this encourage me to persist. I crave further enlightenment. ventured to assert that ball and roller bearings reduce an engine's thirst for lubricant. He retorts that piston design is the determining factor in oil economy Without thought of controversy I want to put the following experiences to him in my own fat-header way. I have often seized a motor cycle piston, bu never for want of oil-always because it was originally fitted too tightly, or because faulty cooling produce distortion and piston friction. On the other hand I have more than once seized up big end bushe without seizing up the piston. I gathered (being a uninstructed person, dependent on my own brainwaves that when a plain bearing engine is working sweetly you have to allow a little more oil than the pistor requires in order to prevent your big ends from heatin up in a prolonged blind. I was confirmed in this apparently wrong opinion by the fact that, when

Occasional Comments.-

get hold of an engine which has no plain bearings in the crank case, I can usually run it on a quarter, a third, or a half of the oil which more conventional engines demand. Will "Ubique" please deal gently and lucidly with my perplexities?

D.R. Testers.

AM sorry "D.R.M.M." chose to take my jesting remarks so seriously. We all know that D.R. machines had to start easily. As a matter of fact, my 1919 machines received no road test at all, partly because we were all hotstuffing the factories for delivery and perfectly willing to do the testing ourselves, partly because it was unsafe to keep a complete machine at the factory for an hour after it had left the erecting shops-somebody with a pull was sure to come along and annex it, so that timid manufacturers despatched completed 'buses as fast as they were assembled. The details of tune in the frightful scurry which accompanied the resumption of production last year were thus largely a matter of luck; and it says much for the trade that delivery tune was not worse. Things are getting more normal nowindeed, might have been already normal but for the moulders' troubles

American Magnetos.

SUPPOSE every manufacturing country turns out good and bad samples of the various commodities which it produces. But-to put it as kindly as my natural politeness allows-the average quality of American magnetos exported at present does not reach

breaker lever had to oscillate 9,000 times in each These requisites-at the aviation level of reliability—are sufficient proof of quality. organisation may have allowed a few dud magnetos to leak out of some British factories, but there are American patterns of which the majority do not seem to be worthy of trust. One correspondent took a pair of these instruments to be remagnetised the other day and tested them before leaving the repair shop and again on arrival at his home half an hour later; they had already weakened appreciably—a fact which suggests that the magnets themselves were made of a quite unsuitable steel.

Sideslip.

57 AVE other riders noticed how the terrors of sideslip have diminished of late years? I grow no younger, and nerve, which is a vital element in tackling dangerous surfaces, cannot be better than it used to be. I find that nothing really frightens me nowadays except deep, mud-clogged ruts. Years ago I did not dream of entering in a Six Days without fitting very special covers. To-day I ride faster and over worse roads without thinking of a tumble. There are several elements in this added security. Machines are well balanced with good steering. They are not so top-heavy as they used to be. The drive is smoother. Variable gears destroy the old urgency for taking uphill corners rather fast. Not long ago I tested a somewhat prehistoric machine on a bit of grease, and the old sensations flowed back into me instantaneously. I at once felt as if I were perched up on a dizzy

eminence, skating over a surface which was threatening to slide away from beneath me. By comparison, the modern machine sits down firmly on the road, and gives the impression that its wheels are biting remorselessly through the surface grease into the hard substratum.

SCENES AT THE RECENT THIRTY-SIX HOURS WINTER TRIAL IN HOLLAND.



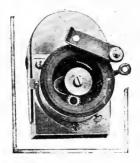


The result of this trial was given on page 125 in last week's issue.

A THREE-CYLINDER RADIAL ENGINE.

The 309 c.c. Redrup Power Unit with Aluminium Pistons, Enclosed Valves, and Mechanical Lubrication.

ENQUIRY into the possibilities of radial enzines for motor cycle work has long been urged by this journal, notably in an article reviewing past efforts in this direction, which appeared in the issue of February 7th, 1918; and it is therefore a matter of considerable interest that we are able to give the first description of what is no doubt the earliest commercial example of this type.



Three-cylinder high-tension distributer fitted to the Runbaken magneto.

The engine in question is the product of Messrs. Boyle and Redrup, of Burmantoits. Leeds, and is designed by Mr. C. B. Redrup. Additional interest is attached to the subject by the fact that

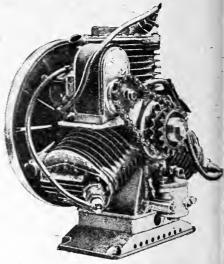
it is being produced in a centre noted for heavy engineering work that has notoriously eschewed the light internal combustion engine, and it becomes significant, therefore, that a power unit radically departing from conventional motor cycle practice should emanate from the home of leviathan locomotives. There are indeed signs that the engineering North is waking up to the possibilities of the lighter forms of transport.

No Exposed Working Parts.

First impressions of the Redrup engine are apt to be deceptive, since there are no visible working parts other than

the flywheel and chain sprocket. Such a complete hiding of mechanism at once leads the observer to expect complication and difficulty in dismantling, but after duly examining the exterior construction it came as a surprise to see the designer dismantle the engine in a few minutes, and, later, reassemble it almost as quickly.

The engine is built within a cylindrical cast iron shell, from which radiate the three cylinder barrels, spaced at 120° intervals. Extremely wide cooling flanges are used, which make the cylinders appear much larger than one



A general view of the 309 c.c. Three-cylinder Redrup radial engine. All working parts are enclosed.

would be led to expect when the 50.8 mm, bore and stroke are remembered. Parallel with and on each side of the cylinder bore are smaller cylinderical holes bored down into the crank chamber. These holes are chamfered at the top to form the valve seats.

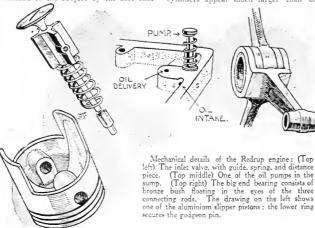
The cylinder heads are of aluminium, and secured by a number of small screws close together, thus avoiding distortion in bolting down. The only opening in the head is the plug aperture.

Symmetrical Crank Assembly.

A single-throw built-up crankshaft is employed, and the two parts are rigidly secured together by a taper on the crank pin, which is further prevented from movement by a bolt passing through the piu. Four dowel pins are pressed through the bolt head into holes drilled half in the pin and half in the crank web. The balance weights are heavy gunnetal castings secured to the crank checks by a projection which passes through a hole and is there riveted over.

The connecting rods are beautifully made in uickel steel; one has a single eye, and the others are forked, so that the three are in the same plane. A bronze bush floats between the crank pin and the three rods. No bushes are fitted in the small ends, the gudgeon pins working directly in the rods and floating in the aluminium pistons. The latter are extremely light, being of the slipper type, and fitted with three very narrow rungs: the lower ring covers the edge of the gudgeon hole to prevent the pin from working out and scoring the cylinder wall.

A long screw thread is made inside the ends of the cylindrical crank chamber, and into each side is screwed an

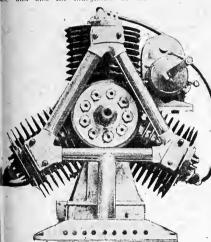


MOTOR (YCLE

Three-cylinder Radial Engine .-

luminium disc having a bronze bushing the centre, in which the main shaft otates. Next to these are placed brouze astings with flanges turned to fit the eccesed faces of the aluminium discs.

The latter have indentations at interals around their outer edges, and when disc is screwed into the case one of hese recesses is brought opposite a large ircular hole in the outside of the crank ase. The bronze casting above-mentioned pushed into place and rotated until a mall hole comes opposite the hole in the ase, and a locating stud having a small iameter stem and a large head is dropped The head fits the hole in the crank se and also the indentation in the



The deep radiating flanges of the Redrup cylinders ensure to running. The flywheel has been removed to show the cool running. exhaust pipes,

ner disc, thus locking the latter, while e stem locates the casting (which con-ins the tappet guides) in relation to e cylinders.

The Timing Gear.

Besides the locating stud, each bronze sting has three equidistant bosses illed to form tappet guides, and a urth and similar one in which works e tappet operating the oil pump. Fitted to the back of the casting are nine tas, equally spaced around a circle acentric with the sbaft, on which is yed a steel eccentric. Rotating on the centric is a form of gear wheel which peculiar in having the space between ust would be the third and fourth of ch set of four teeth left solid. The ameter of this wheel is less than the meter of the circle of studs, and conseently as it rises and falls with the volution of the eccentric. it meshes th them and rolls round, making one mplete revolution to eight of the shaft. As the broad topped "double" teeth me beneath the tappets, their rising th the movement of the eccentric lifts a valves smoothly and directly, and

in consequence of this extremely light tappets only are needed. The oil pump tappet is operated by all the cause in turn, and it therefore makes four strokes in eight revolutions of the engine. Inside the cam ring is a bronze bush bearing on the eccentric.

Covering the timing gear is another aluminium disc. This has a ring of nine holes, and when it is screwed close to the studs sleeve nuts are passed through and screwed down, so locking the disc and enclosing the whole timing gear. A long bronze bush for the main shaft is also litted into the outer disc.

The Enclosed Valves.

The valves with their springs and guides assembled are dropped into the holes at each side of the cylinder bore. A very high quality steel is employed, and the walves are practically unbreakable; they are very light in weight, and only require very weak springs. Bronze guides are used, the solid cylindrical one. while that on the inlet side is of cruciform section to permit the passage of the gas, which travels from below through the spring and past the valve head to the cylinder. The guides are secured by small set screws inserted through the cylinder casting. The valve springs are secured by turning the lower end of the wire itself diametrically across the coil and passing it through the hole in the stem. Owing to the fact that the valves work in a tubular space, the valve springs do not

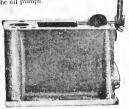
need to be secured in any other way, as they cannot work sideways sufficiently to get loose. Cup-shaped distance pieces are fitted on the ends of the valve stems, and discs can be placed in these for tappet adjustment.

within the engine itself, the carburetter being bolted to the aluminium oil sump, on which the iron shell of the engine is secured by four long bolts. Two
oil pumps, the induction pipe, and
a butterfly throttle are housed within this base chamber

partment. A very simple carburetter is fitted, and it is bolted directly on to the engine base. Top feed is employed, the float being fitted with an inverted needle.

in addition to the capacious oil com-

The sump is divided into two portions—the top contains the induction passage and throttle; the lower contains the oil pumps.



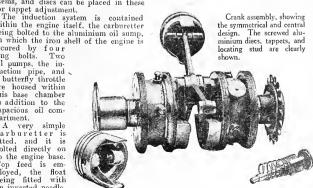


The jet projects into the induction pipe, which at this point is of venturi form. The throttle is the only control.

Gas enters the annular space between the two screwed aluminium discs on the induction side of the engine, and passes to the valves through the springs and guides as described above.

The exhaust gases pass out of the cylinders through large ports into aluminium boxes having double outlets. These are all connected so that the

These are an connected so that the three cylinders discharge their gases through a triangular pipe into the silencer. The sump is divided into two parts, and the base contains the two pumps. The latter are quite simple, being of the plunger type, depressed by tappets from the timing gear and returned by springs; ball valves control inlet and delivery. Each pump is connected by internal ducts to the timing gear on its own side, and the oil thence passes through the drilled shaft to the big ends, finally splashing on to the small ends and cylinder walls.



MOTOR YCLE

A Three-cylinder Radial Engine .--

As may be expected, a special distributer is necessary for this type of engine, and this has been very ingeniously arranged on a Runbaken single-cylinder machine.

The Distributer.

The armature runs at one and a half engine speed, and in place of the usual high-tension terminal a flanged bronze gear wheel is fitted as an extension of the shaft. Around the wheel is an in-

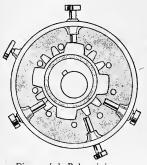


Diagram of the Redrup timing gear,

ternally-toothed fibre case, in which are three equidistant brass segments projecting outwardly to form terminals. Between the case and the wheel runs a toothed hronze roller, which makes one circuit of the internally-toothed track to three revolutions of the armature. The separations of the contact hreaker points are coincident with the passage of the roller over the brass segments; therefore the current is distributed to them at the proper intervals required hy the cycle

High Revolutions.

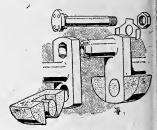
of operations.

The engine dimensions are extremely small, the total height being under 12in., while the distance over the heads of the front and rear cylinders is 9in. The light steel flywheel fan is about 10in in diameter.

The light sweet hywheet has a continuous parts, high revolutions are obtainable, and we were informed that 6,000 r.p.m. have been obtained. Actually we have seen the engine turning over at well above 4,000 revolutions, and, no doubt owing to the large cooling flanges and the draught from the flywheel vanes, no distress was noticed after considerable running in a very confined space. At this speed over 9 b.h.p. was indicated, and at 800 r.p.m. 1 b.h.p. is given. These results are indeed excellent for an engine of 509 c.c. capacity, which weighs only a little over 30 lb.

Unfortunately, the engine was not available for a road test, but we anticipate an extended trial on one in the near future, when it will be interesting to observe the behavious, under strenuous road conditions, of this genuine miniature aero power unit.

In the past such engine designs as the one under review have been the subject of speculation rather than otherwise, and it must indeed be taken as a sign of the times that the lessons gained during the war are now demonstrated by the passing of a motor cycle power unit of this type into production; it may even be the beginning of a new trend of development.



Built-up crankshaft, showing method of securing the two parts and attachment of balance weights.

An Infinitely Variable Gear.

A Positive which can be Varied Gradually from Zero upwards and also provide a Reverse,

THERE have been in the past many attempts to provide an infinitely variable gear, which should be positive in action and have a wide range. Another neat solution of this problem is offered by Messrs. Wonham and Walker, whose gear not only provides a gradually varying ratio from zero to engine speed and over, but can also be constructed to give a reverse.

Constructed to give a reverse.

The engine has a driving sprocket on one side, and over this runs the chain that provides the greater amount of the power required to drive the machine. On the other side of the engine is an expanding pulley, which, in conjunction with another similar pulley on the countershaft, controls the gear changes, and at the same time does a certain proportion of the driving. In a housing, shown black in the drawing, is carried an epicyclic gear containing two driven and one driving components. Of the two driven components, one is driven at a constant ratio, while the speed of the other is varied by the expanding pulleys just mentioned. The operating mechanism of these pulleys is so arranged that as one opens the other contracts, and the belt tension is thus kept constant. The construction of the gear is made perfectly clear by reference to the sketch, and its action is as follows:

When the speed to the two sun wheels, driven by the chain and belt respectively, is the same, then it is plain that the whole gear will revolve en bloc, and the gear at the road wheels will be that given by the sizes of the various chain

sprockets; in other words, the machine will be running on a direct speed of, say, 4 to 1. Now supposing that the total ratio of the four gear pinions be 2 to 1, if the belt pulley revolves at twice the speed of the chain sprocket, the cage containing the planet gear and carrying the driven sprocket will remain stationary, and the road wheels will not only be standing still, but will be locked, and

TO ENGINE
SPROCKET
TO ENGINE PULLEY

Wonham and Walker's variable speed gear, which will give forward speeds from zero upwards and a similar reverse.

no brake will be required to hold the machine when starting on a hill. Since an equal speed gives a direct drive and a difference of 2 to 1 gives zero, it is plain that any ratio between these will give some speed lying between zero and direct. Moreover, if the pulley speed be increased to more than the 2 to 1 ratio, a reverse will be brought into play, and again, if the pulley speed be reduced below that of the sprocket, and that of the sprocket, and that of the sprocket, and the sprocket and

speed be reduced below that of the sproaket, an indirect top speed will be obtained, which is limited only by the construction of the gear, i.e., the number of teeth in the pinions and the variation of speed permitted by the expanding pulleys.

This gear somewhat resembles that of Mr. Ingall, which was described in The Motor Oyde of January 20th, 1916, but it differs in one or two important particulars, and novelty is not claimed for the same points. It will be apparent that such a gear is highly snitable for cycle cars and passenger outfits, as it would enable a start to be made on any hill where wheel grip could be obtained.

The Cotton motor cycle.

A Lightweight with Triangulated Frame.

Showing triangulated construction of the

Cotton motor cycle frame.

A Design in which Sound Mechanical Principles are Followed.

LTHOUGH the frame illustrated on this page is not an entirely new design—we tried it ourselves in 44—it is of interest at the present ne, because it forms the leading feature a new lightweight motor cycle proceed by the Cotton Motor Co., 11, ristol Road, Gloucester. The design is first experimented with in 1913 and 44, as a consequence of the judges' itseism in the open trials concerning

nme design.
The frame is designed in accordance th acknowledged mechanical principle, ery tube being straight and subjected dy to compression or tension, bendg strains being obviated as far as pos-



an additional child's seat is manufactured by Messrs. J. Ayden and North, 4, St. Albans Place, Upper Street, London, N.1.

He'd below the seat are two arms, which, pro-

Held below the seat are two arms, which, projecting from each side, are clipped into slots screwed to the sides of the body. These arms can be adjusted laterally to fit any width of sidecar. The seat is held up by a rod pivoted on its underside, which fits into a hole drilled in a plate screwed to the floor of the sidecar. The arms of the seat of the same of the seat of the s

upholstered backrest are pivoted on rollers in the rear of the seat, and can be folded down over the latter, which enables the whole fitting to rotate on the side clips, and be placed inside the nose of the body. This useful fitting does not interfere with the comfort of the passenger, and can be fitted to any ordinary sidecar in a few minutes.

Abspine Automotive and Automotive an

The J.A.N. child's folding sidecar seat.

ble; in fact, if the seat tube was not unected to the duplex diagonal mems from the head to the rear wheel tre, a true triangulated construction ald be obtained. The aim has been produce a frame triangulated at every ut, with stress or tension at the apex ty of any set of tubes. The result is light, strong and wisid generation.

ut, with stress or tension at the eapsy ut, with stress or tension at the apex ty of any set of tubes. The result is light, strong, and rigid construction, minating the chances of breakage ough fatigue of metal to a minimum, the construction should also prevent salignment of wheels and provide

salignment of wheels and provide reacrdinary stability. Important was a specification including a liliers two-stroke engine, Albion two-lead gear box, chain-cum-belt transsion, Saxon forks, 26 × 2½ wheels, cett's pan seat saddle, the price is guineas, at which figure it will apult to a large coterie of riders who retree a light, handy machine, built on tentific principles.

THE J.A.N. FOLDING SIDECAR SEAT.

O obviate the necessity of purchasing a two-scater sidecar, the bulkiness and weight of which are inclined to the engine on lower powered outfits a greater extent than is necessary,

SPRING FOOTBOARDS.

I N our issue for December 4th, we illustrated a spring footrest, a speciality of Messrs. Rose and Co., of 365, Foleshill Road, Coventry. The accompanying illustration depicts the



The Reseden spring footboards, which are adaptable to many makes of motor cycles.

aluminium spring footboard, marketed by the same firm.

In conjunction with a well sprung saddle, especially if the latter is mounted on a spring seat-pillar, this device should give the maximum of comfort on a rigidframed machine.

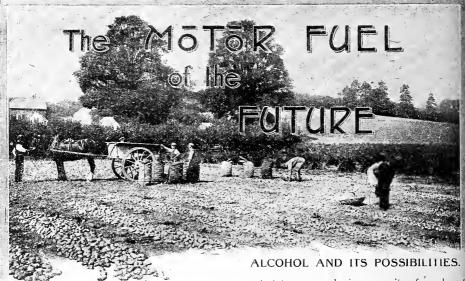
RAPIT BELT FASTENER PROTECTOR.

FREQUENT cause of trouble on belt-driven machines may be located at the vital point where the two ends of the belt are locked together by a steel fastener. As the belt rotates round both the engine pulley and belt rim a considerable amount of wear takes place. A useful and cheap accessory, which has recently been marketed by the inventor, Mr. H. B. Sanders, 14, Woodhouse Parade, London, N.12, has been made to protect the fastener on the three sides which are in contact with



The "Rapit" belt fastener protector

the rim. This device, which consists simply of a leather strip held together at the top by a screw, in addition to offering a gripping surface to the rim, renders the belt practically endless. It is made to suit all sizes of belt.



The farmer as a fuel producer. It is more than probable that more uel will in the future be obtained from potatoes and other vegetable products. Contrast this rural scene with the oil field on the next page.

The we were told that we could sow a few petrol seeds in our gardens in the spring and reap a crop of petrol in the autumn, our first impression would be that our informant was either joking or mad. Yet, although the statement would not be true of petrol, we have only to substitute the word "alcohol" to make it very near to the truth.

Ever since motoring has been possible, the problem of fuel has been a vexed one. In the early days, when surface carburetters were the only kind known, we were supplied with a spirit of low specific gravity distilled from crude American petroleum. As the demand for the spirit went up, the makers increased their output, but, in doing so, produced a different type of substance, the reason being that, in the distillation of the crude oil, the portion of the distillate boiling between certain predetermined temperatures was separated from the rest and sold as "petrol." This petrol consisted largely of the hydrocarbons hexane (C_6H_{14}) and heptane (C_7H_{16}) . It was found that, if the distillate taken were such that its boiling point were a little higher, a very much greater yield of "petrol" could be made from the same quantity of raw oil. The petrol thus made contained less hexane, and, in addition, a large quantity of a heavier hydrocarbon, octane (C_8H_{18}) .

The Specific Gravity of Petrol.

As time went on and the demand increased by leaps and bounds, the petrol distillers supplied the public with a heavier spirit, until, at the present time, instead of using a petrol of specific gravity 0.6-0.7, we are

content to use one having a gravity of nearly o.8. This heavier spirit is not necessarily inferior to the lighter products; in fact, used under the right conditions, it is better. The alteration in quality of the petrol necessitated the adoption of a new kind of carburetter, and, with the increase in specific gravity of the spirit, the efficiency of the surface carburetters decreased and the modern "spray" type became absolutely essential.

One of the greatest evils in the history of motoring is the "cornering" by the oil syndicates of practically all the large natural oil deposits in the world. This has led to the inflation of prices paid for petrol, and, as long as petrol continues to be the recognised motor fuel, so long will the motoring public suffer from this trouble.

* No Monopoly of Potatoes.

It is on account of the limitations imposed on the supply of petrol at a reasonable price that other fuels have of late years been sought after. Benzole, made from coal tar or coal gas, has, to a large extent, replaced petrol, and has the advantage that it is a home-produced product. Here, however, the same difficulty of a limited supply presents itself with all the attendant evils of monopolisation by a comparatively small body of men.

On this point alcohol scores. It has been proved that the manufacture of alcohol from potatoes and other vegetables is a commercial success. No amalgamation of firms would seriously attempt to "corner" potatoes, for the simple reason that a rival syndicate has only to plant one potato in order to produce, in a few years, as many more as it requires.

Unfortunately, however, alcohol is liable to a heavy duty in this country, and the payment of this duty makes its price very high. Steps are being taken by



he Motor Fuel of the Future .-

arious organisations to try to persuade the Government to see the folly of its ways, and it is hoped hat, in the near future, alcohol will be obtainable at price much below that of petrol.

In this connection it is interesting to note that, wing to its use as a fuel in Germany, its price in hat country fell from 3s. 9d: per gallon in 1887 to

id. per gallon in 1904.

Our Continental neighbours, notably France and Jermany, and later, Russia, have successfully used leohol as a fuel for many years past, and the problem we have to face is not so much that of its use as of its production.

The Brewery of To-morrow?

The manufacture of alcohol from potatoes and other egetables which can be grown in huge quantities rithin the precincts of the British Empire, depends rimarily upon the same chemical processes as a resed in the brewing of beer, etc., viz., that any subtances which contain starch or sugar can, by a suitable process of fermentation, be caused to yield leohol.

Other processes, such as the manufacture of alcohol rom coal gas, acetylene, etc., are likely to be cometiors of the fermentation process during its early ays, but these processes have the disadvantage that hey are capable of being "cornered" by minewners and that they depend on the presence of fixed eposits in the country, whereas the production of egetable alcohol practically amounts to harfessing he sun's rays, and can be carried out in almost any ountry.

In order to comply with Government requirements, il alcohol used for commercial purposes (e.g., fuel, r varnish-making) must be "denatured," i.e., renered unfit for drinking purposes. This denatured loohol is the ordinary "methylated spirit" of comperce, and consists of alcohol to which has been added mall quantities of other substances, notably methyl leohol, and sometimes a little parafin, benzole, of vyridene, which substances give it an unpleasant taste.

This spirit is sold at a much lower figure than pure alcohol, and is quite suitable for use in motor engines. In order to study the effect of using alcohol in a carburetter, it is necessary to consider the following points: First, every different fuel used in an internal combustion engine requires a certain fixed quantity of air completely to burn it. Thus, if a gallon of benzole is used up, and the mixture of gas and air has been correct, it is found that more air has been consumed than if a gallon of light petrol had been used. Similarly, the amount of air used up is different when alcohol is used. If we admit into the cylinder either more or less air than the theoretical amount, the efficiency of the engine is impaired.

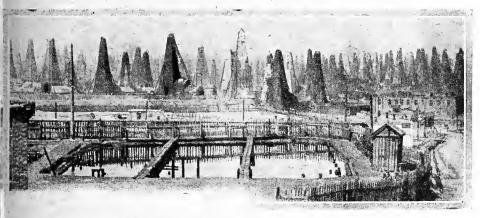
Secondly, when air is in contact with any liquid, it takes up the vapour of that liquid, and becomes saturated. The amount of vapour taken up depends upon two factors: first, the nature of the liquid, and secondly, the temperature of the air; the hotter the air, the more vapour it will take up. With petrol or benzole, the amount taken up by the air at the temperature of the carburetter is more than is neces-

sary to form a perfect mixture.

Consequently, in order to adjust the ratio, it is necessary to admit a certain variable amount of "extra air."

Fuel Value of Alcohol.

When alcohol alone is used in a carburetter intended for using petrol, the amount of vapour taken up is very small when the air is drawn in at ordinary temperatures. If, however, the air is heated before being admitted to the carburetter, it will take up sufficient alcohol to form a good explosive mixture, but, as the calorific value of alcohol is lower than that of petrol (i.e., its explosive force is less), we need more mixture to produce the same effect as with petrol. Conequently, it is not only necessary to heat the air, but also to have a somewhat larger jet and alcohol supply pipe to the carburetter. It is proved by experience that a temperature of 190° C. is a good one for the air. The heating may be conveniently arranged by warming up the intake pipe with exhaust gases.



A typical oil field scene in the Baku district. - Defacement of the landscape could not possibly be more complete.



The Motor Fuel of the Future .-

It is usually necessary to "lag" the carburetter, pipes, etc., in order to prevent the liquid from becoming too cold. In the case of water-cooled motors, the water in the cylinder jacket should be almost boiling, as it is found that too cool a cylinder causes incomplete combustion of the alcohol, with the consequence that certain injurious products, notably acetic acid, are formed in the cylinder. These products are very corrosive and would soon attack the piston, etc., so that many motorists, running on alcohol, prefer to start and stop on petrol, thereby ensuring that any products of incomplete combustion are cleared out of the cylinder before the machine stops, and do not have to lie in contact with the mechanism for any considerable time.

From the above it will be seen that the ordinary fitments for petrol engines are not well adapted for alcohol. It is found, however, that a mixture of two parts alcohol and one part benzole can be used in most of the existing makes of carburetter as readily as petrol-in fact, with marked advantage, as, for some reason not yet fully investigated, the presence of a little water, which always exists in alcohol, gives smoother running. Such water, if present in small amounts only, remains completely in solution and does not separate out in the carburetter, as is the case when water accidentally gets into petrol. (Incidentally, the fact that water mixes freely with alcohol renders it possible quickly to put out an alcohol fire with watera thing which cannot be done with petrol or benzole.)

Alcohol-benzole Mixtures.

The reason why a mixture of alcohol and benzole may be used in place of petrol will be understood when the following facts are considered. In the days of the surface carburetter and low gravity petrol, the mixture entering the cylinder was probably all gaseous. With the spray carburetter and heavier spirit, probably a mixture of gas and finely divided liquid (in the form of mist) enters the cylinder. Such a mixture, provided the liquid is not in great excess, is easily exploded. Probably what happens is that the gas present first explodes, and the heat produced by its combustion gasifies the liquid spray, which then explodes with the air present. It must not be thought that two distinct explosions take place. The following up of one after the other occurs almost instantaneously, so that, in effect, only one explosion is produced.

Slightly Lower M.P.G. Inevitable.

When a mixture of alcohol and benzole is employed, the mixture entering the cylinder contains alcohol and benzole gases and alcohol and benzole liquids (spray) the main portion being, probably, the benzole gas which first explodes, and then gasifies the liquids, which themselves form a further supply of gas for

explosion.

With regard to the power developed by alcohol, i is well to bear in mind that the horse-power produced from a given fuel depends (all other factors being constant) on the calorific value of the fuel. calorific value of a liquid fuel is expressed in B.Th.U (British thermal units) per gallon. A B.Th.U. is the amount of heat which will raise 1 lb. of water 10 F The following figures represent the calorific values o alcohol, benzole, and petrol:

B.Th.U. per gallon. 90,260 Alcohol approximately Petrol approximately ... 145,800 Benzole approximately ... 156,450

Only a fraction of these heat units are actuall developed as useful power in an internal combustion engine, but it may be stated as a general rule tha the higher the calorific value of the fuel, the greate

the m.p.g. of the cycle-or car.

The subject of alcohol as a motor fuel being (i Great Britain) only in its infancy, it is difficult to ge any reliable figures showing how it compares with petrol and benzole in actual road tests; but the fol lowing figures, taken from Clerk's "Gas, Petrol, and Oil Engines," give the result of tests made unde actual road conditions on a motor car, by Prof. E Meyer, in roor.

Fuel % by Weight.		B.Th.U.	di Ci		ific R.P.M.	B.H.P.	Fuel per B.H.P.		% Efficiency		
Atcohol.	Benzole.	Water.		Gallon.		1		January Later per Bill		/0 = money	
87.2 86.4 90.9 85.7 79.1	9.1 14.3 20.9	12.8 13.6 —	10,440 10,350 10,980 11,340 11,808	86,652 85,905 90,036 92,988 98,006	0.83 0.83 0.82 0.82 0.82	280.3 273.3 282.0 278.3 280.2	13.91 13.6 13.87 13.9 14.0	1b, 1,00 1,03 0,968 0,918 0,859	*gations. 0.12t 0.121 0.121 0.118 0.112 0.105	24.3 23.8 23.8 24.3 25.0	

The figures in the columns marked * according to the original paper, but are calculated, assuming the specific gravities to be as above, the low cost at which alcohol will be sold will probably outweigh any consideration of its slightly lower map.g.

MOTOR CYCLE TO HELP EDUCATION.

▼HE Herefordshire Education Committee, as part of some drastic administrative reforms about to be introduced, has decided to apply Lord Fisher's political advice, "Sack the lot," to all the school attendance officers in the county, and to replace them by motor cyclists. The work has so far been done by about fifteen part-time officers; in future it is to be done by five whole-time men, and it is distinctly stipulated that they must use motor cycles in pursuance of their duties. Presumably, they are to provide their

own mounts, and for their maintenance they will each receive an allowance of £50 per year. When the matter was under discussion some members of the conmittee ridiculed the idea of motor cycles being able t surmount many of the stiff gradients with which Here fordshire abounds, especially near the northern an western boundaries. These doubters obviously hav little or no acquaintance with the modern motor cycl and its hill-climbing capacities, and evidently have never witnessed a Six Days Trial!



THIS is not a political article, though it may be said that it is written with the intention of showing how necessary a knowledge of the principles of protection is to the present-day manuacturer of motor cycles. Especially to him who aters for the touring sidecar user.

It is, and has been for a long time, obvious to verybody with eyes to see that the man on the saddle of a motor cycle comes off very badly as regards proection from the slush, mud, and rain which are enountered on the road during three or four months of
ur normal year. And it is for this reason that during
asse months the proportion of motor cyclists to users



Fig. 1.-Mudshield as at present used by many riders.

f small cars or "fords" (it is time this word assed definitely into the dictionary as a common bestantive) drops such an enormous extent. Some thusiastic riders would, I know, take the road in my sort of weather, and with or without muduards, but these are not the people in whom I am mediately interested. I am after the people who ay inside or at home. Until the beginning of ovember, on any of the pleasure routes at a week-ud, more than half the vehicles met with were sider turnouts. The first and second week-ends in ecember showed a considerable difference, there are some observed about four cars to one sidecar.

Apart from the fact that the driver of a motor lecar is not protected directly from the elements, ere is also the front wheel effect to contend with he front wheel acts as a continuous sling for all

The Debatable Question of "Protection" discussed from the Motor Cyclist's Point of View.

the liquid or semi-liquid matter it meets with. If you are steering a true course the engine gets the benefit. Steering to the right your left leg and sidecar are bespattered with mud. A left turn deals with

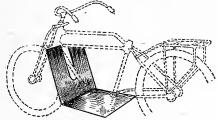


Fig. 2 -An improved pattern, incorporating an under screen.

your right leg, and occasional splashes carrying up as far as your face and goggles complete your mudbath.

But there are mudshields. There are, and most of them you have to buy as extras. These guards have not, except in two or three cases, been designed and built to suit the machine, and anyone can see they are afterthoughts. And yet, as an interested outsider, I know that The Motor Cycle has been asking for these things every winter for donkey's years. What is the reason? Does the trade wish the rider not to use his machine in rough dirty weather, or will it only provide things when the rider goes on strike for them? Is it for the trade to supply only what is asked for, or to foresee what will be wanted?

Two sketches are given showing roughly the kinds of mudshields in use at the present time. Unfortunately, these do not give anything like complete protection for the driver, and will not do so unless developed into something like fig. 4, and the latter

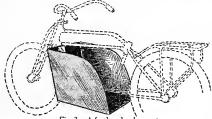


Fig. 3.—A further development.

Comments on Mudgua ding of the Day .-

is only possible with wheel steering. It is rather surprising that wheel steering has not been developed in the case of the heavy sidecar machine. The original T.A.C., which was born a few years before its time, had wheel steering. The only one I ever saw (so steered) was rather exciting to watch on the road. It was driven solo, and its mode of progression along the road resembled a skater doing

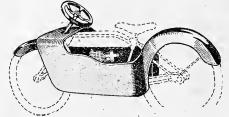


Fig. 4.-A suggested guard.

alternately the outside and inside edge. But the seems to be no reason why wheel steering should nobe made satisfactory for sidecar work. Probably son form of gearing would be necessary as, under certa conditions, direct steering by handle-bars of ewnormal width leaves- much to be desired. It must be remembered that the T.A.C. later model emboding a handle-bar, and the abandonment of the wheel must have been due to the fact that it was not geared.

Reverting to fig. 4, it may be said, why not g a car and be done with it? Quite so, if you hat the cash, but when all is said and done, the sidec is still by a long way the cheapest passenger vehic really on the market and obtainable. A two-seat car costs over double. There is a vast field for t designer in producing a new type of motor cycle, wi which the necessity to wear special clothing is render unnecessary, and, so long as such a design is not up and cumbersome, it will attract many who will n otherwise become motor cyclists.

Who will be the first to give us the fully protect motor cycle, fitted with body, wheel steering, as sidecar to match? Don't all speak at once! C.R.E.

BUYING AND SELLING.

Some Practical Advice to Prospective Purchasers of Second-hand Motor Cycles.

TE are still living in abnormal times, and the shortage of supplies resulting from the war causes a brisk interchange of ownership of motor cycles. This state of affairs must last some time yet, and the moulders' strike has undoubtedly prolonged the period of high second-hand prices. We do not mean to infer that in normal times there is little buying and selling of second-hand machines, as the reverse is the case, but that during the present dearth of new motor cycles, so many of our readers are forced to buy second-hand mounts or none at all, that there is more of this kind of trading than usual, and that secondhand prices are abnormally high. Consequently we get numerous letters from readers who purchase a motor bicycle said to be, say, a 1915 model, and, after having it for some time, find it necessary to apply to the makers for a spare part. They probably ask for, say, a spare exhaust valve for a 1915 -, engine No. ---, and receive a reply to the effect that the valve is sent, but pointing out that the machine is a 1912, and not a 1915 model. This may happen weeks, or even months, after purchase; yet we receive a letter from the victim asking if any redress can be obtained from the vendor. Unless the purchaser can prove that the vendor wilfully deceived him as to the date, there is no remedy, and also the time to take proceedings is at the time of purchase, and not months afterwards. The vendor might quite well have bought the machine as a 1915 model, and have used it with success for a year or two, and have been quite satisfied as to the date. His was a case of "Where ignorance is bliss 'tis folly to be wise,' and he may have acted in perfectly good faith. There he may have acted in perfectly good faith. was nothing to have prevented the victim from taking the engine number before purchase and getting a confirmation of the date of manufacture in a couple of hours. Is the vendor necessarily to blame? The answer is, No! Many readers seem to think that if they send

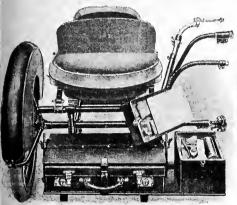
the engine number to us it will suffice. An absu procedure on the face of it, as it is hardly likely this journal has the engine number of every mot cycle engine ever made, no matter of what mak An amateur may be forgiven for having purchased worn or defective machine through lack of technic knowledge, but when the simple precaution of verifing the date is not taken advantage of, the blame reswith the buyer. In several cases machines have n been altered in design from 1914 to 1919, which in itself an example that shows the buyer how careful he must be.

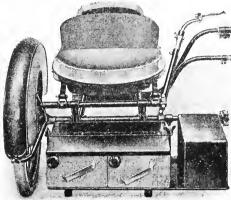
Advice to the Seller.

Now, after a little advice to the buyer, let us sa a few words to the seller. The man who has a good motor bicycle to sell has nothing to conceal. He has but one object in view, and that is to get the ber price he can. To do this he should have the maching cleaned and in perfect order. He should advertise in The Motor Cycle miscellaneous advertisemer columns, giving full particulars and the price. It i best to state a fair price and to stick to it, and i is desirable to give the prospective purchaser confid ence, therefore there is no reason why the engine number should not be stated in the advertisement and if this were done in every case, there would be far fewer cases of dissatisfaction. As there are so many thefts of motor cycles at the present time, no trial runs should be granted unless the value of the machine is deposited in notes; and, if the vendo cannot see to the sale himself, he should depute trustworthy agent to see after the business for him. It is cheaper to pay a small commission than to lose the machine altogether. The Motor Cycle deposit system has been arranged to protect both vendor and purchaser, and we especially warn readers to have nothing to do with those who refuse to take advantage of this arrangement.

Accommodating Luggage on Light Sidecars.

A Grid for the Sporting Canoelet and a New Touring Model.





Left) The Canoelet luggage grid holding two tins of petrol (Right) Showing how an attaché case can be carried, and also interior of the tool case.

is generally supposed that the sporting motor cyclist who decides to fit a light semi-racing type of sidecar omatically forfeits the conveniences luggage accommodation. In contemting the outfit of his younger brother, family sidecarist almost invariably jures up a picture of the former's chine with T.T. bars and a tiny side, resembling a slipper, in which the senger, reclining in a more or less afortable position, is forced to urse? the bag containing the necesies for a week-end jaunt. Many such chines so loaded are to be found in lost every part of the country during summer months, when their owners I companions make a dash to the stand hack again between the closing

of the office at mid-day on Saturday and its reopening on Monday morning; but no longer need the sporting passenger be called upon to carry the suit case, for Messrs. Mead and Deakin, Ltd., of Tyseley, Birmingham, the makers of the Canoelet sidecar, have introduced an additional sporting model, to which may be fitted a useful luggage grid of their design.

A New Model.

This grid goes a little further than the majority of such fitments, and is so constructed that, in addition to a tool box. it will accommodate two tins of petrol, or a suit case, in such a way that they are securely fixed by clamps. The tool box deserves special mention. In the lid

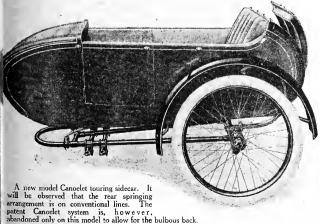
is a separate compartment for the carriage of small tools, while the main box is sufficiently large for the storage of every other tool and spare usually carried.

Another new model of the touring type is the Model MM 4, which differs, both in appearance and in suspension, from the well-known attachment, Model D 4. This sidecar has a bulhous back, containing a locker sufficiently large to hold a tin of petrol or personal luggage, and is sprung at the rear on C springs of the conventional type. We have no doubt that this new model will become as popular as the better known Canoelet.

HOME FUELS.

IT is estimated that if less than half our total coal consumption were treated scientifically every year the whole of the motor fuel we required before the war could be produced in Great Britain. The fact has an interesting bearing upon the efforts that were made by the Motor Legislation Committee to secure amendments to the Electricity (Supply) Act of last session, with the object of encouraging the home production of benzole. As a result, the Electricity Commissioners, who will constitute the central authority for future developments, were given power to "conduct experiments or trials for the improvement of the methods of the utilisation of fuel." Further, the Joint Electricity Authorities, which may be set up under the Act, were emprovered to establish plants for the extraction of the valuable by-products "arising directly or indirectly from the generation of electricity."

Another amendment ensures that any sources of electric supply under the control of the Joint Electricity Authorities will be available for the charging or recharging of electric motor cars.



OUR AMERICAN NEWS LETTER.

Winter Trial in New York States: Medals Awarded to Passengers as well as Drivers.

THE Crotona Motor Cycle Club, of New York City, started the 1920 competition season off well with a 150 miles reliability run that left New York at midnight. The course was via Albany Post Road to Poughkeepsie and return on a 20 m.p.h. schedule. About 68 miles of the run was through ice rutted roads, with snow averaging seven inches in depth. Thirty-six riders faced the starter, and were sent off at one-minute intervals, twenty-seven sidecar outfits and

nine solo machines comprising the field.

The Indian sidecar won highest score with 1,000 points, which took a gold medal and the Hendee trophy. The Indian solo rider with 988 points won a gold medal in his division. The Indian Scout scored in his division. The Indian Scout scored 949 points. A lady driver, with a pas-

senger of the same sex, scored 915 points. The Crotona M.C. will award three gold, twenty-six silver, and nineteen bronze. medals, bronze passengers sharing equal awards with the drivers. The run brought out

much winter equipment, handle-bar muffs, splashboards, and rain clothes being in evidence. Most riders using electrically equipped machines added Kay Bee Spot-lights to their handle-bars, or for the sidecar passenger to operate. These Kay Bee lamps are fitted with 21 c.p. nitrogen lamps and are swivelling, so that all parts of the highway may be illuminated. Three and four lamps were used by some contestants, which gave a light, and permitted of high speeds.

Drastic and sweeping changes to the present motor cycle competition rules marked the semi-annual meeting of the Motor Cycle and Allied Trades Association Competition Committee, held in New York City in January.

Racing Engine Sizes Limited.

The most important changes affect racing on one mile tracks, although other phases of the sport are dealt with.

The growing realisation that modern

motor cycle engines are packing far more speed and power in their 61in. of dis-placement (1,000 c.c.) than when the present rules were formulated caused the committee to cut down the limit of piston displacement. In overhead valve special racing machines, the limit is to 50 cu. in. (819 c.c.), this rule to take effect on and after January 1st, 1921. The year of grace was granted the manufacturers in which to prepare racing engines of the smaller size.

Mr. C. B. Franklin, of the Heudee Manufacturing Co., advised making the limit in the neighbourhood of 46in., so as to conform to 750 c.c. No action was

taken in the matter. For the current year overhead yalve motors may compete on mile tracks, but not mixed in with our so-called stock class. The stock type of motor, of 61 cu, in, piston displacement, may continue to perform on one mile tracks after 1921. Right here we might interpolate that the definition of stock in American motor cycling circles is as vexing a problem as trying to explain the fourth dimension to a lop-eared Laplander. The rule will affect the eight valve Harley-Davidson and Indians, and the new Cyclone overhead valve Excelsior.

Another needed ruling for one mile track competition is the restricting of the number of contestants on the track

at one time. Six riders in one heat or final are all the M, and A.T.A, will

Competitors in a recent American reliability trial. Extension sidecar axles are optional equipment on Indians in the U.S., and a big convenience on rutted roads.

allow, henceforward, evermore. At the same time, no race longer than fifty miles will be permitted on one mile tracks. This is a good rule, for most mile tracks are dirt surfaced. The feature event is the long-distance race, and generally the last on the programme. The track surface has been cut and slashed by skidding wheels, and the dust rises in heavier clouds, obscuring the view of contestants and spectators, the riders are tired, and the sun is low and blinding. All these conditions are the sort of stuff accidents are made of, and that is what the controlling body wishes to avert.

Track Events.

There are no restrictions as to valve construction on tracks larger than one mile, but the cubic displacement is limited to 61in. There are a number of mile and an eighth tracks and two or three two mile speedways in the United States, and well scattered, so as to afford fast riding in many sections of the country. New York City will be without a fast track, the famous Sheepshead Speedway being demolished at the present time,

In hill-climbing contests (and this sor of sport was absolutely like the measles breaking out all over, during 1919) th M. and A.T.A. has made new rulings For the present year four classes will b recognised: 37in. (600 c.c.), which in cludes the Scout Indian and Sport Harley; 61in. (1,000 c.c.), taking in mos of our road machines; 74in. (1,200 c.c.) which includes big valve Indians, C.A.B which includes big valve Indians, CAS Harley-Davidsons, Reading-Standards and Hendersons of former years; and the Solin. (1,300 c.c.) class, which permits the Henderson and new Ace to get interest of the CAS o lid slams down on the 74in. and 80in class. After that time only 61in. and 37in. motors will be permitted to compet in hill-climbs.

Another hill-climb ral that was added was tha compelling a contestant to equip his mount wit a rear mudguard the extends 18in. back from the saddle. In passing it might be well to sa that the California type of bill climb in the contest of the contest of the contest when the contest were compelled to the contest with the contest when the contest were contested to the contest when the contest were contested to the contest when the contested contested to the contested contested contested contested to the contested that the California typ of hill-climb is mos popular here in th States. This sort of climb is pulled in a open field, with a grad varying from a sligh till to straight up. The course is loose surface and riders use chain-sho and riders use chain-sho rear wheels to grip th ground. When a ride competes with a nake rear wheel, and is ur seated, he might as we sit down on a buzz sav as on that spinnin wheel. Hence the cafor a rear mudgnard. For road events, suc

as endurance runs, relia bility contests, economy, and non-sto trials, no limit has been placed on th piston displacement on a machine.

Instead of one national hill-climb an endurance run, the M. and A.T.A. ha decided on sectional championship con

Finding a Winner.

Discussion regarding the road contest for the coming year shows a trend awa from the machine-wrecking, man-killing contest. Both the New Jersey M.C. an Crotona M.C., the leading motor cyclelubs of the United States, have come t the conclusion that modern motor cycle cannot be put out of the running, so the have adopted the slogan for the year "Not how few, but how many cafinish?" The Crotona has in mind May, while the New Jersey Club plan a "dawn to dusk" ride of 308 miles or a fast time schedule. Both clubs wi make use of the unsatisfactory secrecheck to break ties, simply because the have no better method of solving the perplexing problem.

E. B. Holton.

A CAR ON TWO WHEELS.

The American Militor, embodying a 1592 c.c. Four-cylinder Engine, Three Speeds and Reverse, and Pressed Steel Frame forming the Lower Half of the Crank Case and G ar Box.

THE trend of motor cycle design in America has long been approaching the production of a machine which, incorporating the desirable features of a four-wheeled car, will provide the equivalent advantages gained therefrom, and ret retain the tractability, weight and use of handling associated with modern notor cycles. Four-cylindered power nits, combined ignition and lighting generators, and the like, have been in vidence for a considerable time. A great leparture, however, even from the most 'car like' designs has been made in the

car nec designs has been made in the construction of the new Militor., Built originally to provide an inexperive yet efficient vehicle for economic ransporation, either for commercial deivery purposes or as a mode of passenger onveyance, the design and construction of the Militor was, during the war, reatly influenced by the exhaustive ests to which it was subjected by the unerican Ordnance Department of the Inited States Army, which were reuired to ascertain the rigidity of the rame construction, and to set a standard of efficiency which would be adequate or the abnormal wear experienced under attlefield conditions. With this fact in ind, therefore, the unconventionality it he general design and the provision of a reverse gear, a substantially designed the recognised as the result of attempting to provide for every emericancy in war service conditions.

Sprung Front and Rear.

The general appearance of the machine once suggests heaviness; the use of a se-piece steel stamping, however, for le frame, considerably reduces the apprently excessive weight. A patented rung suspension is employed for both le front and rear wheels. The former modies two coil springs, located in the ont fork tubes, which are totally encesed by lubricated sliding sleeves. The ont axle is of special design, which is ustructed to absorb head-on shocks of

the Crank Case and G ar Box.

considerable pressure, and when the machine, during its trials, was driven at thirty miles per hour into stone abutments this component successfully withstood the shocks. The rear wheel suspension consists of two quarter-elliptic

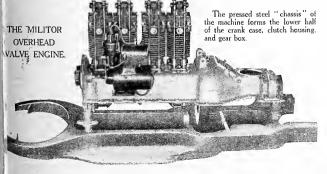
The sturdy frame construction of the Mhitor will commend itself to users of powerful sidecar outfits.

three-leaf cantilever springs, mounted on a patent rear axle construction, which controls the spring deflection in every direction, and evenly distributes all unequal stresses transmitted through the rear wheel. This stabiliser also controls the angle of tilt when the machine and sidecar (which latter is mounted similarly to the rear wheel on semi-elliptic springs, and is attached to spring pads bolted to the stabiliser) are turning a corner or riding on uneven roads. The device forms a combination of double spring suspension, and provides a posi-

tive control of balance. The main frame steel stamping constitutes the lower half of the crank case, clutch, and gear boy housing. The upper half of these two latter is cast integral with that of the crank case. Hence the complete power unit and transmission, less the propeller shaft, can be litted bodily out of the frame, thus exposing all the internal mechanism.

Overhead Valve Engine.

The four air-cooled cylinders, having a bore and stroke of 64 mm. and 89 mm. respectively (1,592 c.c.), are held separately to the crank case by means of bolts. The detachable heads are held by holts located in the top of the cylinder castings. Overhead valves are used, whilst the rocker arms are efficiently lubricated. The ignition and lighting generator is mounted on the near side of the crank case, and is driven from a helical pinion engaging with another pinion on the front end of the crank-shaft. An 8in. diameter dry plate multiple-disc clutch transmits the power through an enclosed flywheel to a selector type gear box, which, in addition to the three forward ratios, is provided with a reverse gear. The gear lever, situated below the saddle, is not fitted with a gate, but is capable of moving on a swivel head in any required direction. Two universal joints at either end of the propeller shaft permit generous movement of the rear wheel. Great attention has been paid to cleanliness.



A Car on Two Wheels .-

The rear mudguard, which is heavily valanced, is held by bolts beneath the rear spring retaining plates, whilst the wide front guard is fixed by stays bolted to the front forks. A triangular construction, with which is incorporated the struction, with which is incorporated the steering head, supports the front forks and tank, which latter, having a capacity of 3½ gallons of petrol and 1½ gallons of oil, is held at the rear by supports bolted to the flywheel housing. A gauze screen is fitted on each side of the engine to protect the legs. Front wheel brakes are entirely dispensed with, the braking being located in the transmission control of the second of the secon

sion system. Force feed lubrication from a postive drive oil pump located in the oil sump of the main frame stamping



The rear mudguard of the Militor is of sensible dimensions.

adequately lubricates all the engine bearings through a hollow crankshaft, whilst the cylinders are lubricated by splash.

A kick-starter of new design is incorporated in the gear box assembly which, engaging with the transmission gears, gives an accelerated rotation to the crankshaft. The control of the electrical equipment follows standard American practice, the lighting and electric horn controls are mounted on a handle-bar instrument board, in the centre of which is fixed the speedometer. An air cushion sprung saddle is mounted on the rear mudguard assembly.

This machine will be handled in the United Kingdom by London and Mid-land Motors, Ltd., 445, Oxford Street, London, W.1.

A 500 cc. DUAL-PURPOSE MOUNT. The 3½ h.p. Coventry Eagle with Abingdon The 1920 Coventry Eagle is a "King Dick" Engine. pleasing though conventional design. A 499 c.c. engine and a Sturmey-Archer gear are fitted.

T may be said that there are three distinct classes of motor cycle pro-First, that consisting of firms manufacturing their machines throughout, including engine and gear box; secondly, those who buy from specialists engines or gear boxes or both, and build a machine to their own design; and thirdly, those who merely assemble, bought engines, gear boxes, and frames.

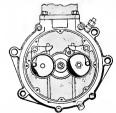
Motor cyclists will appreciate that there

is almost as much scope for the manufacturer who buys only the main components as with those who make all parts themselves, and it is surprising the difference in design between machines embodying practically the same units. The bending of a top tube, the angles of the down tube, an inch on or off the wheelbase, and the rake of the steering head, all contribute to the quality of design.

Graceful Appearance.

Some machines look awkward, unduly large, and clumsy. Others have an appearance quite the reverse, and the Coventry Eagle 3½ h.p. illustrated is one of the latter—a machine following quite conventional lines, yet neater and more symmetrical than the majority. It will be seen that such a machine is a very good step between the two types of machines designed essentially for solo and sidecar work respectively, and therefore suitable for either purpose.

The Abingdon King Dick engine with which it is fitted is perhaps not so well known to recent comers to the motor cycle



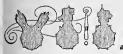
Internal cam mechanism of the engine used in the Coventry Eagle.

field as it deserves to be. It needs no introduction to the pre-war motor cyclist, to whom its very good qualities are known. For the benefit of the former, however, we mention that it has side-by-side valves, operated through bell crank rockers by internally cut cams. The exhaust valve lifter mechanism is enclosed. The bore and stroke are 85 mm. and 88 mm. respectively, the capacity being 499 c.c

Chain-cum-belt Transmission.

A Sturmey-Archer gear box forms the gear unit, and a handsome cast aluminium case encloses the driving chain. The final drive is by belt. The equipment of the machine is first-class in every way, including Brampton forks, aluminium footboards, and well-designed mudguards, while Ace disc wheels are fitted when so ordered.

The manufacturers are the Coventry Eagle Cycle and Motor Co., Coventry, a firm founded in 1890, and they also market J.A.P. and Villiers-engined lightweights following similar lines to the 31 h.p. model illustrated.



AIR-COOLING.



A Lecture by A. H. Gibson, D.Sc., before the Institution of Automobile Engineers,

ON Thursday last a most interesting lecture was given before the Institution of Automobile Engineers at. Chamber of Commerce, Birmingham. The subject—air-cooling of petrol igines-is one that is of intense interest all motor cyclists, particularly in view the amount of discussion which has cently taken place on this matter. The cturer, Dr. A. H. Gibson, of University ollege, Dundee, is particularly well allified to speak on this subject, as rring the latter part of the war his forts were entirely devoted to research air-cooled aero engines, which was rried out in a most thorough and stematic manner.

Choice of Materials.

The evlinders on which the lecture is sed were of considerably greater capaty than any that are used for motor cle work, and in consequence presented eater difficulties. In view of this fact eater difficulty obtained will probably me as a shock to those interested in tor cycle design. Perhaps the most iking features of the lecture were Dr. bson's comparisons of different cylinder sterials, and in particular the results tests carried out on similar cylings constructed of (1) all steel; all steel with aluminium cap lted on; and (3) steel cylinders th cast-on aluminium head. We usider the whole question to be important that we make no apologies quoting at length, in the hopes that may take to heart the lessons to be rned, so that in the future we may tain better, lighter, and more economimotor cycles. Present-day design has gnated to such a degree that it would pear as if few people realised that impear as if the people featised that in-vernent in cylinder design is possible l essential, and that cooling ribs and be designed (not guessed), and it their disposition is most important. yone who has studied scientifically the nt problem of air-cooling and motor les must be struck with the fact that ny modern productions have massive ling fins where they are not particuy needful and a minimum of cooling a in the most vital parts. Probably main reason why such designs are n moderately successful is that their ciency is so low. It is a very notable that recent experiments have proved t an increase of power is often accomied by a decrease in petrol consumpi, thereby showing an increase in ziency in two directions at once. he following extracts from the paper

quoted verbatim : LAWS OF AIR-COOLING.—The cooling 'aces of the modern air-cooled cylinder ost invariably take the form of a es of fins, though in some special is cooling spikes may be used with antage over certain portions of the nder. A large number of tests have 1 made to determine the rate of heat

dissipation from such surfaces, with results which show that for wind speeds between twenty miles per hour and sixty miles per hour the heat loss is sensibly proportional to the mean temperature-difference between the fin surface and the incoming air, and to the 0.73 power of the wind speed. For a given material the heat dissipation is sensibly independent of the roughness of the surface. Different materials have slightly different dissipation coefficients. A steel surface appears to give somewhat greater heat dissipation than an aluminium or a copper surface, the difference being, however, only about five to ten per cent. The dissipation from cast aluminium fins appears to be improved by a coating of suitable stoving enamel, the difference between the enamelled and plain fins being about ten per cent.
"Over the range of cylinder sizes usual

in practice, the dissipation coefficient is sensibly independent of the cylinder diameter."

"SHAPE AND SIZE OF FINS.—The fin which gives the maximum heat-loss per unit of weight is one having slightly concave surfaces and a sharp tip. It may be shown, however, that a plain tri-angular fin is only very slightly less efficient. The best proportions for such a fin depend on the conductivity of the material and on the wind speed.

"If such a fin be truncated until the tip breadth is one-fifth of the bottom breadth, the lengths become 80% of those given above. The heat dissipation is about 0.88 times and the weight 0.96 times as great as for the complete triangular fin.

The Shape of Fins.

"Since the heat dissipated from a fin of given shape varies directly as the length of the fin, while the weight varies as the square, of the length of the fin, other things being equal, cooling fins should be as short as possible, a large number of short thin fins being used in preference to a smaller number of longer and thicker fins. While in practice this is to be borne in mind, many other factors besides that of weight have an important bearing on the best size of fin to be adopted. Thus, in a thin steel cylinder, or in a cylinder of cast iron or cast aluminium alloy, the circumferential ribs add greatly to the strength and resistance to distortion. Comparatively deep and heavy fins have a greater effect in this direction than a larger number of similar but smaller fins giving the same cooling. Again, as the number of fins is increased, the pitch is correspondingly diminished. This dimicorrespondingly diminished. This diminution in pitch reduces the air flow between the fins to an extent which may, with very small pitches, render the fins practically useless for cooling purposes.

"In a cylinder of cast iron or of aluminium alloy, foundry difficulties put a definite limit to the minimum pitch of

the fins."
"Foundry difficulties also prevent the casting of a fin having a tip less than about 0.5 mm. in thickness, or a root thickness less than about l/10, so that an aluminium fin 1in, long would not have a root thickness less than 0.1in.

The amount of heat dissipated from the internal surfaces of a petrol engine depends very greatly on the amount of oil reaching these surfaces. Where the oil supply is only sufficient to give adequate lubrication, this component of the heat dissipation is reduced: more heat must be removed from the outer cooling surfaces, and the cylinder temperature is increased. Variations in the degree of cylinder lubrication readily explain many of the inconsistencies which have been observed in temperature measurements on cylinders otherwise apparently similar.

Effect of Mixture Variations.

"DESIGN .- The influence of design is shown by a comparison of two engines, one with overhead valves, and the other an L-shaped head. The L-head cylinder transmits approximately eighteen per cent, more heat per b.h.p. to the walls than does the overhead valve cylinder. In this L-head cylinder the design was probably as clean as can be obtained with such a type of cylinder.'

" The strength of the working mixture has a very appreciable effect on the heat transmitted to the cylinder walls. The hottest cylinder is obtained with the weakest mixture capable of maintaining maximum load. This is roughly a 13.5 to 1 air/petrol mixture. Any weakening of this mixture not only reduces the brake horse-power, but also the heat-loss per b.h.p., and so in a double degree tends to give a cooler cylinder. At the same time it gives an appreciably hotter exhaust, and so tends to cause overheating of the exhaust valves."

"FUELS .- The amount of heat transmitted to the cylinder walls varies somewhat with the composition of the fuel. The author has no evidence to show how it varies with the quality of the petrol, where this is used. A number of tests have, however, been made with petrolbenzole mixtures, with results that show :

'(a) The heat transmitted to the walls per b.h.p. is somewhat less with a 20% benzole mixture than with petrol. "(b) The difference increases with

the compression ratio.
"(c) The difference increases with the

enginé speed. In the case of the single-cylinder Mercédès engine the difference was:

"1.0% with a compression ratio of 4.0% with a compression ratio of

5.0%, "3.0% with a compression ratio of

at a speed of 1,400 r.p.m.

"As the power developed under normal conditions is about 5% greater with a 20% benzole mixture than with petrol, the total heat transmitted to the is sensibly the same with either fuel,

MOTOR (YCLE

A r-cooling .-

"This is borne out by the results of tests on an aluminium air-cooled cylinder. tested with Shell A petrol, and with a mixture of Shell A and 25% benzole. In this case the compression ratio was 5.0. At the same speeds the benzole mixture gave 5.3% more power with a 21% increase in consumption by weight. The maximum cylinder temperatures The maximum cymnaer temperature were, nevertheless, sensibly identical, the were, nevertheless, than 5° C. The difference being less than 5° C. The difference is, however, very marked where, owing to insufficient cooling or a very high compression ratio, severe pink-ing or detonation is caused when working on petrol.

Cooling Sur.ace Area.

"WORKING TEMPERATURES .- Experiment shows that the maximum temperature of the head of an air-cooled cylinder shoul? not exceed about 270° C. for satisfactory working. With maximum temperatures of 200° to 220° C. results, both as regards petrol consumption and brake mean effective pressure, can be obtained, which are quite as good as those from a water-cooled engine of similar design and size. If the temperature exceeds about 280° C., trouble is usually experienced through pre-ignition, and plug trouble becomes apparent, but this is more marked on some cylinders than others.

"In a well designed aluminium cylinder of the overhead valve type operating in a 60 m.p.h. wind, experience shows that a provision of from 0.28 to 0.35 sq. ft. of cooling surface per h.h.p. is adequate to give the required temperatures under normal conditions of operation, the larger area applying to cylinders of about 4in. bore, and the smaller to cylinders of about 6in, bore. For steel or cast iron cylinders with overhead valves, this area should be increased by about 50%, and for L-head cast iron cylinders by 100%.

"The table shows the minimum air velocity necessary for first-class performance of air-cooled cylinders of good design and material under normal full throttle conditions.

Diameter.	Velocity.
in.	m.p.h.
3	30 40
· 4	50 70 90
8	90

" It is true that cylinders may be successfully operated on considerably lower air speeds, but only with reduced output and on appreciably higher petrol con-sumptions" sumptions.

"For cast iron L-head cylinders the maximum air blast should be increased by at least 50%."
"CYLINDER MATERIALS.—With cylin-

ders of normal design, the middle portion of the head is the hottest point. The difficulty of keeping it satisfactorily cool 's mainly due to the fact that the free air flow is impeded by the inlet and exhaust valve ports and valve gear, and that owing to the presence of these ports it is almost impossible to provide adequate cooling surface at this point. This results in the heat having to travel outwards, to be dissipated mainly from the cooling

surface surrounding the combustion head."

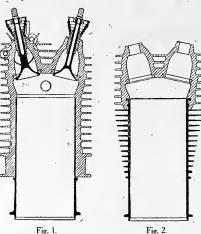
"FOR ALUMINIUM CYLINDERS.—The valve seats may consist of rings of steel or of bronze, and these may be either cast or expanded into position. Both methods and both materials have been used with success" (fig. 1).

"Tests have been made with screwed-in steel liners, but with unsatisfactory

results."

"In one system of composite con-struction the aluminium casting has been confined to the cylinder head, and into this has been cast or screwed the steel barrel, with its own steel cooling fins, as shown in fig. 2. Mechanically, this system has proved sound."
"In another system, exemplified in a

well-known series of engines, the barrel and head are formed of steel in one piece. An aluminium cap, embodying the inlet and exhaust ports, is secured to the cylinder head by a series of bolts. This type is intermediate between the aluminium-headed cylinder and the allsteel cylinder."



"An interesting series of tests has been carried out by the author on a series of three cylinders, differing only in the construction of the head. In one case this was of steel, with one aluminium inlet and two cast iron exhaust ports bolted to its outer surface. In the second case, an aluminium cap was fitted to the head of the same cylinder; and in the third case the original head was cut off, and an aluminium head was cast on to the same barrel. The cylinder diameter was 51 in. x 61 in. stroke, and the comprossion ratio 4.6. The tests were carried out at 1,450 revs. per minute, and in a wind of eighty-two miles per hour. The results showed that under maximum load conditions the aluminiumheaded cylinder gave fifteen per cent. more power than either the steel cylinder or that with an aluminium cap. petrol consumption of the aluminiumheaded cylinder was twenty-six per cent. less than that of the steel cylinder, and twenty per cent. less than that of the capped cylinder.

"CYLINDER DISTORTION .- Other things being equal, cylinder distortion will be proportional to the difference of temperature between its hottest and coldest sides. Temperature distortion of the head itself is not usually serious, if the head itself is not of composite construction. One of the objections often raised against aircooling is that an air blast on one side of a cylinder leads to excesive distortion of the barrel.

Temperature Differences.

"In such cylinders the differences of temperature between the two sides of the barrel depend entirely on the way the blast is applied. The exhaust side is normally the hottest, and by applying the blast to this side the difference of temperature between the two sides may become comparatively small. As an example, the following figures taken from tests on a 5-in. air-cooled aluminium cylinder may be of interest. With the blast on the exhaust side of the cylinder, the maximum difference of temperature

between the front and back of the barrel was 58° C., while the mean difference was only 19° C. With the blast on the opposite, the inlet, side, the difference of temperature rose to a maximum of 180° C. and a mean of 120° C. In spite of this however, the cylinder, which was fitted with an aluminium piston having 0.025in. clearance, only showed no signs of binding after a prolonged run, showing that even in this extreme case and in a cylinder of this size, the distortion was not serious."

The discussion was most interesting, and the speakers included such well-known air-cooled enthusiasts as Messrs. G. Lanchester, F. M. Green, A. W. Reeves, A. H. R. Fedden, Granville Bradshaw, T. S. Irvine, A. E. Parnacott, and others.

All agreed as to the extreme value of the paper

as being based on actual results, which could be repeated, and the chairman, Mr. G. W. Watson, and others, referred to the paper as a classic. Certain manufacturers pointed out that

the ideal cylinder for aero work was not necessarily the most suitable for auto-

mobile practice.

Dr. Gibson, in the course of an able reply, pointed out that in the case of the comparatively low power output required for standard automobile work, cast iron or steel cylinders should prove quite satisfactory.

There were present at the meeting a very small number of motor cycle signers, and we cannot help feeling that by the absence of further representatives the motor cycle industry has lost a great the motor cycle mausery has not a great opportunity of obtaining some most valuable information upon a subject which affects their products vitally, but of which very little reliable information is available. The complete paper will be in the part is the par available. The complete paper will be published in the next issue of The Automobile Engineer, the official organ of the

CURRENT CHAT BIBIR



Times to Light Lamps.

GREENWICH TIME.

Feb.		 • • •	5.22	p.m
22	7th	 	5.26	٠,,
22	9th	 	5.29	,,
22	11th	 	5.32	,,

Automobiles in the U.S.A.

It has been estimated that there are 7.602.000 automobiles—either passenger or commercial—" officially listed" in the U.S.A.

Institution of Automobile Engineers.

The Graduates' Section (London Branch) of the Institution of Automobile Engineers announces that a paper on "Steering Gears" will be read by Mr. F. R. Cowell on February 12th, at the offices of the Institution, 28, Victoria Street, S.W.1, at 8 p.m.

Busybodies.

The Executive Council of the County Councils Association, last week, adopted the resolution of the Wilts County Council, that the strongest representation should be made to Parliament for immediate measures to constitute pillion riding a punishable offence.

A Straw in the Wind.

"Prices on one make of machine," says a correspondent in New York, "have dvanced guite a deal. I will not mention names, but the lone firm will soon be joined by the rest of the manufacurers, and if the increases keep up they will soon match British prices that at the present look sky high to us Americans."

International Voilurette Race.

The Automobile Club de l'Ouest will hold a race for cycle cars and small cars over a 400 kilometres course in the neighbourhood of Le Mans on August 29th. The engine cylinder capacity must not exceed 1,400 c.c. Entrants should communicate with the A.C. de l'Ouest, 54, Place de la République, Le Mans.

The Renovation of Old Models.

So many of our readers ask us for information concerning the fitting of countershaft gear boxes to old pattern but reliable motor cycles that we should be glad to have some particulars on this subject as to the cost of fitting, amount of alteration necessary, and any further details which would help other readers of The Motor Cycle. Deliveries of new models are still all too slow, and many riders are desirous of bringing old pattern machines up to date.

Engelsche as She is Wricht!

The following curiosity has been received from Holland by Zenith Motors, Ltd.: "Y to look about near Engelsche House which to make Motorcycles 4 Stroke one and two cylinders of 2\frac{3}{2} to 9 H.P. Solt you so iriendly will to be my to give antwerd of your House is represente in Holland for Sole agent. Can you deliver motorcycles. When can you deliver. How much stuks for seisoen 1920. Which motorcycles can you deliver, and wath price and wath condition. Please will you do astre your give my up. You asure that y your wrichting solt to recieve with to most interest. Your Faitfully." Then follows a signature, which is absolutely illegible.

Special Features. ALCOHOL AS A FUEL.

MUDGUARDING, A RADIAL ENGINE.

What Then?

In a report from the Bureau of Mines in the U.S.A. it is stated that probably all existing underground reserves of oil in that country will be exhausted by 1928,

A Smart Capture.

An A.C.U. member left his Douglas combination in a Bournemouth street recently while he made a call. On returning to the spot a few minutes later he found that the machine had disappeared. He immediately telegraphed to the Union's headquarters in London, where details of the combination were received at 11 a.m. The headquarters staff at once took steps to inform their road guides throughout the country of the loss. At 2.30 p.m. the same day the missing Douglas was recognised by a road guide in Basingstoke and was duly secured.

The Moto Club Liégeois.

The oldest motor cycling club in Belgium, the Moto Club Liegeois, has recently been authorised by his Majesty King Albert to take the title of Royal Moto Club Liegeois. Sixty-five members of the club joined the Army at the outbreak of war and they distinguished themselves as despatch riders, in the air, and technical services, and in fighting corps. Moreover, at the beginning of the war, the R.M.C.L. formed a corps of fifty despatch riders, who rendered great services, especially in reconnaissance work in the German lines. The R.M.C.L. will promote four big events this year: A winter trial in March, a two-days trial in May, the great international event, Paris-Nancy-Liège, in August and a great trial in September.



S Parker (Bolton), H. Petty (Leicester), and V. Horsman (Liverpool), who are all riding "Big Four" Norton sidecars, will compete for a team prize.

Colmore Cup Finai

The first two, entries received for this classic Midland trial are Frank Whitworth (Premier Runabout) and Howard R. Lane

Paris-Nice Triai.

The Paris-Nice entry list closed with 114 names. It is expected that the starters will number about 100. The weighing and sealing of British machines will be on the 11th inst. at 8.30, a set time being fixed for each competitor.

American Champion Ki'lel.

MOTORS FOR POLICE WOMEN.

of London have for some time realised the value of the motor cycle in their rescue work. and we have before reproduced photographs of the staff with their

motor cycles. New machines have now been

The women police

"Bob" Perry, an Excelsior exponent, was killed on the 3rd ult., at Ascot Speedway, California, U.S.A., while riding a Cyclone-engined Excelsior. It is said that his speed at the time of his accident was 95 m.p.h., which is far faster than the safety limits of the track. Through a skid he lost control of his machine, falling, and striking his head against a post. He was taken to the hospital, but the efforts of the surgeons proved futile. is said that his speed at the time of his



NEXT STAGE! THE

MOTOR CYCLISTS interested in small or large cars should read



the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

The Commercial Motor Users' Association.

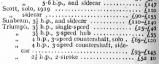
We have received a pamphlet dealing with the aims for which the C.M.U.A. has been formed. The Association has for its objective the unification of all users of com-mercial motor vehicles; it is not run for profit, but for the general

Application for membership, or further particulars, should be addressed to E. S. Shrappell-Smith, C.B.E., 50, Pall Mall.

Second-hand Prices.

It will be noticed that a departure has been made from the method previously used when dealing with secondviously used when dealing with second-hand prices. There are now two prices given wherever possible; the first repre-sents the cheapest machine of its type for disposal, and the second the most expensive. It is to be feared that the total number of machines for sale is to the fact that spring, with its promise of better motoring conditions, is fast approaching.

,, (1916 to 1919), 6 h.p., sidecar £110-£185
" (1920), 6 h.p., sidecar
Ariel, 6-7 h.p., sidecar
Allon, 2-stroke, 2-speed
Bradbury, 4 h.p., single-speed, solo
B.S.A., 41 h.p., 3-speed, sidecar £90-£150
Calthorps-J.A.P., 24 h.p., 2-speed £40-£45
Clyno, 5-6 h.p., 3-speed, Sidecar £90-£120
Douglas, 23 h.p., W.D
, 21 h.p., 1919-20
,, 4 h.p., 3-speed, sidecar £100-£120
Enfield, 2t h.p., 2-stroke, 1919
,, 3 h.p., twin, 2-speed, 1915 £57-£65
,, 6 n.p., sidecar
Harley-Davidson, 3-speed, sidecar £125-£200
Humber, 32 h.p., 2-speed, sidecar £50-£58
,, 3 h.p. flat twin, 1919
Indian (1914), 7-9 h.p., 2-speed, sidecar £90-£110
,, (1916), 7.9 h.p., 3-speed, sidecar . £120-£135
Levis, 21 h.p., single-speed
2+ B.D., 2-Speed
Matchless, M.A.G. and Victory Model, with
sidecar
New Hudson, 2 h.p., 2-stroke, 2-speed £42-£65
, (1914), 31 h.p., 3-speed hub . £50-£55
New Imperial 2 h.p., 2-speed
P. & M., 1919, 3. h.p., solo
,, 1919, 3th.p., sidecar
Rover, 1918-19, 31 h.p., T.T
" 1918, 32 h.p., 3-speed countershaft,
and sidecar
Rudge-Multi, 31 h.p
,, 5-6 h.p., and sidecar £147





Trial for "James" Employees.

Staff Trials are becoming Popular among Motor Cycle Manufacturers.



(Top) A. C. Warr (4½ h.p. James). (Lett) Willing belpers restore F. Russon's 5-6 h.p. James sidecar, which overturned on Beacon Hill. (Right) G. E. Stobart taking the bend on Beacon Hill.

THE MOTOR CYCLING CLUB ANNUAL GENERAL MEETING.

HE annual general meeting of the Motor Cycling Club was held at Pagani's Restaurant, at 6.30 p.m., Wednesday last week. In the absence the president, Lt.-Colonel Charles ott, O.B.E., the chair was occuby Mr. R. H. Head, chair of the committee, who put the lad report to the meeting, and it was mimously adopted. He regretted the acc of their president, but hoped to be would be re-elected. He then seed Colonel Jarvott's election to the whe would be re-elected. He then osed Colonel Jarrott's election to the which was duly seconded, and ed unanimously. The following vice-dents were then re-elected: Messrs. rt Brown, R. C. Davis, E. B. Dick-C. J. Jenkins, S. H. Fry, J. Vandonk, J. A. Jackson, Ernest Perand Harry Smith. Mr. W. H. swas then elected captain, and in Jurse of a short sneech ha said that ourse of a short speech he said that ould endeavour to keep up the social of the club. The following officials

were then re-elected: Hon. secretary, Mr. Southcomb May; hon. treasurer, Mr. L. A. Baddeley; auditor, Mr. W. Richards. The next procedure was to elect the 1920 committee, and while the scrutineers—Messrs. Vivian Olsson and servitineers—Messrs. Vivian Olsson and Edward Pond—were counting the votes. the Chairman made a brief announcement concerning the 1920 programme, mentioning, as the principal events, the opening run on March 15th to the Old Ship Hotel, Brighton, the London-Edinburgh run at Whitsun, a meeting at Brooklands in July, the team trial for The Motor Cyple Challenge Cup on June 26th, a run to Devonshire in Angust, and the winter run in December.

Mr. W. H. Wells then made some interesting proposals regarding the London-Edinburgh run. He suggested that a detour should be made from the Great North Road into Westmorland and Cumberland, comprising such hills as

Tow Top, Staveley, Kirkstone Pass, and others, finally joining the western road to the north of Penrith. This would add about fifty miles to the journey. It would naturally make the run more difficult, and the medials really worth winning, and would take the place of the return journey from Edinburgh to London, as part of the run.

This wengest was not with consider.

This proposal was met with considerable approval. The Chairman then stated able approval. The Chairman then stated that it was proposed to offer prizes of silver-plated ashtrays, with the club's silver medal in the centre, cigarette boxes, or match stands, on which the club's silver medal was mounted, as attemptives to gold medals. alternatives to gold medals.

The following were elected members of the M.C.C. Committee for 1920: Messrs. R. H. Head, A. Candler, E. A. Bridgman, W. Cooper, P. G. E. James, R. G. Bell, B. Marians, C. G. Seed, B. A. Hill, E. M. P. Boileau, and S. R. Axford.

CLUB NEWS.

More New Clubs and Revivals of Pre-war Organisations.

Motor Cycling Club.

All members of the Motor Cycling Club should communicate their addresses to the hon. sec., Mr. Southcomb May, 34, Gower Street, London, W.C./ whether they have recently done so or not.

Abertillery M.C.C.

A new club has been formed in Aber-A new Crib has been formed in Aber-tillery, Mon., the membership of which is already over 25. Motor cyclists de-siring to join should communicate with the hon. secretary, Mr. S. Williams, The Cwm Hotel, Abertillery, where all information concerning meetings, club runs, etc., may be obtained.

Cheltenham M.C. and L.C.C.

An enthusiastic and well-attended meeting of motor cyclists was recently held in Cheltenham, at which it was decided to revive the old Cheltenham M.G.C., under the name of the Chelten-ham Motor Cycle and Light Car Club. The first meeting of the reconstituted club will be at the Belle Yue, Cheltenham, at 2.30 p.m., on March 13th. All motor cyclists are earnestly invited to attend. Hon, secretary is C. H. Dickins, 8. Bath Road, Cheltenham.

Glasgow Western M.C.C.

The Glasgow Western Motor Cycle Club, at its annual general meeting in the club rooms, Great Western Road, Glasgow, on January 23rd, elected the following office-bearers: President, Mr. Wm. Simpson; vice-president, Mr. James Barclay; captain, Mr. E. N. White: vice-captain, Mr. M. J. Fraser; secretary, Mr. John Robinson, 1, Yarrow Gardens, Kelvinside; press secretary, Mr. R. Scott, 11, Percy Street, Ibrox; committee. Messrs, D. S. Alexander, D. S. Anderson, J. Bell, S. Gibson, A. Lindsay, J. Walker, J. Mackenzie, J. Spence, and H. Macdonald.

Macdonald. The reports of the secretary and treasurer showed that the club was in a flourishing condition, and optimism was expressed regarding the prospects for the coming season. The first annual dinner of the club is to be held in the Grosvenor Restaurant on Saturday, the 7th inst., and a dance at the end of March.

Future Club Events.

5.—Northern Counties M.C. (Newcastle). General Meeting, Crow's Nest Hotel, 7.30

General Meeting, Lions & Sam.

2. Sheffield and Hallamshire M.C.C. Annual General Meeting, Angel Hotel, Sheffield, at 8 p.m.

6. Nottingham and District M.C.C. Annual Dinner, Welbeck Hotel, the General Meeting, Orange Tree Hotel, Friern Barnet, 34 n.m.

Dinner, Firtheck Hotel,
Frb. 6.—Finchiev and District M.C.O. General Meeting, Orange Tree Hotel, Friern Barnet,
Frb. 7. Septem Western M.C.C. Annual Dinner,
Frb. 8. Septem Western M.C.C. Annual Dinner,
Frb. 12.—Exect M.C. and J.G.C. Annual Dinner,
Frb. 13.—Stalibringe and District M.C. Annual Dinner,
Frb. 16.—Stalibringe and District M.C. Annual Dinner,
General Meeting, Headquarters, 1.45 p.m.
Frb. 16.—Stalibringe and District M.C. Annual
Hesting and Dinner, m., and District M.C. Annual
Hesting and Dinner, m., and District M.C. Annual
Chatham.
Frb. 18.—Stalibringe and District M.C. General MeetFrb. 25.—York and District M.C. General MeetFrb. 25.—York and District M.C. Annual Dinner
and General Meeting, Windamil Hotel,
Frb. 27.—Stalibringe and District M.C. Annual
Dinner, Pit and Nelson Hotel, Ashtonman, Pit and Nelson Hotel, Ashtonman, Pit and Nelson Hotel, AshtonDinner, Pit and Nelson Hotel, AshtonDinner, Claring Meeting, Windamil Hotel,
Frb. 27.—Stalibringe and District M.C. Annual
Dinner, Pit and Nelson Hotel, AshtonDinner, Claring Meeting, Windamil Hotel,
Frb. 27.—Stalibring and District M.C. Annual
Dinner, Claring Meeting, Windamil Hotel,
Frb. 27.—Stalibring and District M.C. Annual
Dinner, Claring Meeting, Windamil Hotel,
Frb. 27.—Stalibring and Nelson Hotel, AshtonDinner, Claring Meeting, Windamil Hotel,
Frb. 37.—Stalibring and Nelson Hotel, AshtonMars, 18.—Cheffer Meeting, Windamil Hotel,
Frb. 38.—Stalibring and Nelson Hotel, AshtonMars, 18.—Cheffer Meeting, Windamil Hotel,
Frb. 39.—Stalibring Meeting M.C. Annual
Mars, 18.—Cheffer Meeting, Windamil Hotel,
Frb. 39.—Stalibring Meeting M.C. Miller Meeting,
Mars, 18.—Cheffer Meeting,
Mars, 18.

Stalybridge and District M.C.

The Stalybridge and District M.C. will hold its annual general meeting at headquarters, on the 16th inst., at 7.45 The annual dinner will be held at the Pit and Nelson Hotel, Ashton-under-Lyne, on the 27th inst., at 7.30 p.m. The hon. secretary is Mr. G. E. Watts, Balmoral House, Stalybridge.

Surrey M.C.C.

The first post-war annual dinner and distribution of awards took place at the Angel Hotel, Guildford, on Wednesday, January 28th.

Finchley and District M.C.C.

At a rally of Finchley motor cyclists, held at the Orange Tree Hotel, Friern Barnet, on the 23rd ult., it was decided to form a motor cycling club for Finchley and district. The following temporary officers were elected: Chairman, Mr. R. J. Lisles; hon. sec., Mr. Bernard Staley, Burnage, Victoria Avenue, Finchley, The question of amalgamation with the The question of amalgamation with the Middlesex Motor Cycling Club was discussed, and it was decided that as there were sufficient promises of support not to agree to amalgamate for the time being, A general meeting is called for February 6th at the Orange Tree Hotel, Friern Barnet, at 8.30 p.m.

Newcastle and District M.C.C

There was a representative attendance of motor cyclists at the annual meeting of the Newcastle and District M.C., held on the 27th ult., when Mr. F. Keir

It was reported that Messrs. Travers, of Newcastle, were anxions to present a trophy for a hill-climbing competition for clubs affiliated to the North Eastern Automobile Association, to be organised and run by the club, and that gold medals and run by the club, and that gold needs would accompany the trophy. In addition, Mr. Murray offered a rose bowl, and Mr. Lister offered a cup for individual club events. All offers were accepted with thanks.

Mr. Clifford Allison, a pre-war member of Sutton Coldfield Club, now of New castle, joined Mr. James Cooper in the capacity of ionit compatition secretary.

capacity of joint competition secretary Mr. W. Robson Lister was re-elected gen. AIT. W. RODSON LISTER WAS YE-FIECTER gen. sec., and the committee elected comprised Messrs. G. Batty, C. Allison, S. Bell Geo, Roper, W. C. Crompton, W. Spoors. Jas. Reed, W. Baxter, F. Keir, H. Brogden, G. Middleton, J. S. Pendleton, and J. L. Murray. The rules were amended in such a way as to remove al

trade distinctions.



The Cambridge University M.C.C. is already showing enthusiasm, several of its members participating in a club run last week endthe first of many arranged for the year.



club News .-

Scarborough M. and M.C.C.

The first annual meeting of the newly-formed Scarborough and Dis. M.C. was held at the Victoria Hotel on Monday of last week. There was an attendance of about thirty members. The hon, sec. s Mr. W. Marriott, 28, Gladstone Road.

Kidderminster M.C.C.

A spirit of optimism prevailed at the ecent annual meeting of the Kidderminster J.C.C. Much satisfaction was expressed at the position of the club financially, aking into consideration the difficult ircumstances under which the club had arried on during the past few years.

Mr. J. G. Nixon was unanimously relected captain, and thanks accorded for is past services to the club. Mr. Derrick turcher was elected as vice-captain, and the following were elected on the com-nittee: Messrs. R. Grove, jun., R. ritchard, W. H. Walker, T. Jenks, G. ritchard, W. H. Waiker, I. Jeriks, C. lilton, and R. Stone. Mr. Gilbert ritchard, Bewdley Road, Kidderminster, as elected as hon. sec., Mr. C. Brown as assistant hon. sec., Mr. A. W. Lucas as re-elected treasurer, and Mr. Reg. 'ritchard as trial secretary.

; utton Coldfield and North Birmingham A.C.

Entry forms for the Colmore Cup Trial, on Saturday, the 28th inst., will he sent immediately on receipt from the printers. The organising secretary is Mr. Phil. Mosedale, The Nook, Maney Hill Road, Sutton Coldfield.

North Wilts M.C. and L.C.C.

Wednesday last week a wellattended and very enthusiastic meeting was held at Lay's Restaurant, Swindon, to inaugurate the North Wilts Motor Cycle and Light Car Club.

Mr. E. C. Skurray, having consented to accept the presidency, opened the meeting with a splendid speech in which he out-lined the necessity of and benefits such a club would offer motor cyclists in the district. Mr. Skurray made a generous offer to present the club with a cup for competition. The only condition attached to the gift is that it is to be won three times before it becomes the property of the competitor.

Some eighty prospective members were present, which, considering the bad state of the weather, was most gratifying, and many who were unable to be present wrote assuring the club of their support. The headquarters of the club are at the King's Arms Hotel, where the next general meeting will be held on the 18th inst. The subscription has been fixed at £1 1s, per annum. The secretary pro tem, is Mr. A. R. Norris, 26, Kent Road, Swindon.

N.M.C.F.U. (Rotherham).

The Rotherham Branch of the N.M.C.F.U. held a highly successful meeting in the Y.M.C.A., Howard Street, on Friday last. Officials were elected, and many interesting problems discussed, particularly the new taxation proposals, and the following resolution

was unanimously carried:
"That this branch of the N.M.C.F.U. urges the executive to protest against any further taxation on motor cycles and sidecars, as it is considered that the present method is totally adequate, and any further tax would be an imposition on those who use their machines primarily for pleasure, and who do not do any excessive damage to the roads."

Meetings are arranged for the last Friday in each month, but owing to the large amount of business requiring im-mediate attention, it was decided to hold a meeting on Friday, the 13th, in the same room at 7.30 p.m.

THE THURLOW CYCLE CAR.

crank pedal of the latter has been fixed an extension shaft, which

protrudes beyond the

off side longitudinal chassis member, and bolted to this shaft is

a long handle, held stationary by a spring clip fixed to the front mndguard. This fitting

not only enables the driver to start his

engine from the seat,

but the great leverage afforded by the length

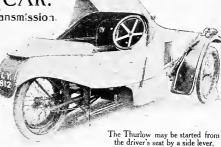
A Simple Three-wheeler with Motor Cycle Transmission.

THE Thurlow three-wheeled cycle car, which, although under construction and experiment for several years, as but recently been redesigned, will, ithin a short time, be placed on the arket by the designer, Mr. Thurlow, Kingston Road, Wimbledon, London,

W.19. Tubular chassis construction is ed throughout, the simplicity of which a marked feature of the car. -

The power unit, which at present is 1 8 h.p. twin Precision, is conveniently sposed at the forward end of the chassis. Fellows magneto is mounted on a plate ed to the off side of the crank case, id is driven by a roller chain. Carbution is supplied by an Amac single-lever rburetter, which has, during the ex-ustive tests to which it has been subitted, given great satisfaction. On moving the bonnet the forward as embly pears to be somewhat complicated. is impression is probably due to the genious method of crowding the com-

of the arm greatly facilitates the rotation of the engine. Further, to reduce the difficulty of engine starting, an arrangement is fitted to the starter extension shaft, which, for half of the arc described by the handle, raises the exhaust valves from their seatings, and when this period has been covered ete transmission system beeen the false radiator and e dash. Mounted directly hind the engine is a The redesigned Thurlow threewheeler has transmission. chain - cum - belt urmey-Archer three-speed ar and kick-starter. To the



the valves drop, and the resulting full compression, with the engine turning at a moderate speed, ensures a rapid start.

Chain transmission is used only from the engine to the gear box, and a long belt subsequently transmits the drive to a belt rim on the rear wheel. clutch is incorporated in the gear box, and is operated from a pedal located on the left side of the accelerator.

Efficient front and rear springing is uployed. In front laminated springs employed. anchored to tubular radius rods, considerably decrease any side sway. The patented rear suspension consists of a sub-frame supported by the single rear wheel, which is free to move about an axis. Monnted between the rear axle and the point of rotation of the sub-frame are two helical springs. This suspension similarly obviates the amount of lateral sway usually experienced on single wheel rear-driven cycle cars.

Two brakes are provided, the rear one of which, controlled from a handle on the off side of the body, acts on the rear belt rim, whilst the second is brought into action by a further depression of clutch pedal which forces a brake block between the flanges of the gear box pulley.



The Editor does not hold himself responsible for the opinions of his correspondents,

All letters must be addressed to the Editor, "The Motor Cycle," Heriford Street, Coventry, and must be accompanied by the writer's name and address.

RUSTLESS STEEL RIMS.

Sir,—I was much interested in your article on stainless steel. Would it not be possible to have rims made of this? They are the parts most subject to rust, and it is most essential to keep them free of it to prolong the life of the tyres.

JOHN J. ARNOLD. [Certainly; the only obstacle is the cost .- ED.]

THE "BUMP" CYCLE.

Sir,-Doubtless many of your readers have been much amused by the account given in The Motor Cycle of the Bump hicycle.

The absurdity of the arrangement should be obvious when one considers that the energy required to work the motor can only come from the rider himself (except, of course, when going downhill). The arrangement really comes to dividing the drive between the pedals and a machine of very doubtful efficiency, actuated by the saddle and front forks. It is obvious that the overall efficiency cannot be increased this

Furthermore, I worked out the maximum power which would be derived from a Bump motor travelling at 15 m.p.h. It came to ½ h.p. It might be confidently expected that such a motor would be able to drive its own chain, but, I fear, very little else.

It is indeed surprising that such an idea should have been embodied in a proposition intended for the market. HAROLD J. POOLE, B.Sc. (Lond.).

HOW MOTOR CYCLES ARE STOLEN.

Sir,—In reference to "J.W.B.'s" letter published in your issue of January 15th, I regret to say that a machine I advertised on January 8th was stolen in a very similar manner. A pleasant, well dressed man, age about 27, height 5tt. 8in., light brown hair, clean shaven, called and stated that he was a chauffeur. You will note that the description is exactly that of the man who stole "J.W.B.'s" machine, and doubtless he is the same. He called one Studay evening and doubtless he is the same. He called one Sunday evening and arranged to bring the cash and take delivery of the machine early in the week. In course of conversation he obtained my business address, and on Monday called on me with the request that I would give him a guarantee that the bicycle was in running order. I accordingly wrote out a short form of guarantee and gave it to him. He then sent a forged telegram, in my name to my mother, stating that I had just seen "Wood," as he called himself, and had received the money, and that my mother might let him have the machine. My mother had some doubts about the telegram, but these were dispelled when "Wood" produced the guarantee which I had given him, and thus proved that he had seen me that morning, and she let him have the machine. This man is apparently going strong, and motor cyclists would do well to be on their guard.

T. A. DICKESON.

A HIGHLY DEVELOPED MOTOR BICYCLE.

Sir.—I have read the article (January 15th) describing Mr. H. P. Blake's design for a motor cycle de luxe with great interest. While his design has many good points and is well thought out, I think it is slightly too unconventional in appearance to appeal to the majority of riders. I consider the ideal motor cycle should be fairly conventional in appearance and designed purely for solo work, as the powerful sidecar combination de luxe must finally give place to the cycle car.

The machine_should be quiet, free from vibration and comfortable, and yet be capable of 45 m.p.h. on the level. My specification would include the following points:

FRAME PARTS.

Frame built of straight tubes throughout.

- Well sprung rear wheel (not a spring frame). Brampton front forks and ample mudguards front and rear.
 - Easily detachable wheels and big tyres.

5. Two good rear wheel brakes.

ENGINE AND TRANSMISSION. 1. H.O. twin engine of 34 h.p., placed across frames, detachable cylinder heads, and mechanical lubrication.
2. Multiple-plate clutch (hand and foot controlled), run-

ning in oil.

3. Four-speed gear box and enclosed shaft and worm drive to the back axle.

Accessories would include Lucas lighting set, good tool-hags, comfortable saddle, wide footboards, and leg shields. Screw-down greasers to be fitted to hubs and spring fork links.

A machine on these lines should satisfy the solo rider who requires speed and comfort, and who does not want a machine on conventional lines.

M. L. P. REILLY.

THE SPORTING SINGLE SPEEDER.

THE SPORTING SINGLE SPEEDER.

Sir,—I was much interested in "Revs's" letter in a recent issue, having had twenty years' experience of single-gear machines. I have no wish to own any other type.

On ordinary English roads the single-speeder is all that is required: even a Philipson pulley I find quite unnecessary, though it fulfils all its makers' claims. The existing prejudice against the ordinary T.T. model is due to the fact that it is designed on "hot-stuff" lines for competition purposes. The compression is too high, the engines too small and the ordinary media carburater manifolds. small, and the ordinary modern carburetter unsuitable. The rider soon tires of them; also, they are too noisy. In fact, there is no suitable type made, and I have to have

mine specially constructed to order in every case.

The first requisite is an oversize motor: 500 c.c. is not enough; for a single, 600-650 c.c. is about right. A twin should be V-type, not less than 700 c.c., preferably 1,000.
Direct belt-drive should be fitted.

The next is low compression. A spare set of shallow valve caps is most useful. The third is a decently designed

valve caps is most useful. The third is a decently designed carburetter. The fashionable single fixed jet, semi-automatic ones are hopeless. They give hard starting with a big jet, are heavy on petrol, and possess no flexibility. The carburetter must have a variable jet. Two of the B. and B. models, or the B.S.A., are good. For duffers, or for big twins, the pilot jet, B. and B., is the best. No attempt must be made to obtain high volumetric efficiency, but the whole designative weet two tractics were like the problements.

attempt must be made to obtain high volumetric efficiency, or the whole design is upset, nor to get very high speed. A machine on the above lines is fast enough (with decent driving it will do a genuine 8 m.p.h. up to 60-62 without tuning), and will climb normal hills with ease geared 4 to 44 to 1. It is tractable in traffic, and more economical than a two-stroke in petrol and oil. (I have regularly averaged 120-140 a gallon with two of my old machines, and they were not driven slowly. One was a 557 c.c., and the other 600.) Overhead valves are unnecessary and undesirable.

Further, there is no plug trouble.

Such a machine is as reliable as a clock, easy to start, and a joy to ride. Moreover, it is the last word in elimina-

and ergo ideal for the busy rider. The difficulties in I, and ergo tocal for the bissy rider. The dimenties in diling are exaggerated, in my opinion. I have taught old gentleman of 65, and several young girls, to drive a after ten minutes' tuition—none had ever driven a tor cycle before. Also, it is cheap to build—a vital at in these hard times—and the belt works under the condition. It is bind to turns when and continue the condition of the condit t conditions. It is kind to tyres, wheel, and engine

rings. he ordinary rider has never bestridden such; I doubt ch if "Ixion" or "Road Rider' ever has. If they they would not emit such fulsome praise on the multied, 300 lb., flat twin creations they affect. They are

come to inspect or try mine at any time.
he sidecar has spoilt the true motor cycle. I sincerely e the development of the cycle car will kill the overeloped, ponderous car on two wheels. AUTOBORE.

ondon, S.W.

ir.—I would like to answer your correspondent, T.P.," under the heading "Why?" in reference to ple single-speed machines. As an old motor cyclist, and ider of single-speed machines for about twelve years, I have a hankering after the old single-geared machine solo riding, and for the following reasons:

It is very light and easy to handle. Will climb any main road hill, and on a higher gear o than the modern three-speeders.

It is fast.

Very simple and easy to keep in running order.

Lower petrol consumption.

gainst this one has the disadvantages of traffic riding a high gear ratio, also riding in grease, and the inity to climb single figure gradients without shortening s belt and opening the pulley flanges.

good compromise is effected in the case of two machines, Rudge and the Zenith, where something of the simplicity he old single belt driven machine is retained, and a ratio low enough for almost any hill solo is obtainable,

the weight is not too much.
B.T.P." seems to be under seems to be under the impression that previous espondents were advocating the single-geared machine passenger work, which, of course, was not the case constant passenger work, with the modern coach-built car, let us have the three-speed chain-driven machine, all means, but nowadays the solo rider who wants a in hears, to some the two firms over 23 h.p., with the exception of the two firms ed above, and the T.T. single-geared Triumph. athersage.

CATION.

c,-There has recently been a lot of discussion as to the

of taxation for motor cars and cycles.

w, all motorists want roads, and, to my mind, should in proportion to the amount of damage they do to the

since, why not tax tyres? It would be quite easy to put tax on at the makers. And this would apportion the sion according to the use made of the vehicle. The r the tyre the heavier should be the tax.

H. W. HILLS.

,-I have read with much interest, the article in your e on taxation, and although I appreciate that this is ly your comment and has no connection with official s, seeing that the members of the Advisory Committee tless feel their way through literature such as this, I d like to make a few comments on the article in question give you another point of view of the subject.

st, it is rumoured that the Government intend to puish the 6d. tax on petrol. I think I am correct in g that most motorists have looked upon it as an estab-l fact that sooner or later this tax would be entirely shed. Now, however, the idea seems to be to knock off ad. tax merely in order to allow the oil magnates to clap nother 8d. or so for the benefit of their already good ends, so that the nett result of this little part of the action will be that motorists will have to pay 2d. more neir petrol. It makes little difference whether it is in orm of taxation or increased price, the fact remains that hall have to pay 3s. 2½d. per gallon if the rumoured ac comes into force. In the second place the Govern-, having taken off the tax of 6d., intend, presumably,

to add it to the Inland Revenue licence, so, therefore, supposing they merely add an additional sum based on a tax of 6d, per gallon it would mean that we should have to pay twice over. Whilst on this point I should like to say that I think the figure you mention in your article under the heading of "Effect of Compound Tax" is not at all a fair one.

I have a 34 h.p. sidecar outlit, weighing, I suppose, somewhere about 400 lb. According to your calculations, I should have to pay either £2 13s, or £3 10s,—t am not quite clear which—worked out on a basis of 5,000 miles per amum. 1, personally, do not reach anything like this figure, and I think if an average could be arrived at you would find that 2-3,000 miles per annum was nearer the mark. Myself, I reckon on 2,000 miles per annum, and with sidecar attached I can get 80 m.p.g. Under the present taxation, I have to pay £1, plus 6d, per gallon on, say, twenty-five gallons of petrol = 12s, 6d., but under the compound tax as above I feet the state of the state should have to pay £2 13s., and perhaps £3 10s., plus the 12s. 6d., which would be absorbed in the suggested increase in price of petrol, and doubtless there are thousands in the same position as myself.

The present system of taxation is, in my humble opinion, quite fair, and I will give you the basis of my argument. In the first place, the ultimate desire of any taxation is to recover compensation for the damage done to the roads. Now, when the 6d. is added to the petrol the system automatically collects from each individual motorist a sum in proportion to the amount of usage which he gives his machine, and, consequently, the amount of wear thrown upon the roads is also in proportion. Therefore, the petrol tax, if indeed an additional tax to that already paid for the Inland Revenue

licence is necessary, should stay as a fair and equitable one.

If the tax was placed upon vehicles according to the amount of damage they do motor cyclists would not be called upon to pay a single penny piece, as the Treasury coffers would be bulging out with the enormous revenue obtained from motor 'buses, lorries, and the like, which secm to be allowed about with their tyres worn to a mere shadow.

Another point is that during the war the majority of motor cyclists, owing to military duties, have been prevented from using their machines, and if not engaged on military duties the obstructive factor was the difficulty of obtaining petrol (except in a few cases where permits were granted), and the fact remains that they have been unable to use the roads, which have been absolutely broken up and spoilt by 'buses and lorries used on the public service for the benefit of the entire population. Now, however, that the roads need repairing the authorities are ever ready to seek out the unfortunate motor cyclist to pay the necessary amount to put right this accumulated damage caused at a time when he was absolutely debarred from using his machine upon the roads.

There are thousands of our best citizens on the road to-day who are running this beneficial pastime on very near lines, deriving pleasure and health, not only for themselves, but also for their wives and families, and I suppose the policy is to tax these out of existence for no other reason than that the tax is easy to collect. However, any such move will no doubt have the effect of killing the goose that lays the golden egg; but this would be no consolation to the motor cyclist who is absolutely frozen out. It is far better to prevent spilling the milk than to cry afterwards. P. SMITH.



An old tandem motor cycle, modernised by J. J. W. Pater, of Bedford, and still doing good service. The engine is an old pattern 23 h.p. Minerva, to which a magneto and B. and B. carburetter have been fitted.

Sir,—Apparently, no distinction is to be made between an 8 h.p. twin, eight or ten years old, used solo and singlegeared, and a 1920 8 h.p. sidecar combination, with three speeds, twice or three times as heavy as the old machine, and costing four or even five times as much. It is ridiculous to tax such utterly different machines on the same basis, and I should have thought it would have been obvious

basis, and I should have thought it would have been obvious to anyone with the vaguest idea of fair dealing.

Why would not a tax based on the original cost of motor cycles be the fairest and most satisfactory? Then the man who gave only £50 for a motor cycle would pay, say, 15s., and the man who could afford to spend £200 would pay 45s., if we reckon 10s. increased tax for every £50 increase in the original cost. In that way everyone would pay an amount recentient to his recens on the original cost. amount proportionate to his means, and the extent in which he indulges in motor cycling. I wonder such a proposal as this was not made long ago, as it seems fairer than any

Finally, with reference to the suggestion that a tax might be levied on the amount of petrol used in a year, I think 5,000 miles as the proposed average distance covered by motor cyclists is far too high. I do not see how a man who is at work all day long, and has only a few weeks holiday in the year, can possibly approach this distance. Personally, I consider I have had a fair year's riding if I do 2,000 miles and there must be a sure large number of months. miles, and there must be a very large number of men in a similar position to myself. London, N.W. EI

EIGHT YEAR OLD H.P. J.A.P.

AN IMPROVEMENT IN AIR-COOLING.

Sir,-With reference to "Rider's" suggestion in your last issue, for cooling the cylinder head on powerful two-strokes, "Rider" has totally enclosed the head of the cylinder except for the air inlet and outlet to the silencer. Would not this tend to overheat the rear portion of the cylinder head? The air, passing down the spiral course in the enclosed head, would be heated more and more, and would have little cooling effect. Would not flanges encircling the enclosed portion eliminate the overheating to a certain extent, if there is any? Enclosed is a sketch of a simple form of semi-enclosed cylinder head which can be easily attached.





A suggested method of aircooling by R. T. Halliwell.

WOMAN AND THE MOTOR CYCLE

Sir,-In The Motor Cycle of January 22nd, "Ixion" Sir,—In The motor Cycle of Bandary Lord, waxes eloquent on the question of knickers, or, more correctly, breeches, for lady motor cyclists. At the outset, and while trembling at my own temerity in opposing my opinion to that of such an august and eminent authority, I wish it to he_understood that I take an entirely different view.

Broadly speaking, there are two issues at stake. deal with the lesser of them first. I refer to utility. "Ixion" will surely agree that the ideal motor cycle for a lady must combine lightness with strength, hence the absolute necessity for a diamond frame. Given that a girl is riding a frame of this description, surely the breeches score points on comfort, warmth, and safety.

But these are secondary considerations, for the major issue is, like all questions concerning the eternal feminine, one of appearance. No girl should wear breeches who is under 5ft. 3in.; but the vast majority are of this stature or under 5tt. 5th.; but the vast majority are of this statute of above. This is the ideal wear for the average girl. Breeches of proofed cord, in khaki, green, or fawn, and cycling stockings, or alternatively high brown boots or puties.

These should be a three-quarter length, or preferably a

knee-length, coat of the same material, having "officer's" pockets and a turn-back collar, capable of being buttoned up round the neck. There should also be a belt of self material. Underneath the coat may be worn a woolly "jumper," or a shirt blouse, according to prevailing weather conditions. The fair rider may also have a bright coloured "Tam o' Shanter," or a storm cap of the same material as the suit, after the style of those worn by the R.A.F. girls.

A girl dressed after this fashion need not lose one iod of her femininity and charm. Picture to yourself a "jold good fellow," with sparkling eyes and wind blown hat burbling along on a fast T.T. Was ever fairer vision Surely a sight to make the pulse of even our sage an counsellor "Ixion" "rev." one beat faster.

And afterwards, in the coffee room of the hotel, let he appear in breeches, but without the coat, and the "jnmper appear in preecness, but without the cost, and the jumper replaced by a neat crépte de chine blouse of toning or contrasting shade, according to complexion, brunette or blond Then shall we worship from atar, and afterwards in the lounge she will hold her court. The perception of Britis sportsmen is not bounded by silk lace and frills, nor contrasting the production of t fined to the immediate vicinity of powder and pink ribbon.

PROVISIONAL PRICES AND DEPOSITS.

Sir,-How long are motor cyclists going to put up wit the one-sided system of provisional prices and deposits? Tal my own case. I made a special journey to Olympia, settle in my own mind what I thought would suit my requirement ni my own mind what I thought would suit my requirement viz., a runabout, and was assured by the representative charge that the price was pretty well fixed. I was prepare to place an order, but was told that I should have to but through an agent. As there are no agents in my own tow I must deal through one in a town ten miles away. We there ever such ridiculous nonsense? An agent in a town ten miles are to the subject of t ten miles away is of no more use to me than the makers ten mies away is of no more use to me unan the makers hundred miles away. Anyway, there it was; take it leave it. So I wrote to the agents, and received a letter saying I could have delivery in June if I booked at one which I did by wire. A week after I received a letter say that, owing to the national increase of 5s. a week. wages, my runabout would cost me £50 more. Thus, if I as an engineer and get 5s. advance it will take 200 weeks of to pay this increase in price.

Now the makers already knew that this increase was du Now the makers already knew that this increase was due as it had been awarded a month before. Why could the not have fixed this later price for the Show? Possibly the got more orders than they expected. On top of this I a asked to pay a deposit of one-third of the price, and sign agreement to the effect that they may cancel the ordered and return the deposit, but whatever the price the maker. fix, or whatever way the makers alter their specification, may not cancel the order without losing the deposit

Now why should I and others provide one-third of th agent's capital for six or seven months without having son share of the profits? This sort of thing is going to be permanent unless we make a stand against it.

Patriotism does not mean allowing makers and agents diddle us. I know times are a bit unsettled, but they a settling down very quickly. I notice one or two makes have withdrawn the selling price from their advertisement and instead refer to the price the machines are fetchin price? To prospective buyers I would say hold your breat a bit. Do not get tumbling over one another to leave on a bit. Bo not get unimn goth one anotate reast of third deposit with any firm without a good security for i when by waiting a little, without getting excited, you wis soon be able to pick and choose, pay the money down, an take the article away. A lot of us have gone without motor and a little leave will not reast the article away. for three or four years, and a little longer will not matte. Bolton

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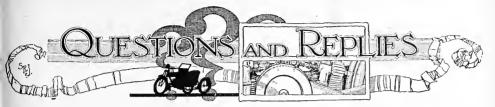
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A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents ore urged to write clearly, and no non eside of the paper only, numbering each query separately, and keeping a copy for case of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Disc Wheels.

I should be much obliged if you would give me your experiences with disc wheels on a 5 h.p. twin, for solo touring.—G.F.E.W.

I member of our staff, who has been unning disc wheels on a 5-6 h.p. anchine, finds no difficulty or trouble tending their use when riding solome of our correspondents, however, laim that in strong winds there is a officeable effect on the steering. It rould appear, therefore, that the effect f wheel discs depends largely upon the articular type of machine, and also, ossibly, upon the rider himself.

Hints to a Novice.

I have recently purchased a continuous process. I had a few minutes in trying to get it to run, without success. Will you please tell me which is the easiest way to get a two-stroke in motion? The machine has an Abloin two-speed gear, B. and B. carburetter, and C.A.V. magneto. Is the machine

in low gear when the lever is pushed forward, or the reverse?—H.T.
The machine in question should be reliable. Flood the carburetter; engage the low gear, release the compression, and push, letting go the compression release

lever as soon as a fair speed has been attained. The engine should then start. You can easily tell which is the low gear by seeing which offers the greatest resistance when you raise the compression release and push the machine forward. The greatest resistance, of course, is felt when the machine is in low gear, owing to the greater engine speed.

Silencer or Long Exhaust?

I should be obliged if you would kindly tell me if a long exhaust pipe, about 2in. diameter, and about 4ft. long, without a silencer, complies with the regulations?—R.W.J.

An exhaust pipe, without an expansion chamber, does not comply with the letter of the law, although, if the machine is reasonably silent, it is not likely that any action will be taken against you.

Too Large a Jet.

I am unable to open fully the throttle, so I should be obliged if you would kindly give me your opinion as to the cause of a very limited range of control.

I am only able to advance and retard the lever about one inch. Is the jet too small in the Amac carburetter on my 3 h.p. Royal Enfield?—M.M.

The trouble to which you refer is probably due to too small or too large a jet, which latter would cause the engine to choke. Examine the plugs; if these are covered with black soot, which easily rubs off, the indication is that the mixture is too rich.



This type of sidecar has the decided advantage of being completely weather and draught proof when the hood and screen are in position, yet when desired full advantage can be taken of fine weather. The outfit was supplied by Mr. E. W. Ball, the Scott agent, Birmingham, to the order of Mr. G. L. Bowley, London.



MOTOR (YCLE

A Fierce Brake.

When applying the internal expanding toot brake of my 7 h.p. Indian a horrible squeak occurs. The brake is very-efficient, doing its work thoroughly, and, of course, application of oil might stop the noise, but would make the This trouble is very brake useless.

annoying. I have a smart mount, and this hideous noise is not pleasant when pulling up .- F.M. We should recommend you to try

putting a drop of oil on the brake; if you do not overdo it you will-not seriously interfere with the stopping powers of the brake.

A Hub Clutch.

My machine is a 1913 6 h.p. Zenith, multiple disc clutch in rear hub. How is the clutch adjusted? How far should the operating rod protrude from the worm on the axle? The number of degrees that the actuating arm and cap should revolve when the clutch is thrown out by depressing the pedal?-J.R.R.S.

The operating rod on the 1913 Zenith rear wheel clutch should not require more than about in. of movement, and the operating arm on the hub spindle should move about 45° completely to effect disengagement. From the sketch you submit, apparently no adjust-ment is provided, but the makers of the clutch would give you fuller information on this point.

Tuning Old Machine.

I have recently taken down my 3½ h.p. Indian engine for decarbonisation and fitting new inlet and exhaust valves and springs, also new exhaust valve guide and piston rings. I have a B. and B. carburetter which had a 48 jet, and the taper needle used to fit right down into the top of it, closing it entirely. Now I have fitted a 45 jet and the taper needle cannot close the hole at the top of the jet. The difference on the road is that the air lever has to be absolutely fully open, whereas before I could not open it more than in. past the throttle lever. It more than ain, past the through ever.

(1.) Would this mean that the 45 jet is bigger than the 48 jet, or that the extra air is the outcome of the work I have done as above? (2.) How to determine the petrol level and to get it correct, as the new float shappen. I have fitted as the new float chamber I have fitted to my 1914 B. and B. is off a 1918 model, and the level has been tampered (3.) My engine fires well, but every time the platinum points part I find that they leave a space of about The in instead of the usual visiting card. Should this be adjusted? (4.) This is a countershaft clutch model. Could I have fitted a back wheel hub, threespeed gear, or any other sort of speed gear? I do not use a sidecar. Chain drive throughout. (5.) Taking full air as my B. and B. pilot jet carburetter does, which is the best position of the levers; also the ignition to start up from cold ?-A.E.K.

(1.) Marked jet sizes are not always accurate, and this may account for your difficulty. Also the new jet may not be quite so high as the old one; this would also have the same effect. (2.) The petrol level should be about 32in. below the level of the top of the jet. (3.) 16in. is rather excessive, and the contacts should be adjusted to about $\frac{1}{64}$ in. (4.) It would be almost impossible to fit a three-speed hub to the single-speed Indian. Possibly the makers can suggest some suitable fitting of countershaft gear. (5.) When starting, the air lever should be closed, the throttle about one-quarter open, and the ignition fully, or almost fully,

Long or Short Wheelbase?

Is a short wheelbase 3½ h.p. machines preferable to the long one? If so, why do the manufacturers neglect this?

general comfort the short wheel-For base is not very satisfactory; it is only used on T.T. models to facilitate cornering at speed.

Angle of V Twin.

I had the magneto stolen from my 5-6 h.p. twin, and I bought another, but the degrees are wrong. Can you tell me how I can find the correct angle? The timing is by the eccentric lever. If I cannot refit this to another magneto, will you tell me the right size gear

wheels to get?—W.R.P.

The angle of a V twin engine is that between the centre lines of the two cylinders. This you will have to measure actually on your own engine, possibly by carefully taking external measurements and making a scale drawing. The space between the two cams in the contact between the two cams in the contact breaker will be 180° plus half the angle of the cylinders. We do not understand your statement respecting the timing being by eccentric lever. The gear ratio between the engine-shaft and the magneto spindle is 2 to 1-that is, the magneto should run at half the engine speed.

EXPERIENCES WANTED.

"T.D.F." (Huddersfield).—General experiences of 7-9 h.p. Indian, electrically equipped model, also Scott.

RECOMMENDED ROUTES.

SOUTHAMPTON TO EXETER .-- E.H.

Southampton, Cadnum, Ringwood, Wimborne Minster, Bere Regis, Dorchester, Bridport, Axminster, Honiton, Exeter.

DUNSTABLE TO REIGATE .-- W. F.D.

Dunstable, Tring, Chesham, Beaconsfield, Slough, Windsor, Egham, Cobham, Leatherhead, Reigate.

REDDITCH TO SWANSEA.—J.B.P.
Redditch, Droitwich, Worcester, Great
Malvern, Ledbury, Ross. Monmouth, Usk,
Newport, Cardiff, Cowbridge, Bridgend,
Neath, Swansea. Approximately 135 miles.

LIVERPOOL TO EXETER.-H.H.

Liverpool, Birkenhead, Chester, Whitchurch, Hodnet, weining..., Bridgnorth, Kidderminster, Worcester, Cloucester, Quedgeley, church, Hodnet, Wellington, Ironbridge, Worcester, Tewkesbury, Gloucester, Quedgeley, Alverston, Bristol, Bedminster, Red Hill, Churchill, High bridge, Bridgwater, Taunton, Wellington, Cullompton, Exeter.



Triplex Glass.

We understand that Triplex safety glass has been standardised in the windscreens fitted to Montgomery sidecars.

Rotax Accessories in Manchester.

The Rotax Motor Accessories Co., Ltd., opened last month their northern depôt at 291, Deansgate, Manchester. The Regent Motor Cycle.

In our description of the Regent motor cycle we referred to the Coventry Victor specialities as forming part of its specification. We understand that the frame, although closely resembling the Coventry Victor design, is not exactly the same, every lug bolt being interchangeable.

Tyre Firm's Success.

At the Glasgow Housing and Health Exhibition, Mend-a-Tear process, for mending rents in clothing, to which we have previously referred in our columns, and which is sold by the Leicester Rubber Co., Ltd., Post Office Place, Leicester, was awarded a first-class diploma for excellence.

Bradford Carburetter.

The carburetter described recently is, we are informed, fully covered by Patent No. 27,060, 1919. New instruments cannot be supplied until the effects of the moulders' strike have subsided, but a limited number of old pattern Amas can be converted.

Magneto Contacts.

When platinum and iridium were Gov-ernment controlled the price rose from ernment controlled the price rose from £24 to £26 per ounce, and now that the control has been removed the price has risen to over £51 per ounce. We have control has been removed the price has risen to over £51 per ounce. We have known the firm of J. Edwards Brown, 38, Herbert Road, Plumstead, London, S.E.18, makers of Jebron contacts (which contain the above metals), for over fifteen and it is with great correct that years, and it is with great regret that they ask us to announce that their prices have had to be advanced in consequence of this rise in the cost of the metals in question.

The Price of Benzole.

As announced last week, the National Benzole Co. have raised the price of benzole as from Monday, January 26th, by 4d. per gallon, making the retail price in England 3s. 1d. per gallon in tins, instead

of 2s. 9d. as previously.

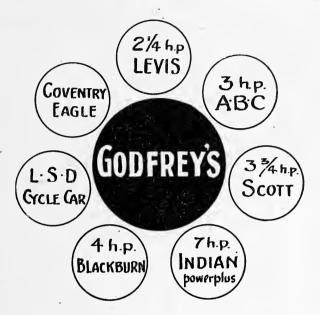
The increased costs of material and labour are advanced as the reason for this rise in price. These costs are stated to be more than three times greater now the three size of the costs are stated to be more than three times greater now that the cost of th than they were in 1914, and have resulted in many instances in a loss to the producers. Another factor which affects the costs of distribution is the 60% increase in railway rates.

In ratiway rates. No further increase is anticipated, unless the cost of production again rise. The National Benzole Co. do not intend to vary the price of benzole in accordance with that of other fuels.





Surrounded by Good Things.



Sole London and District Agents for A.B.C., Blackburne, Coventry Eagle Indian, Scott Motor Cycles, and L.S.D. Cycle Car. Special Agents for Levis Motor Cycle.

WRITE FOR CATALOGUES.

GODFREY'S LTD.,

208, Great Portland Street, LONDON, W.1.

Telephone: 7091 Mayfair (two lines).





MISCELLANEOUS ADVERTISEMENTS.

PRICES.
ADVERTISEMENTS in these columns
-First 12 words 3/-, and 3d for every ad-Paragraphs of under 8 words ditional word. Paragraphs of under are charged double rate, i.e., 6/-. paragraph is charged separately. Name and aldress must be counted. Series discounts, conditions, and special terms to regular trade advertisers will be quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable to ILIFFE & SONS Ltd., and crossed Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this -section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of Issue.

All letters relating to advertisements should quote the number which each advertisement, and the date of the issue

in which it appeared. The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to numbers at "The Motor Cycle" Office. When this is desired, the sum of 6d. to defray the cost of registration and to cover postage on replies must be added to the advertisement charge, which, must include the words Box ooe, 60 "The Motor Cycle," Only the number will appear in the advertisement. All replies should be enddressed No. ooe, 60 "Motor Cycle," 20, Twdo Struck, E.C.4. Replies to Box Number advertisements containing remillances should be sently by registered post, but in all since cases it is advisable to make use of the Deposit System.

cases it is advisable to make tise of the Deposit System. In the case of motor cycles offered for sale under a box number, as it is unusual for these to be sold without its being inspected by the intending purchaser, advertisers will accilitate business by embodying in their advertisements some mention of the district in which the machine offered may be seen and tried.

DEPOSIT SYSTEM.

Persons who hesitate to send money to unknown persons may deal in perfect safety by availing themselves of our may deal in perfect safety by availing themselves of our many deal in perfect safety by availing themselves of our safety of the safety of the

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to regard the silence as an indication that the goods advertised have already been disposed of. Advertisers often receive so many enquiries that it is quite impossible to reply to each one by post.

COTOD CYCLES FOR SALE.

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A.B.C. A.B.C.-25 deposit paid February, 1919. What offers for option delivery?-Manwood, Cutthness Units, Wallacey.

JONES' Garage, special agents for A.B.C., Broad way, Muswell Hill, N.10, and Woodside Panade North Finchley. [002] Broad-[0026

North Finehiey. [0026]
A.B.C., ordered April last, delivery expected shortly; first premium £10 or over accepted.—Tallis, Middleton, King's Lynn.

WE Are Agents for the A.B.C. Place your order with us to secure good delivery.—Apply, King and Harper, 6, Bridge St., Cambridge. [8515]

AUCHOPES

9, Shoe Lane. Fleet Street. London &C4.

For square deals and Values ...

Our Stock includes the following Machines. NEW.

No. 1	H.P. Machine.	Year	. Pri	ce
12353.	8 REX twin Combination	1920	£196	1
12352.	23 CLYNO	1920	£70	
12267.	- AUTOPED MOTOR SCOOTERS.	1920	£42	
12291.	24 P. & S	1920	£67	
12318.	4 QUADRANT Combination	1920	£122	1
	SECOND-HAND SOLO MACHI	100		
0		AES.	6440	
12358.	31 I.O.M. RUDGE	1919	£115	
12347.		1917	£40	
12272.	8 MATCHLESS, single gear	1911	£72	
12059.	o maichless, single gear	1913		1
11762.	31 RUDGE	1913		
12315.	21 GARFIELD	1920	£75	
12344.	2 DOUGLAS, lady's	1917	2/3	
	SECOND-HAND COMBINATION	S.		
12104.	7-9 HARLEY-DAVIDSON Comb	1915	£157	1
12314.	6 HUMBER and Sidecar, wc	1919	£175	ı
12349.	4 TRIUMPH and Sidecar	1916	£95	
12350.	4 TRIUMPH and Sidecar	1918	£110	H
12276.	7-9 INDIAN Combination	1914	£95	
12273.	41 JAMES Combination	1916	£125	
12166.	8 ROYAL ENFIELD Combination	1919	£167	1
12010.	7-0 JAMES-HOWARTH Comb	1914	£125	ľ
12120.	3 KERRY-ABINGDON Comb	1914	£72	1
12082.	5-6 INDIAN Combination	1913	£125	
12000.	7-9 INDIAN Combination	1913	£85	
12184.	6 ROYAL ENFIELD Combination	1917	£155	
11977-	8 WILLIAMSON Combination	1914	£110	
12159.	5-6 RUDGE-MULTI and Sidecar	1914	· £87	1
12164.	4 (twin) ZENITH and Sidecar	1919	£145	
12293.	7-9 HARLEY-DAVIDSON	1919	£185	
12136.	3½ RUDGE-MULTI	1916	£130	
11983.	6 ROYAL ENFIELD Combination	1913	£82	1
12321.	6 ROYAL ENFIELD Combination	1916	£150	-
12332.	7-9 AMERCIAN EXCELSIOR Comb	1914	-	
12340.	4 DOUGLAS Combination	1918	£140	-
12360.	4 DOUGLAS Combination	1917	£125	
12368.	33 SUNBEAM and Sidecar	1914	£127	1
12369.	8 ROYAL RUBY Combination	1920	£195	-
	SECOND-HAND CARS.			
	SECOND-HAND CARS.			

-	SECOND-HAND CARS.			
12135.	- CARDENA Cycle, Car, 7-9 h.p.			
	Harley-Davidson engine		£115	
12000.	8 DUO Car, J.A.P. engine		£150	
12200.	TO CITROEN Car (new)	1920	£525	
12345.	5-6 CARDEN Monocar	1915	£100	
12372.	5-6 A.V. Monocar	1919	£142	1
٠.				

Canoelet Minor. Canoelet D4. Canoelet K4. Canoelet K3. Donglas.

Royal Ruby.
"Wauchope's" No. 1.
"Wauchope's" No. 2. Williamsons.

Second-band Machines taken in Part Payment.

Good Price allowed. Maker's guarantee. Large and varied selection of accessories, including new and second-hand Lamps, Horns, Speedometers, etc.

WAUCHOPE'S, 9, SHOE LANE, E.C.4.

Phone: Holborn 5777 Grams: Opificer, Fleet, London.

MOTOR CYCLES FOR SALE,

A.B.C.

A.B.C. – Book early and present disappoints specification and full praticulars will be sent applications for the specification and full praticulars will be sent application for the specification of the specification of

Ablngdon.

A BINGDON King Dick, 3½h.p., speedy monat. good climber, lamps, etc., perfect condition; away; £37.—Naldrett, Hayes Grange, Slinfold, ham.

JACK HEALY, Cork, official A.J.S. agent.—Rotat delivery. No premiums accepted. CROW Bros., High St., Guildford, A.J.S. as since 1912, accept no premiums.

19 A.J.S. Combination, mileage 700.—Mopleth and Brook, 12, Burton Rd., Lincoln. [X. 23h.p. A.J.S., 3 speeds, complete lamps, horn. X: £72.—Cross, Agent, Rotherham. [X:

A.J.S. 1916 6h.p. Combination, splendid condit £145.-29, St. Leonard's St., Bromley-by-B

10 20 A.J.S. Combination, delivery promised Ma £5 deposit paid; offers.—Box 1,123, c/o

A.J.S., 1916, 25th.p., clutch, 3-speed, speedom lamps, tools, excellent condition; 65 gas. Jn Four Oaks, Birmingham.

19 9 6h.p. A.J.S., military model, best I sidecar, interchangeable wheels, Lucas £145.—Reynolds, Waterbeach. A.J.S. 6h.p. Combination (or machine clone); offers for March delivery? Advertiser now ord car.—Box 1,022, c/o The Motor Cycle.

A.J.S. 1920 6h.p. Combination, just delivered, wheel, lamps and horn; £200; seen any tin Dr. Morelead, Lampits, Hoddesdon, Herts.

WE Are Agents for the A.J.S. Place order with us to secure good delivery.—A King and Harper, 6, Bridge St., Cambridge.

A J.S. 1919 (July) 6h.p. Combination, hoof is wheel, luggage carrier, accepting abroad; £190.—Downey House, Royton, Lashire.

A.J.S.-Exeter Motor Cycle and Light Car Co., 1 Bath Rd., Exeter, and 28, Tavistock Rd., mouth. Sole agents. Now hooking for earliest

19 19 A.J.S., condition new, small mileage, screen, tools, born; price complete £190.—Lauce, Mi Wyke, Andover.

19 20 A.J.S. Combination, total mileage under Lucas equipment throughout, magnificent out; owner buying car; price £215.—Address Box 7 of The Motor Cycle.

1 O 16 AJS., new torpedo sidecar, toyal hlne, mechanically perfect, very powerful, smart ing outfit, as new, little used; £135.—Sergt. Maresfield Park, Uokfield, Sussex.

A JS. S-6hp. Combination, countenant; geor, tart, h.b.e. clutch, Pinford sidecur, recently miled, lampe, hom, soreen, tods; £8710, first delication, 56, Wesley Place, Ingrow, Keighley.

A.J.S. 1917 6h.p., 3-speed, countershaft driven, starter, complete with lamps, horo, tool kit, cover and tube, spring pillion seat, etc., just hauled; £95.—Butt, 40. Wellington Rd., Maident

A.J.S. 6h.p. Combination, late 1917 military many stored 1 year, Volex electric lights, spare we screen, pillion seat, just overhauled, splendid conditable.—Hanckel, Woodlen, Grassendule, Liverpool

19 (late) 6h.p. A.J.S. Combination, perfect examination, mileage under 1,500, 3 l horn, speedometer, wind screen, spare wheel; 22 best over received by February 14th.—Box 1,12th Motor Cycle.

190 A.J.S. Combination, spare wheel, hood prod wings, adjustable sideour footboard, knee s spring seat-pillar, best Lucus lumps all round, then, stormprod spron, took and spares, perfect in and out; best offer over 190, or good 2-seater and out; best offer over 190, or good 2-seater and controlled to the controlled t

A.J.S. Spares: engine and gear box repairs; pn delivery.—Cyril Williams, Chapel Ash Depot, verhampton. T.A.: Parts.

A LECTO 1920 3h.p. 2-stroke, 2-speed; del from stock; list on receipt of p.c.—Wardn High St., Cheltenham.

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m B16}$ All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Alldays.

ONOR Oak Motor Mart - Immeduate delivery All-days Allon.-129, Brockley Risc, S.E.23. [1399] LON 25th.p., late model, excellent tyres, small mileage; £40.-49, St. Leonard's Rd., Mortinko, [8400]

20 Allon, 2-speed, clutch, kick starter; delivery guaranteed before Easter. - Prunells, Ltd., Kidder-[X3313]

16 Alldays Allon, in first-class condition, tyres as new; £45,—Piddoux, Dudley, Fairfield Rd., o Park, S.E.12. [9874]

NSS times, special agents for Alblays Allon, Broadway, Muswell Hill, X.10, and Woodstde le, North Funchley. LDAYS-ALLON, 1915, 2 speeds, spare chain accessives, splendid condition; £50.—Tue, 1614 Tue Rd., Petersheld.

rne Rd., Petersfield. [1614]
19 Albhys Allon, 25th.p., delivered December complete with lumps; £60, or nearest.—Bate, ay House, Shrewsbury.

LDAYS ALLON (late model) 2 d.h.p., 2-speed, expert examination invited, perfect; £55, or near after 7.-2, Harewood Rd., Colliers Wood, Mcj. 4.W. [203]

LDAYS Mutchless (21th.p. Villiers), 2-stroke Amar, M-J. mag, Druds, footboards, lighting set, mehr, million, re-enamelled and overhauded, evenuaged; ride way; 235.—Mutton, 17, Lansdown

15 Alldays 8h.p. Combination, 3-speed gear box hand clutch, kick starter, conclibuilt sidecan Klaxou horn, and all accessories, all in exec-condition; £150, or nearest offer.—Herbert E, C. Cuped Hall, Wootton Bassett, Wilts. [122]

Arlel.

DW Bros., High St., Guildford, Ariel agent supply at makers' prices.

RIL WILLIAMS, for early delivery of Ariels.

Chapel Ash Depot, Wolverfiampton. [X86]

VES' Garage, special agents for Ariels, Bromwor, Muswell Hill, N.10, and Woodside Paradi. Finchley.

Finchley.

1.p. motor cycle, Ariel, less mag., in good condition; £15.—Wm. Thomas, Little Mountain nerhill, nr. Wrexham.

[1622]

(EL 1919) 31/2h.p., 3 speeds, countershaft, K.S. hore, hardly used; nearest offer £95; after 6.30 pointment.—81, Broxash Rd., Clapham. [149. (EL, 3½h.p. and 6h.p.; early deliveries; al spare parts stocked. — F. Speakman, Ariel Ex 7, Rochdale Rd., Harpurhey, Manchester. [402] EL, 1919, 6h.p., Millford sidecar, Easting screen Tansad, speedometer, electric light; £160, one.—Hodgkinson, 150, Park Rd., Crouch End.

A.S.L. L. 1914 5-6h.p. Sturmey-Archer (T.S. hub) 3-speed Combination, Lucas lamps, hora, Watfort mueter, wind screen, engine, gears, etc., over 1; £80, or exchange.—Smith, 26, Cope St. [X3756]

Auto-Wheels CO-WHEEL: £15.—Platts, 602, King's Rd Fulham, S.W.6. [196:

O-WHEEL, good running order, very little used 112.-3, Moreton Av., Harpenden, Herts. [141: 112.-3, Moreton Av., Harpeach,

COWHEEL, Model de Luxe, splendid condition
and appearance, powerful; £11. Perkins, Win
[1981]

'O-WHEEL; 1920, Model de Luxe; £25; ir tock, brand new,—Wilkius, Simpson, and Co. te Olympiu, London. [951]

O-WHEEL and Bicycle Combination, perfect unning order, electric lighting; only \$20, com--Apply, E. Richardson, Christ Church, Oxford

Rat

'J.A.P.-Sole agent for Cheltenham and Dis-rict, Wardmans, High St., Cheltenham. [1727 ¹J.A.P. 3½b.p., Bosch, B.B., fast and powerful. bargain; £35/10.—Maw, 276, Ropery Rd., sorough. [1822

8h.p., chain drive, countershaft gear, clutch pach sidecar; £75.—Collier's Motories, Union 11438

J.A.P. 8h.p., new October, 1919, not ridder 00 miles, perfect; £125.-35, Ewburst Rd., 1 Park, S.E.4. [1728

1 Park, S.E.4. [1726] is Bat-Jap Combination, 6h.p., Klaxon, 5 lamps generators, tyres as new, all accessories, engine teed perfect; £135.—Page, 169, Knox Rd. (L340)

Beardmore.

CASHIRE (West) and Cheshire.—Beardmon recision, the most advanced and practical motoret designed.—Enquiries invited by J. Blake and 0, Bold St., Liverpool.



The House for 1920 Models.

We have from 20 to 30 New Combinations coming in stock every week; so give us a call, and if we cannot get you what you want, nobody can. Machines quoted below are for immediate delivery.

COMBINATIONS.

1929 MATCHLESS Combination, H Model,

1920 HARLEY - DAVIDSON Combination, lamps, windscreen, horn.

1920 6 h.p. ENFIELD Combination, com-

1920 8 h.p. NEW IMPERIAL-J.A.P. Combinaion, show model Sidecar, speedometer,

1919 (Nov.) 10 h.p. HENDERSON Combina-tion, 3-speed, clutch, kick-starter, hand-some Sidecar, F.R.S. lighting set, mileage 500.

1919 A.J.S. Combination, Henderson Elite Sidecar, Lucas dynamo lighting, spare wheel.

1918 HARLEY-DAVIDSON Combination, 1920
 lighting set fitted, T.T. bars, sporting Sidecar, very fast.

1919 (Nov.) 3½ b.p. SUNBEAM, brand new Dinky Sidecar, Lucas lamps, electric side-car and back, as new.

1919 (Dec.) 8 h.p. SUNBEAM Combination, spare wheel, Lucas lamps, mileage 250.

SOLOS.

1920 24 h.p. DIAMOND-J.A.P., Enfield 2-sp.

1920 4 h.p. TRIUMPH, countershaft, new. 1916 31 h.p. SUNBEAM, 3-speed, lamp, and

1919 5 h.p. twin ZENITH, almost new.

CARS

1914 10 h.p. STANDARD, very nice order, 2-seater £310 Special Racing CALTHORPE, to h.p., sporting body, dynamo lighting, guaranteed over oo m.p.h..... 2450

1916 Baby PEUGEOT Limousine, very smart, 3 speeds and reverse, com-plete£285

J. SMITH & CO.,

16, HAMPSTEAD ROAD, LONDON, N.W.1.

MOTOR CYCLES FOR SALE.

Blackburne.

CROW Bros., High St., Unddford, are old Black burne agents, and invite enquiries. [X7945] STANLEY RUSSELL, Newport, sole Isle of Wight agent for Blackburne motors; early delivery, [5297

BLACKBURNE 1920 34-h.n. Millord sidecar, in stock,-Edwards, 7, Exhibition Rd., South Ken

23h.p. Blackburne, magneto requires attention, otherwise good condition; £19. 45, Manston [1999]

J ONES Garage, special agents for Blackburnes,
J Brondway, Maswell Hill, N.10, and Woodside
Parade, North Finchley. [6022]
WE Are Agents for Blackburne, Place your
order with us to seeme good delivery.—Apply,
King and Harper, 6, Bruke Nr., Cambridge. [5047]

B LACKBURNE,—New 1920 4h.p. models actually in stock: no premium required.—Chandler, Reyre and Williams, Hitchin, Herts. 'Phone: 165

Bradbury.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.-4h.p. Bradbury, 1911; £40. [1636

BRADBURY 4h.p., 2-speed, free engine, Bosch water-proof mag., lamps, horn, ride away; £38, bargain, -Albert, 258, Camberwell Rd., S.E.5. [1167]

10 20 6h.p. Bradhury and Gindley De Luxe Spring wheel Siderar, delivery promised almost immeliately; what offers?—Smith, 5, Glendore, Waster, Warnetster. (X3722

1 h.p. Bradbury Coachbuilt Combination, 1914.
14 stored throughout war, 2-speed, countershaft, slutch, lamps; £80; trial.—Seen at Southern Motor Szchange, Bromley Rd., Cuttord. [1936]

PRADBURY, 1920, 4h.p., 3-speed countershaft, kick starter, chain drive, Concelet sidecur, storm aproparad new, at makers' price; £147/5,—Wilkins, Simpon and Co., opposite Olympia, London. [9512]

B RADBURY 1920 6h.p. Combination, Grindlay patent spring sidecar, Tan-Sad pillion seat, lamps, lorn, luggage grid, tools, Olyupin Slow nodel; £198.—Arthur Horsfield (Motors), Ltd., 19-20, North Audler St., W.1.

BRADBURY 1914 C.B. Combination, 41/h.p., stored during war, 2-speed, F.E., pedal starter, 3 new tyres, complete lamp outfit, sidecar completely overhauled, new cover, fast, reliable; 475; any trial-willowbank, Lower Addiscombe Rd, Croydon (1467)

Brough.

19²⁰ 5h.p. Brough, 3-speed and clutch, chain drive, electric lighting, all accessories, just delivered; best offer.—Box 1,058, c/o The Motor Cycle. [1547

best offer.—Mox 1,088, cto The Butter Cycte. [1587]

SOUTH Lancashire, North Cheshire, and Isle of South Lancashire, North City Commission Peage of the Commission Peage of th

B.S.A.

B.S.A. 1917 Combination, K.S., etc., all in very good order; £95.-362, Edgware Rd., W.2. [1912

B order; £95.-362, Edgware Ad., 11.2.
B S.A. 3½h.p., 2-speed hub, just overhauled, ride away; £55.-Henming, Tillington, Hereford. [1378]

19 20 B.S.A., T.T. model, brand new, not been on road; £94.—Box 1,066, c/o The Motor Cycle.

19²⁰ B.S.A., 3 speeds, thoroughly overhauled and re-19¹⁵ B.S.A., 3 speeds, thoroughly overhauled and re-puinted; £75.—Jones Motor Co., Mold. XV. [X3832] 19¹⁵ B.S.A. Combination, overhauled, ready ride away; £90.—Brawn, 94, High St., Beckenham

31h.p. B.S.A., 2-speed, wicker sidecar, excellent con-2 dition; Edinburgh.—Box 7,171, clo The Motor Cycle. [1212

1920 B.S.A. Combination, brand new; offers.— Smith and Co., 16, Hampstead Rd., Londo N.W.1.

JONES' Garage, special agents for B.S.A., Broadway, Muswell Hill, N.10, and Woodside Parade.

B.S.A., 1916 (October), 41/h.p., Model K, all-chain drive, in good condition; £68.—Davies, Meadi, Thatchain.

£60.-1913 B.S.A. and £60.—1913 B.S.A. and coachbuilt sidecar, starter, lamps, splendid tyres.—Apply, Prich Searroft, Highfield Park, Rhyl.

Phone No.: Museum 3419

Phone No.: Museum 3419

Searoft, Highfield Park, Rhyl.

B.S.A. 1919 44kp. Chain-cum-belt Model, fitted with special aidear, all accessories and spares.

IXS916

B.S.A. 31/s.p., 2-speed, clutch, kick start, lamp, 2-speed, clutch, kick sta

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B17

B.S.A.

B.S.A. 1913 31/h.p., Bosch, not used during war, top-hole condition, all accessories except horn; [1213] B.S.A. 1920, hrand new, Model K. B.S.A. best side-car, powerful, C.A.V. electric lighting; 145 gns. -116, Askew Rd., Shepherd's Bush.

B.S.A., 1913, 3½h.p., 2-speed, kick start, good unning order, suitable for sidecars; £62/10.—Robertson and North, Peterborough.

FOR Sale, B.S.A. 4½h.p. motor cycle and sidecar, first-class condition, 3-speed gear; 295 for quick sale,—Letters, Gable End, Farnborough, Hants. [1412]

B.S.A. Canoelet Combination, 1918, 41/h.p., 5-speed countershaft, luxurious sidecar, run 1,700; £125.—78, Springhank Rd., Hither Green. [1827]

B.S.A. Specialists.—All replacements in stock. B.S.A. sidecars, screens, hoods, and grids in stock.—The County Cycle and Motor Co., Broad St., Birmingham.

B.S.A., 1916, 3½h.p., 2 speeds, clutch, K.S., lamps, horn, tool bags, new condition, ride away; after 6 p.m.; bargain, £60. — Brown, 103, Norroy Rd. Putney.

B.S.A. 4½h.p. 1916 C.B. Combination, large lamp set, mechanical horn, spare chain, helt, tubes, etc.: £110, as new.—Johnston, 216, Rodney Hut, Crayford,

1482

19 16 44h.p. B.S.A. Combination, 3-speed, chain drive, some horn, lamps, accessories, recently overhauled, excellent running order; 295, or offer.—D. J. Atkinson, Christ Charch, Oxford.

B.S.A. Combination, late 1919, hood, screen, storm apron, Lucas electric lighting set, tools, all complete; seen any time; £180.—Bott, Fish Merchant, teorge St., Redditch. [1489]

1919 B.S.A., new last Sept. 4(h.p., 3-speed country share and shar

B.S.A. 1915 4½h.p., nhl-chain, 3-speed, kick start, hamp, tools, and side-or, gear case slightly danaged, splendid running to the start, side-or, gear case slightly danaged, splendid running to general Red Liou (1522).

B.S.A. 1913 5½h.p., 2 speeds, F.E., kick start, chain drives in splendid condition, lamps, etc., £56, drives in splendid condition, lamps, etc., £56, and the start, chain chain the splendid condition, lamps, etc., £56, and the splendid condition, lamps, etc., £56, and the splendid condition, lamps, etc., £58, and £50, and

ALL-CHAIN Drive 4Mhp. K.S. 5-speed Countershaft B.S.A., 1914, Milliond conclubult sideon, 5 lamps, tools, spare cover and tube, perfect, very little used; 1110, no offers.—Whitfield, 53, Park St., Notthwich.

B.S.A. 4½h.p. Combination, late 1915, 5-speed context shart, kick start, 5 lamps, horn, spares, take 5 anywhere; owner getting delivery of how combination this week; hist offer over 295 sectors.—A. W. Timson, 159. Well Hall Rd., Eltham, S.E.9. [1292]

159, Well Hall Rd., Estiman, 50-50-50
199; (October) B.S.A. and Mead and Dealni best
generators. Easting wind screen, Stramps, separatet
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1963
B.S.A. Combination. 3½h.p., Basch magneto.
B. and B. free engine, kick start, 2-speed, all
lumlops (skeep-studded drive), horn, tools, spares, perfect condition: 264, or nearest offer; also 2 Dunlops,
25x 25, market of the condition of t

nete Grove, Rothernam.

12007

B.S.A. 4½h.p. Consideration, recently delivered, allochind drive, Lucae torn and lamps, only done titld run 50 miles, p. 1240; also B.S.A. 4½h.p., combination, p. 1519, chain-cum-belt drive, lamps, lorn, done bout 500 miles, £125; owner hought combined to the consideration of the consideratio

Calthorpe.

CALTHORPES-A.1. 22mby 1.248.—L. Wooldridge, spines, stored duning war; 248.—L. Wooldridge, 18, York Rd. Wohing.

1915 2-speed 24h.p. Calthorpe-Jap, countershaft, new tyses, in splendid condition; 248.—Quenty, 15, High St., Baldeck.

CALTHORPE 2-stroke, 2½h.p., Enfield 2-speed, brand new, at makers' price, £66/3.—Wilkins, Simpson and Co., opposite Olympia, London. [9513]

CALTHORPE-J.A.P. Combination, 2-speed, last year's model, original tyres and enamel, in first-class condition; £65.—60, Oakfield Rd., Waltham-

CALTHORPE-J.A.P. 25th.p., 1920, new, full equipped, hungs, horn, etc., registered, insured, first ofter over 275 secures; London, S.W.—Box 1,060, 105 the Motor Cycle.

Campion.

CAMPION 4h.p., Armstrong 3-speed, wants sl repairs, otherwise good running order; £50. Sibey, 20, Charles St., Newark. slight T1605

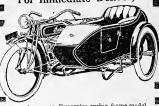
1016 Campion Combination, Sh.p. J.A.P., 3 speeds and clutch, conclibinit side-or, good condition; £105, or near offer.—Slaney, c/o North Essex Motor Works, Saftion Walden.



FOR MOTORISTS

87.91, John Bright St. 'Phone: Mid. 662 'Graph: "Lytear, B'ham."

For Immediate Delivery.



7-9 h.p. 1920 Powerplus spring frame model complete with dynamo lighting set, electric horn, and speedometer.

Solo Combination - £190 plus delivery charge from London.

CALTHORPE.

Special offer of ladies' model fitted with 2; J.A.P. engine and Enfield 2-speed gear.

Brand New-63 guineas.



Complete with electric lamps, horn, and parcel

40 guineas. Trade inquiries invited. Immediate Delivery. MOTOR CYCLES FOR SALE.

Carfield. WAUCHOPE'S, 9, Shoe Lane, Fleet St., London E.C.4.-21/11.p. Carfield, new, 1920; £59. [168

Cedos.

CEDOS.—The finest 2-stroke ever produced; ladies gentlemen's; order now for spring delivery—Blake and Co., Lancashire's leading motor of dealers. Liverpool and Manchester.

Chater-Lea.

CHATER-LEA Enquiries Invited by J. Blake at Co., leading motor cycle experts, Liverpool at Manchester.

Chater-Lea-Jap.

8 h.p. Chater-Lea-Jap, with Purcell sidecar; of seen by appointment.—Bulshaw, 84h, Salus Rd., Kilourn.

CHATER-LEA-J.A.r., 6h.p., Brooklands model, dis-clutch, as new; £70:—Turner's Motor Works, 6b zon Rd., Ealing.

CHATER-LEA-J.A.P., spring forks, Bosch, B. B., perfect; sacrifice, first £30 secures.-U B., perfect; sacrifi 39, Tivoli Rd. Margate.

CHATER-LEA-J.A.P. 8h.p. Coachbuilt Combinate 3-sjeed, complete: 495: seen any time.—B Caistor Mews, Lochinvar St., Balham.

19 13 Chater-Lea No. 7, 8h.p. J.A.P., C.B. si hood, screen, re-enamelled, mileage 10,000 cellent condition, sparce and all accessories; arternoons.—4, Killbrow, New Malden, Surrey.

8-10h.p. Chater-Lea-Jap, w.c., 3-speed counter handle start, Bosch watertight, all-chain nusual accessories, just rebushed, thioroughly hauled; first over £70 secures.—Parkinson, W. Hotel, Nuneaton.

Clyde.

The Clyde, mag., B. and B., good running ord £17/10, no offers.—Rosser, 54, Charlotte Devonport.

10 14 Clyde, 6h.p. twiu J.A.P., Bosch, N.S.U. sp. free: £50, nearest; stamp, reply.—Stott, Packton Rd., Ashby.de-la-Zouch.

Clyno.

CLYNO Combination, brand new, actually in stor Jones Motor Co., Mold, N.W.

CLYNO 5-6h.p., 3-speed, K.S., less mag., in a order; £70.—104, Plough Rd., Battersea. [1]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lone E.C.4, supply new 1920 21/h.p. Clyngs; E7

19 16 Clyno Combination, overhauled, ready away; £110.—Brawn, 94, High St., Becken

1917 6h.p. Clyno Combination, electric lighting, wheel; £125.—Lathe, Castle St., Coseley,

CLYNO 1917 Combination, 3 speeds, 5-6h.p., 80 very fast; £110.—Lee, 14, Half Moon Crest London, N.1.

CLYNO 1920 2-stroke, clutch model, lamps, b tools, not done 50 miles; £73.—A. Howard, B St., Chesham, Bucks.

CLYNO.—Orders being booked for early delived lightweight and combination.—Rhosha Motor Mawneys Rd., Romford. CLYNO 1919-20 2-stroke, 2-speed, clutch, accesso perfect running order, as new; £66, near after 5, St. John's Rd., Cambridge.

CLYNO Combination, 5-6h.p., 3-speed, kick state clutch: £120, or nearest; tried by appointment A.B., Lodge House, Lindfield.

CYLNO Combinations (2), 3 speeds, clutch, 1 start, both in good condition; £90 and £95 offers.—63, Solon Rd., Brixton.

WE Are Agents for Clyno. Place your with us to secure good delivery.—Apply, and Harper, 6, Bridge St., Cambridge.

and Harper, 5, Bringe St., Camoringe.

CLVNO 2-stroke, new, in stock, £70; or excholor, 3/strop solo or combination.—Bocking, Clerg, 552, High Rd., Willesden, N.W.10.

CLVNO 1320 2-stroke, 2-speed and clutch; formul new, actually in stock at makers my Wilkins, Simpion, and Co., opposite Olympia, Lend

CLYNO Lightweight in stock. Orders booked in the delivery from March.—Rethwell and Milbourne.

CLVNO 1920 2-stroke, 2-speed, handle-bar of perfect condition, not run 50 miles; \$55 offers; seen by appointment only.—K.H., Va Sanderstead Rd., Croydon.

1920 Sh.p. Clyno Combination.—We can offer liveries out of our first batch; approxidate, March.—Julian, 84, Broad St., Readingest dealers in the South. Phone: 1024.

10¹⁷ Clyne, 6h.p., new coach sidecar, 5-speed, start, enamelling, plating, and tyres significant spare tyres and tube, etc., exerting perfection; 2110.—101, Grove Lane, Camberwell.

BIS All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Clyno. LYNO Combination, 1915, 3-speed countershaft gear box, detachable wheels, good tyres and re wheel, in good running order; £120.—Apply, r 2 p.m., 5, Hambly Mausions, High Rd., Streatham amon, S.W.16.

Commught.

15 Connaught 2%h.p., 2-stroke, complete, humps, horn, accessories; £32,—Coombs, Wynberg, [1591]

me.

NNAUGHT, Sept., 1919, been 150 miles, 25(h.p., 2-speed model; first cheque secures, with lamps horn; 265.—Gilbert, 77. Eastbonrao Terrace, (fatus: 1478

Cook.

OOK, De Dion 2%h.p., Senspray, Bosch, front and teur lights, ridden duily, reliable; 29 gns.; without a, 27 gns.—Box 1,020, c/o The Motor Cycle. [1317

MISON B 25th.p., 2-speed model, in stock.-Malvern Agents, Woodyatt, I.td., Malvern (3865) 120 Coulson-B, spring, 25(h.p. Union engine, 24/2in, tyres; £65, carriage paid.—Cooke, Gorey, Ireland, [1394]

ULSON B.—The ideal spring frame.—Enquiries invited by J. Blake and Co., the motor cycle rts of Liverpool and Manchester. [6578 20 Coulson B., used 150 miles only, 2½h.p. Black-burne engine, 2 speeds, spring frame, perfect; £95, accept £85.—Box 1,068, c/o The Motor Cycle.

Dayton.

YTON 154h.p., 2-stroke, good condition and run-ning order, with lighting set; £25.—Guy, Queen's Thanae, Oxon. [1476]

ling Guer, with a second 11470
Thume, Oxor Lightweight, splendid order, vires and belt, excellent; bargain, £26/10, or offer,—H.S.D., 39, The Hill, Northfleet, Kent. [1808]

Diamond.

RIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [X8622 Diamonds,--thapet Asu, worvennangera, particular M. HEALY, Cork, official Diamond agent.-Rotational delivery. No premiums accepted, [6487 MOND, 1920, J.A.P. 25th.p., Enfield gear.-Edwards, 7, Exhibition Rd., South Kensington, [1871

\text{MOND 254h.p., new tyres, lamps, Lycett's, 1917 T.T.; bargain, £42.—Davison, Singer Shop, borough. [1990]

borough. [1990 D. VARTY, Thundersley, Essex, agent for Diamonds; 2-strokes in stock; early delivery of models; exchanges. [1782] MOND 2-stroke, 2-speed, overhauled and re-enamelled, perfect condition; £45, or nearest -Burcher, Hawthorns, Kidderminster. [1240] dyon.

MOND, late 1919, 2½h.p., 2-stroke, single ge gunop, tools, T.T. handles, mileage 500, good seen by appointment,—G. 12, Bordyke, Tonbrid single gear. MOND 1916, Villiers, disc rear, tyres, belt nearly new, 55t. mechanicol horn, pnun, Pedley ride away; 35 gns.; sup; satrifice for cash., Foston Hall, Leicester. [1421

Douglas.

IAN HARDIE and Laue, Ltd., Donglas Special-

Combination, 1920 model: £145.

p. Solo, 1920 model, clutch and kick starter; £90

p. Solo, 3-speed model W.: £86

Stock Everything you require for your Douglas.

Woodsteek St. (off Oxford St.), Bond St., W.1 'Phone: Maytair 6559, [0012

GLAS 1915 254h.p., 2-speed, perfect; £55.-87, ruro Rd., Wood Green. [9609 16 T.T. Douglas, in perfect condition; £60.-fones Motor Co., Mold, N.W. [X3830

4h.p. 3 Speeds Donglas, nearly new, all accessories; £98.-16, York St., Dover. [1527]

GLAS 4h.p. Combination like new; £110, or Her.-C.S., 14, Swaton Rd., Bow, E.3. [1941] FLAS 254h.p., 2-speed, in new condition: £48,-ewett, 1, Welham Rd., Streatham, S.W. [1192

Douglas, 25th.p., 3-speed, like new, lamp and norn; £60.—Douglas, Waterside, Coleraine. ASS 1917 4h.p. 3-speed Combination, like new; 15.-29, St. Leonard's St., Bromley-by-Bow. [1917]

Douglas 254h.p., 2-speed, as new, spares, accesories; £70.-C. Whatley, Aston Lodge, Malvern.

J. Hncker, Hillsborough, Acock's Green. [X3877a]

Call & See Us



THE FIRM FOR QUICK DELIVERY.

AUTHORISED AGENTS FOR MOTOR CYCLES.

DOUGLAS MATCHLESS ZENITH

IN STOCK.

8 h.p. ZENITH Combination. 23 h.p. DOUGLAS, W.D. Model. 8 h.p. MATCHLESS, Model H, dynamo.

4 h.p. DOUGLAS Combination.

Several guaranteed second-hand late models, DOUGLAS, etc.

Douglas Spares.

Douglas Aluminium Chain Guards, 12/6.

Douglas Instruction Books, 1/3. Patent Leather Mudshields, fit is. Polished Aluminium Wheel Discs.

£3 18s. per set. Tan-Sad Pillion Seats. Bowden Controls.

A.M.A.C. Carburetters. E.I.C. Magnetos for flat twins.

Cowey Speedometers. Cowey Mechanical Horns.

Klaxon Horns. D. A. Cylinders.

Electric Lighting Sets. Dunlop and Hutchinson Tyres.

Altrincham, 21st January, 1920.

To Vivian Hardie & Lane, London.

Dear Sits,—Very many thanks for the promptness in sending the sidecar rear spring.

It is a pleasure to deal with your firm. Herewith cheque

Yours faithfully, (Signed) H. C.

Bournemouth, January 20th, 1920 Bournemouth, January 20th, 1920.

Dear Sirs.—I am extremely pleased with the 1920 Douglas 4 l.p. Combination putchase I from you last week. Also for your generous offer for my 2% l.p. 1919 Solo. . . . A sreat friend of mins has taken such a liking for my and l.p. Combination that he wishes to have one from you. Yours faithfully, A. J. L.

24, Woodstock St. (off Oxford St.), BOND ST., LONDON, W.1.

Telephone—Mayfair 6559.
Telegrams—IVHARDILAN, WESDO, LONDON

MOTOR CYCLES FOR SALE. Douglas.

DOUGLAS 4h.p., 3-speed, as new, guaranteed perfect order; £80.—Burley, Sheldon, Warwickshire,

D'OGLAS 4h.p., 5-speed gear box, bea chutch; E710-Walfer, Brook St., Works, Birmingham, 19 16 Douglas Combination, overhauled, roady 104 away; 295-Brawa, 94, High St., Becken 1972

3 h.p. W.D. Douglas, as new; £65,-H. Martin,
The Spinney, Apsley End, Hemel Hompstead,
[1859] DOUGLAS 25(h.p. (W.D. rebuild), Klaxon, lamp, combination tyres; 60 gns,-10, Crowborough Rd.,

[X3797 Tootieg. [A3767]

DOUGLAS 25(h.p., 1915, 2-apeed, new condition: 449, bargain.—18, Mathorough Rd., Old Kent [1957] Tooting.

Rd., S.E. [1457]

23 h.p. Donglas, 1914, 2-speed, perfect condition;
£550 or near ofter.—Pyner, Godinton Rd., Ashlord, Kent. [1837] D OUGLAS 25th.p. T.T., 2-speed, nearly new, perfect lin every way, £70.-Pollard, Broomfield Rd.,

4 bp. Donglas, 1919, brand new, 3-speed, clutch model; \$\frac{\pmu}{2}\$ t105; first deposit secures.—Box 1,061, c/o The Motor Cycle. [1551]

A PPROVAL Paid.—Douglases, 2%h.p., £25; 4h.p., kick starter, £65.—Fredericks, 3, Priory Plain, Gt Vermouth, [1239]

Gt. Yarmouth, 10 19 2-speed Douglas, lamps, horn, perfect order; 65 gns.; any examination.—Clarke, 1a, Arandel Rd., Brighton. [1929]

DOUGLAS 25 h.p. W.D. Models; several at £ Chifford Wilson Mfg Co., 70, Royal Hospital Chelsea; S.W.3.

19¹⁷ Donglas Combination, 4h.n., as new, sidecar renovated, as new; £95.-262, Blackhorse Lane, Walthamstow. [1866

Douglas, 2 (h.p., very fast, long exhanst, equi)
£58. - 51 Townshend Cottages, Albert
Regent's Park.

DOUGLAS 4h.p. Combination, 1920, in stock; list price plus carriage.—Edwards, 7, Exhibition Rd., South Kensington. [1875]

DOUGLAS.-Large assortment of 24h.p. second-hand models in stock, all tully gnarauteed.-Ross, 86, High Rd., Lee, S.E

High Rd., Lee, S.E.

19 11 Douglas 22/h.p. good ranning order, lamps, born, tyres nearly new; £27.—Pamping Station, Hadby Rd., £nfield.

4 h.p. 1919 Douglas, Empire sidecar, horn, lamps, tools, undershield, and knee grips; £125.—19, Mitton Av., Bathh. [1946]

19 15 Donglas 2¼h.p., 2 speeds, new spare tyre and tube; £65; call after 7 p.m.-30, King Sq., Goswell Rd., E.C.1. [9731

DOUGLAS 4h.p. C.B Combination, 1918, perfect running order; £110.-H., 3, Broadway, Ludgate Hill, E.C. 'Phone: City 4191. [9614

DOUGLAS Latest Model 25(h.p., 2-speed, complete with lamps, little used and as new; £95.—Brook Bros., Burnham, Somerset. [1371

SECOND-HAND Douglas, 2-speed, kick starter, in excellent order, not been used for 2 years; £65.—Nicholas, Yerbeston, Begelly. [1208]

19 15 (late) Douglas 25th.p., 2 speeds, new lamp set, excellent condition throughout; £55.—72, Longridge Rd., Earl's Conrt. [1816

 $2^{3\text{h.p.}}$ Donglas, 1916-17, replated and enamelled, 4 as new, perfect running order; £68.—Griffin, Coombend, Radstock, Somerset.

19¹⁴ 25th.p. Douglas Combination, plenty of power, very sporting appearance; 285.—Whitaker, Ashley, Monkmoor Rd., Shrewshury.

DOUGLASES.—Call at Smith's for your next Douglas.—Smith's, 10-16, Haverstock Hill, opposite Chalk Farm Tube Station.

4 h.p. Douglas Combination, engine Nn. 6507, perfect nrder, electric light; 105 gns.—C.O., 13, Bloem-fontein Rd., Shepherd's Bush, W.12. [1984]

DOUGLAS 254h.p., 1915, new lamps, fully equipped, long exhaust, genuine machine; £65.—Boxall, Beulah Rd., Thornton Heath, Surrey. [1389]

DOUGLAS 254h.p., 2-speed, uncrated in October, absolutely perfect, well equipped, as new; £65.—60, Wallingford Av., N. Kensington. [1471

DOUGLAS 234h.p. 2-speed, 1916, brand new condition, fully equipped; £65; after 7.—Collyer, 33, Hammersmith Huts, Wood Lane. [1937]

19 Douglas 4h.p. Combination, complete with lamps and horn, in perfect condition throughout; £130.—The Grange, Hendon Av., Finchley, N.S. (1166

Douglas.

19 19 4h.p. Douglas Combination, perfect order, mileage 1,000, Easting, lamps, all accessories.—Offers to Owner, 80, Mercer's Rd., N.19. [1963]

1916-17 Douglas, 2%h.p., 2-speed, in perfect condition, nearly new tyres, lamps, accessories, etc.; 265.—1, Melrose Rd., Merton Park, S.W. [964]

SIX Douglases, 23th.p. W.D. models, practically new in perfect running order; £65 each.—The Mattack Motor Co., Mattock Lane, Ealing W.5. [1610] DOUGLAS, 4h.p., 1919, complete with sidecar, first

DOUGLAS, 4h.p., 1919, complete with sidecar, firstclass condition throughout: £120.—Frank Whitworth, Ltd., 139, New St., Birmingham. [1631 22h.p. Douglas, 2-speed, lamps, horn, and tools, etc.,

2.4 h.p. Douglas, 2-speed, lamps, horn, and tools, etc., Just been overhauled, in first-duss running order: 10 gas.—Fuller, 19, Thirdign Sq. Chelsea. [XX776]
D'O'GLAS, 25/h.p., 2-speed, uncated July, 1919, equipped, perfect and unscattched; £62.—Deutst. 216, Portobello Rd., North Keosington, W. [X3556]

216, Portobello Rd., North Keosington, W. (X3356)
19 20 Donglases.—By one who knows: delay is
dangerous.—Order yours move from the Douglas
Specialist, Gibb, Gloucester. Phone: 852. [6340]

1919 27th p. Bouglas, new makers November, lamps, born, accessories, insurance policy, any trial, examination, 265—Lloyd, Moira, Leicestershire. (2006 SMITH'S for Second-hand 1916 27th p. Douglases, overhauded, from 50 gns.—Smith's, 10-16, Huverstock Hill, opposite Chalk Farm Tube Station. [0092 DOUGLAS 29th p. 2-render palential condition for

DUGLAS 22th.p., 2-speed, splendid condition, fast, Beech mag., new hums, etc.; trial by appointment.—6.H.B., 768, Fulhau Rd., S.W.6. (D) 1932.

DUGLAS 22th.p. 2-speed Model, completely over banded and renovated, fully equipped with all gares; £65.—Parker's, Bradshawgate, Bolton. (X3914)

DOUGLAS 2%h.p., 2-speed, D.W., specially selected by expert, uncrated last October, perfect condition; 75 gas.—Chatham, Cefn Quarries, Rusbon. (X3613)

DOUGLAS 2%h.p., 2-speed, Dunlop heavy tyres, slightly slop-soide: 2*79.—Pvivum Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1.

1215

19 15 Douglas 25/th.p., rull T.T. bars, new abuntoinm discs, new tyres, tront and rear lighting, fast bus; £58.—50, Riggindale Rd., Streatham, S.W.16.

NEW 1920 Douglas 4h.p. Combination, Saxe blue, sidecar delivered this week, unused: £165.—Apply, B., 38, Frederica Rd., Winton, near Bouraemonth.

DOUGLAS 1914 31/h.p., 2-speed, sporting wicker sidecar, 6in. F.R.S. head lamp; flust sell, what offers?—Rap, Longfield, Broom Rd., Hampton Wick.

DOUGLAS 25/h.p., 1916, 2 speeds, good condition £57, or exchange for higher power, cash either way —Applin, 2, Nora Villas, French St., Sunbury, Middle

1915 Douglas 25(h.p., 2-speed, lamps, horn, spares, excellent condition, Palmer and Clincher unpunctured; £51.—18, Atherton Rd., Forest Gate, E.7.

1915 23th.p. Douglas, 2-speed, lamps, horn, etc., excellent running order, all original, not army model; 256.—436, Whitehorse Rd., Thornton Heath, S.E.

DOUGLAS, 1915, £55; mother, buffer torks, practice cally undistinguishable from new, £65.—5. Eglon Mews, Betkeley Rd., Primrose Hill (near Chalk Farm Tube).

DOUGLAS 25th.p., late 1919, lamps, Klaxon horn, knee grips, mechanically as new: £80.—Vivian Hardie and Lane, Ltd., 24, Woodstock St., New bond St., W.1.

1015 Douglas, 2%hp., 2-speed, enamel and plate hke new, very fast; £55; garaged.—Moslin, 645, Harrow Rd. (opposite Kensil Green Station, Bakerloo).

DOUGLAS (Nov., 1919) 4h.p. Combination, 3-speed, kick start, done 400 miles, lamps, horn, and tools; what offers? any trial.—Manager, Aerodrome, Bournemouth.

mouth. [1602]

DOUGLAS 1915 2\(\frac{1}{2}\)\(\frac{1}{1}\)\(\frac{1}{1}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{1}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac

DOUGLAS 284hp., 1914, clutch, kick start, very good condition throughout, almost new tyres: £65, -Vivian Hardie and Lane, Ltd., 24, Woodstock St., New Bond St., W.1.

DOUGLAS 23/h.p., 1916, 2-speed, just been thoroughly overhauled and re-enamelled, buffer springs, etc., makers' colours: £58, no offers.—Sumpson. 51, Belvedere Rd., Lambeth,

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4, supply new 1920 Douglas machines from stock, solo and sidecar combinations; also 274h.p. lady's Douglas, 1917, £75.

DOUGLAS 1914 25/h.p., 2-speed, complete with lamps, horn, and tools, T.T. burs, good running order; seen any time rifter 3.45 p.m.; £57, or neer offer.—2, Westgate, Bridgnotth. [1473]

NEW AND USED MACHINE TOOLS.

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MOTOR CYCLES FOR SALE.

DOUGLAS 4h.p. Combination, 1916-17, practic new, Easting screen, lamps, complete transpares, highly insured; seen by appointment Tyrwhitt, 54, Ashleigh Av., Bridgwater.

DOUGLAS 25(h.p., 3-speed, December, 1915, as lene and electric lighting, new chain and as new 2½ Dunlon rear, knee grips, heel brake; 26 Bansou, 23, Tivoli Rd., Crouch End, N.6.

10 18 Douglas 4h.p. Combination, kick start, ch 3 speeds, sidecor, chassis, tyre, tube, rull a are all brand new, excellent lot: £125.-51, Townst Cottages, Townshend Rd., St. John's Wood.

DOUGLAS 234h.p. Combination, Watsonian feat weight sidecar, lamps, etc., re-enamelled plated, specially tuned, very fast, £60.-Henry, Grosvenor Rd., Chiswick. Tel.: Chiswick 1186.

DOUGLAS Combination, 1916, 3-speed, kick at complete lamps, horn, tools, speedometer, at etc., splendid condition; hargeio, 290,—Young, Dra Stores, 231. Coventry Rd., South Yardley, Birming T. Appears Ridiculous to Advertise when 181 T. Appears Ridiculous to Advertise when 181 to stock, but we are giving deliveries to the birds. Place your order at once if you wan livery.—Eli Clark, Douglas Agent, 196, Cheltenham

Bristol.

Dargal Angal N.—1915 Douglas, as new, not dono miles, lamps, horn, and accessories, enamel and plating like new guaranteed sound and per £58.—Refreshment Bar, 45, Bow Common I.

DOUGLAS, 2%h.p., 2-speed, uncrated 1919, an exhaust, extra large mudguards and sat lamps, horn, huffer springs, excellent condition; a ride away; after 6-4, St. John's Wood Park, Cottage, N.W.

19 19 (Oct.) 4h.p. Douglas Combination, latest klazon, gas and electric light, scratched, mileage 300; £145, or best offer, we exchange modern light car.—M., 29, Larkfield Riebmond, S.W.

DOUGLAS 2°4h.p., run 2,000 miles, just overlest and tuned up to 55, Binks, Bosch, 2 lat Klaxon, full tool kit, spares, etc., issurance, painted makers colours; any trial; £70.—Watts.de R.E. Mess, Aldershot.

DOUGLAS 24th.p., 1915, Amac, Dixie, P. and sparses, privately owned, carefully ridden, and in tough good condition: ride away; £52.—Naval on 6, Hurttagdon Rd., Chiswick, W.4.

DOUGLASES, 1920 models.—The noted bouss the South for early deliveries. We are special and stocked to be the constant of the constant of the deliveries of the constant of the constant of the constant of the deliveries of the constant of t

DOUGLAS 24/h.p., Nov., 1919, ridden 500 Wutford speedounter, Kinxon, tool kit as issued, sp and full insurance until Nov., 1920, enamel unscribe everything as new; 80 gns.—Reid, Westminster Bournemouth.

10 19 sh.p. Donalas Combination, fully equip type, special control of the combination of

1919 4h.p. Douglas Combination, splendid on new extra heavy Dunlops, Cowey specdometer, first-hood, Triples screen, side curtains, luggage grid, a shelids, mechanical horn, mirror, etc., mechanical feet; any examination and trial; 2138.—Cook Hoveden Rd., Cricklewood, N.W.2.

A S New, -2%h.p. (1916) Douglas, completely a hauled, re-enamelled mokers' colours, all breats plated, complete with front brake, tool. bearly new tyres, new helf, methanically perfect machine from the works; 275.—Hubert Turner Co., 45, Crawford Passage, Ray St., Farringdo E.C.4.

D19 Douglas 25th.p., 2-speed, September, and No. 41468, makera' colonia, in perfect much better than new, absolutely complete with vatent spring rear seat, P.H. lighting set, rear Klarco, adjustable and plain pulleys, front mod hundle-har muffs, single lever Annac, chain coer, ley grips, spare chain and inner tube, toole and polong exhaust, knee grip, extra Terry'a front spring sent-pille tyres unpunctured, a perfect Doe, find the pulley from the complete the complete

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DUZMO 31/2h.p. Single and Sh.p. Twin. Order strict rotation. Deliveries commence Februar All Lancashire and Cheshire enquiries to Leach Seed, 16, John Dalton St., Manchester.

Follota

9 24th.p. Enfield, as new; £60.-H. Martin, The Spinney, Apsley End, Henrel Hempstead. D. VARTY, Thundersley, Essex, Enfield 1912 18th.p. twin, chain drive; £35; exchanges.

TELD 4h.p. Combination, 2-speed, very nicorder; £75.—Leigh, 43, Ellisley Av., Cambridge p. Twin Enfield, M.A.G. engine, overhanded; £30. —Collett Bros., opposite Notwood Junction [1294]

p. Twin Enfield, M.A.G. eagan.
—Collett Bros., opposito Notwood Junction (1294
4ELD Combination, 6h.p. (new), fitted with wind green, horn, etc.; £160.—4, Berestond Sq., Wood, [1470]

ES' Garage, special agents for Enfields, Broaday, Muswell Hill, N.10, and Woodside Parade, Finchley.

IELD Combination, 6h.p., electric light, good yres, excellent condition; £140.—Box 1,124, c/o stor Cycle.

UCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—Enfield combinations, 1916, 1917, 1918, from £120. [1689] [1689] IELD 214h.p. Twin, 1910, good condition, Bosch; 18/10, burguin.—Morse, 123, Warniagham Rd., hall, Crewe.

). Royal Enfield Twin, 1911 (?), good running order, excellent condition; £26.-6, Knarest Rd., Ripon. [1220]

Eafield Combination, 1916, lamps, accessories, 10x80 tyres, new condition; £120.—11, Wheel-Rd., Birmingham. [X3909]

IELD 1915 3h.p., 2-speed, kick start, lunps, and order, smart; £60, or offer, exchange, 245. [1545 ELD 6h.p. 1915 Combination, electric lighting, w tyres and tubes; £125, or near.—32, St. s Av., East Ham. [1580]

LD Combination, 1917-18, £135; ditto 1913, my smart, £98/10.—Halifax Motor Exchange, St. South, Halifax. [1440]

ELD-Combination, Sh.p., mechanically perfect, addition as new; £145; bargain,—Dowson, 100, lord Rd., Colne, Lancs. [2050]

tt. ENFIELD, 3h.p., chain drive, completely erhauled, good tyres, lamps, Klaxon horn: chertson and North, Peterhorough. [1582]

SLID 1919 24/hp. 2-stroke, practically unused, scratched, lamps, generator, exhaust whistle, 65.—Lt. Cole, Alliance Hotel, Southampton. [X3724] 55.—Lt. core, Arman 123. Singled, bought Feb., 1914, stored 4 years, new try Dunlops, mechanically perfect, all spores; ties £110, or nearest.—146, Broad St., Coppenite £110, or nearest.—146, Broad

6h.p. Royal Enfield Combination, complete with sols, lamps, Cower speedometer, spares, perfect order, good condition; £190.—Box 1,049, c/o or Cycle. (D)

1915 6h.p. Enfield Combination, lam sdometer, Klaxon horn, etc., new condituation, little used; £125.—436, Whitehorse F 1 Heath, S.E. lamps,

LISTS TELLY 24(h.p. Twin, 1910-11, thoroughly over-ided, enamelled red and lined gold, copper ex-ew, tyres; genuine bargain, 31 gns., no offers, thur Rd., St. Albans. [1338]

LD Combination. 1917. 6h.p., 3 lamps and erators, lucas horn, luggage grid, absolutely ; 140 gns.; call 6 a p.m.—Wisson, 25, 2 Rd., Parson's Green, S.W.S. [1896]

o' Rd., Parson's Green, S.N.S. Enfield Combination, Sh.p., delivered August, ed with Lucas head lights, Lucas horn, Cameo en, Tan-Sad, magneto gnard, perfect condition; 58/10.—Southern, Grocer, Gloucester. Tel.: [9658]

ENFIELD 25/hp. Twin, 2-speed, speed, speed, acetylene head ond tail lamps, tyres nearly ael and plotting good, splendid appearance and ider; £45.—Lees, 10, Westbourne Place, Hove, [1911

oval Enfield Coachbuilt Combination, Intellittle used, total mileage 7,500, perfect order to open to expert examination and any trial near offer.—Shannon Lodge, Cross Rd., South thou.

tgain.—Royal Enfield combination, 2 speeds, of drive, coachbuilt sidecur, recently had 225 overhaul of engine and gears, 2 tyres poor, by, otherwise tranning; owner must clear this offers.—Seen Poxon's Garage, Canterbury,

theld Combination, bought new in 1915, 2 s, kick starter, clutch, lamps, horn; lovely ar, with opron, outfit only used 1,000 miles, w, guaranteed perfect, plating and enamel as Cambridgeshire.—Box 1,063, cto The Motor

D Combination, 8h.p., late 1918, dynamo og, inspection laung, 2 electric horns, Emis achuretter, 700×80 tyres, all unpunctured, sen and hood, speedometer, Tan-Sad, spare at fools, etc., absolutely finit-class; any frial lattor; £170.—267, Lynam Rd., Brixton 1246 [1246]





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their numerous customers for the consideration and indulgence extended to them during the difficult period of removal from LONDON to New Offices, Warehouse, and Works at CROYDON.

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Excelsion

R. D. VARTY, Thundersley, Essex, agent for American Excelsior; early deliveries; exchanges, 31h.p. Excelsior, mechanically sound, requires coal and hom; £10.-Summerfield, Lodge, Capel,

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, 1914; £125. [1690]

EXCELSIOR Combination, 8-10h.p., electric model, dynamo lighting set, electric horn; £125.—Robm-con, 12, Angles Rd., Streatham. EXCELSIOR (British) 1915 274h.p., 2-stroke Peco-engine, 2-speed gear, clutch, chain drive, lamps, etc.; £40.-371, High St., Lewisham. [X3897]

L ANCASHIRE, Cheshire, North Wales, 1810 Man only, American Excelsior; enquiries.—J. Blake and Co., Official Dealers, Liverpool-Manchester. [6586]

19²⁰ 2-stroke 2-speed Model Excelsior in stock for immediate delivery; £63/16.—Forfield Motors, 11 and 13. Forfield Place, Leamington Spa. [X3974] A MERICAN Excelsion, electrically equipped, in stock, Early deliveries of Henderson, Allon, Connaught, and O.K. Union, from the sole district agent: Hutchin-son, Boroughbridge, Yorksbire,

THE New 1920 American Excelsior represents the best value for money on the market. Book now to rearly delivery; fitted with Swan de Luxe sidecar.—Enwards and Parry, 4, Blenheim St., Bond St. Mayfair 2666.

F.N.

21h.p. 2-speed F.N., good condition; trial.-337, Havdons Rd., Wimbledon. [1190 F.N., 2%h.p., shaft drive, 2-speed, lightweight; £85.
-Frank Whitworth, Ltd., 139, New St., Birming.

F.N. 1914 2½h.p., 2-speed clutch, Bosch, stored 4 years, excellent condition; £30.-6, Sirdar Rd., Wood Green. F.N., 5h.p., 4-cyl., new tyres, rebushed and over-hauled, re-enamelled, new spring wheel sidecar, perfect; £80.-192, Manor Rd., Leyton, E.10. [1169

F.N. 2/j.b.n., 2-speed shart drive, spring forks, Bosch, m.o.v., 1920 Amao, tank enamelled and lined, perfect running order (stored 3 years); first deposit 225.

-Box 1,056, c/o The Motor Cyclc.

1913 F.N., 2½hp., 2-speed, clutch, h.c., lamps, 2 horns, one mechanical, dismantled in 1916, not reassembled until 1920, has just been thoroughly occurantled, excellent condition, fast; £30.—Kirkyatirek, Corpus, Cambridge. (D)

T.N. 4-cyl, 2-speed, clutch model, 1912, 245; Minerva 4h.D., smart machine, 230; Triumph, 1909, good old bus, 250, or offer; Mc. 23h.D., mag, 225; Noble 3h.D., 222; trial given on sny machine, 2-10b, 198, Pittney Bridge Rd., Putney, S.W. [1820]

GRANDEX-PRECISION Lightweight, 2-speed, good condition, and in running order; offers over £20.

-Stockton, Lynn Garth, Bright St., Sowerby Bridge.
[1306] Green.

GREEN Precision Combination, water-cooled, 3speed clutch, winner of 5 world's records; seen
any day; 258.—Townshead, 463, Green Lanes, Small
Heath, Birmingham.

Harley-Davidson.

19 20 Harley-Davidson, brand new; £155; list price £171.—Reynolds, Waterbeach. [2063 19 20 Harley-Davidson's, all models actually in stock.—Kemp's Garage, Louth, Lines. [X3898]

JACK HEALY, Cork, official Hurley agent.—Ro-tutional delivery. No premiums accepted. [6488 HARLEY-DAVIDSON 1918 7-9h.p., 3-speed, clutch, equipped; £130.-5, Victoria Av., Surbiton. [2023

HARLEY-DAVIDSON, 1915 model, with sidecar; £125; in good order.—Erook Bros., Burnhom, [9594]

BEFORE placing your order for new Harleys, write Brook Bros., Burnham, Somerset. Immediate deliveries.

HARLEY DAVIDSON.—Book now for early delivery.

Official Agents, The Motor Cycle Mart, Stafford
St., Walsall. [X3382] St., Walsall,

HARLEY-DAVIDSON, 1915, and coach sidecar;

£125,—Halifax Motor Exchange, Union 8t.

[144]

R. D. VARTY, Thundersley, Essex.—Harley David-son 1915 7-9h.p. combination, all accessories;

IMMEDIATE Delivery of 1920 Harler-Davidson elec-tric model; cash or exchange.—Williams and Co., Portland St., Cheltenham. [1195]

LATE Model Harley Davidson Combination, bulbons tank, as new, perfect: £160, or take solo part.—
185, Brighton Rd., South Croydon. [X3618] HARLEY-DAVIDSON, 1915 electric model, 7-9h.p., and sidecar; reasonable offer accepted.—Arthur, 15, Weymouth Mews, Portland Place, London. [1290]

Harley-Davidson. G OODWIN and Cragg, Stafford St., Derby.—We can give early delivery of Harley-Davidsons. Second-hand machines bought, sold, or exchanged. [X3620

HARLEY-DAVIDSON 7-9hp. Combination, 1916-17
model, equipped with lamps, horn, speedometer, screer; trial or examination.—Parker's, Bradshawgate. Bolton,

19 15 Harley-Davidson Solo, electric model, new Easter, 1917, splendid condition; £115, or Dearest offer.—Averay, 25, Salthouse Rd., Barrow-in-Furness.

WAUCHOPE'S, 9, Shoe Lane, Fleet E.C.4.—7-9h.p. Harley-Davidson combination, 1919, £185; 7-9h.p. Harley-Davidson combination, 1915, £187/10,

1919, 2137/10 19 20 Sporting Harley-Davidson Combination, electric model, just delivered, naused; accept £208, list price; seem betore 11 and after 7.—Rathmell House, Heathgate, Goldens Green.

HARLEY-DAVIDSON 2-speed Combination, recent overhaul and renewals, perfect condition, double Phenix sidecar; £125; Saturday only.—30, Arlington Park Mansions, Chiswick, W. [2004]

HARLEY-DAVIDSON 1917 7-9b.p. Sporting Oulfit, disc wheels, semi-T.T. bars, electric lighting set, in very nice order, £170-Elec and Co., 15-16, Bishopsgute Av., Camomile St., E.C.3. [0071]

ARLEY-DAVIDSON Combination, 7-9bn. 1919
HableY-DAVIDSON Combination, 7-9bn. 1919
electric model, Kinyon speedometer, etc., gorgeous turnout; seen after 6.15 pm.; owner going abroad; £190.—Attwood, The Vale, Ravensbourne Rd., Bromley, Kent.

HARLEY-DAVIDSON Combination, 7-9h.p., 1915 model, in excellent condition, engine as new, has been stored 4 years during war, hand clutch, 3 speeds, all tytes as new: too powerful for owner; £150.—Shrubh, The Strand, Walmer, Keat.

1919 Harley-Davidson Combination, electric model, havarious sidecar, large bullous back loggage carrier, wind screep, bood, and side curtains, apron, full kit of tools, etc., tip-top condition; £185.—Pletcher, Cower Ravenhurst, Habbone, Birmingham. [1165]

HARLEY-DAVIDSON 1915 Combination, 7-9h.p., mag. model, 3 electric lights, wind screen, hood, side curtains, luggage grid, Klavon, in first-class order and condition, large sidecar, enamel as new £160; buying car-Green, Barna, Hindhead, Surrey.

1918-1919 Harley-Davidson and sidecar 18-31 spring tanden seat, 7-9h.p., 5 speeds, hund and foot chitch, unmeter, dynamo lighting, electric hora, speedometer, privately owned; can be seen Manufer Motor Mart, 100, Paris St., Exeter; nearest £175; 1429.

HABLEY DA VIDEON. 1919. mag. model. Googst Habilbooks hele sidects: Easting, Klason, Boonds sen speedometer, hamps, unarratched, won Bounds Edinburgh gold; £180; would exchange for A.J.S., Sunbeam, Scott, or light car.—Thompson, Chemist, 159, Stratford Rd., Birmingham.

HARLEY-DAVIDEON Combination, 1916, with ele-tric lighting and electric nois, noncine just been completely overhanded by makers, sideour just reen-amelled and reuphoistered; the outif is in perfect order, equal to new; £170—Leech and Taylor, 4 Cont-cation St. (opposite Mariet Place), Manchester. [1157

10 20 Anies Paricka, Market Parick, Mantheseter. 11157

10 20 Hailey-Parickan, 4h.p. flat twin, fally fitted for the read with lamps, mechanical horn, and thanks a second or fively summered new; this man thanks are sent than the property of the same content and thanks over any other nucks of the same rower to do easily 90-100 niles to the gallon, a point well worth considering at the present with petrol going up. With sidecar fitted, this little mount will hold and surgass may other make on the road; price, list.—Northelek, 37, Tuninam Guen Terrace, Chiswick. [118]

H.R.

H.B., 25/h.p. Blackburne engine, 2 speeds, K.S., P. and H. lnups, Klaxon hoin, indistinguishedle from new; no reasonable offer refused.—Woolley, Blowwich Rd., Willenhall, Staffs.

Henderson.

L ANCASHIRE, Cheshire, North Wales, and Isle of Man.—Enquiries for Henderson 4-cyl. wanted.—
J. Blake and Co., Official Dealers. Liverpool-Man-

HENDERSON Late 1916 8-10h.p., coachbuilt side-car, apron, speedometer, all lamps, Klaxon, re-cently overhauled by Robertsons; any part dismantled for inspection; accept £135 for quick sale, no offers— 13, Victoria Rd., Sheffield.

HENDERSON 10hp., 1915. 2-speed, clutch, feed to the head to the and side knep (leterity), born, speedemeter, pillion sent with backirst and toottest, Empress short built sideout, luxgage carrier, wind screen, spures, such decreased 2 years, splended condition; £130, offers.—Box 1,018, 60 The Motor Cycle.

L ATE 1919 254h.p. Hobart, as new, complete; what offers?—Smith, Brington, Northants. [1300 HOBART 21th.p. 4-stroke, Bosch, Senspray, running order; #22.-Box 1,017, c/o The Motor Cycle.



Sole London and District Agents for A.J.S. and British Excelsior Motor Cycles, also Watsonian Sidecars. tracting Agents for Triumphs. B.S.A., Enfields, Calthorpes, Allons, A.B.C.'s, Matchiess, Allons, A.B.C.'s, Matchless, Rudge, Clyno, Harley-Davidson, etc.

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ROBI HAND MUFFS
Keep your bands cosy but leave your fingers free.
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23 /- pr. Special seatless type 27 /- pr. (Postage 6d, extra). MOTORING GLOVES.

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Telegrams - 'Dynametro, Westcont, London.

MOTOR CYCLES FOR SALE.

Hobart. WHAT Offers?—2-speed Hobart cycle*(1915), 21,5b 2-stroke, all spares, keys, etc., tyre and the lamps and horn, all complete.—Wilfred Coldwell, 1 Top, Clayton West, near Huddersfield.

HOBART, 1915, 23th p. Villiers 2-stroke, 2-lamps, speedometer, horn, etc., just thore overhauled, excellent condition: £38/10. Ric Fringford, Lewis Gardens, East Finchley, London,

Humber.

HUMBER 31/h.p., 2-speed, splendid condition gns.-Thorns, 64, Church St., Edgware Rd. WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lo E.C:4.-6h.p. Humber combination, twin,

HUMBER Lightweight, 1913-14, splendid tion, little used; £28, no offers.—3, Rd., Exeter.

H UMBER, 31/2b.p., 2-speed, Bosch mag.; Speechley, 1, Gonnersbury Lane, Actor London, W.3.

A NCIENT 31/h.p. Humber Motor Cycle, chain of complete, less accumulator; £10, offers.—10, coln St., Swindon.

HUMBER 3½h.p., 2 speeds, free engine, nice of £30, or exchange higher power with cash.—8 24, West St., Carshalton. FOR Sale, Humber combination, 3½b.p., 3-delition throughout.—Write, Johnson, 293, Hainton grimsby.

HUMBER 3½h.p., 3-speed Sturmey-Archer clutch, kick start, coachbuilt sidecar, wied schapp and generators, horn; £73; or nearest.—Speu High St., Whitstaile.

High St., While Bridge and B., Philip pulley, 2-speed, F.E., good condition and appance; £30, siderar chassis £3, or £32/10 both—Tu. Bridgeman Place, Bolton.

HUMBER New Flat Twin, 3-speed, hand control clutch, electric equipment, horn, tonls, etc., ally in stock; £105. Sidecar if required.—University Park Rd., Rugby.

HUMBER 1912-13 3½h,p., 3-speed Sturmey-An butt-end and cover, fine order; £40; Middleser, 7,177, clo The Motor Cycle.

H UMBER Lightweight, about 1914, lamps, pump, toolbag, tyres and platting good, B.B buretter, Dunlop belt, £30; exchange conside 352, High Rd., Willesden, N.W.10.

HUMBER, 3½h.p., 3-speed Sturmey-Archer clutch, enamelled red, blue disc wheels bars, lamps, born: £45; appointment.—Goldin St. Kilda's Rd., Stoke Newington, N.16.

19 191/2 31/th p. Flat Twin Humber, 3-speed cost mileage about 1,000, P. and H. head, electric lamps, horn, mudshields, tools; £105; Suffolk-1,093, c/0 The Motor Cycle.

Indian.

STILL the finest and hest value for money, silent Indians; £158 solo, £190 combination. THE Scout Model, £125 solo, the finest solo me in the world; £155 combination.

PLACE your orders now for early delivery. Ph 943 Horswill.—Castra Motor Cycle Garage, Bridge St., Chester.

INDIAN and Sidecar, 6h.p. clutch model; £55; any time.—89, Vicaroge Rd., Willesden.

INDIAN Coachbuilt Combination, 7-9h.p., 3 specific lamps, horn; £115.-49, Well St., Hack INDIAN 1915 5h.p. Combination; take twin weight part exchange.—Dromana, Bernard Cowes.

19 20 Indians: prompt deliveries.—E. Brown Specialist 3 and 70. Parker Lane, Tel.: 194.

INDIAN 31/h.p., clutch, spring frame, new Bosch, perfect condition; £45.—King, Byfleet, Surrey.

INDIAN 7-9h.p. 1916 Combination, perfect, a lamps and horn; £95,—Shakesbalt, 109 St., Nantwich.

19¹⁶ 7-9h.p. Powerplus Indian Combination, wheels, like new; £140.—29, St. Leonard Bromley-by-Bow.

IMMEDIATE Delivery, 1920 Powerplus Indian, used, premium wanted; private owner.—Box I. c/o The Motor Cycle.

BARGAIN.—7-9h.p. T.T. Indian road racer, st during war; £80.—Garaged at Binks and C St. Benedict's Sq., Lincoln.

19¹⁵ Indian, 7-9h.p. clutch model, splendid continuous, enamel unscratched, very fast; £65.
Canning Clescout, Wood Green.

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Indian

Indian T.T. Road Racer, 7h.p. twin, mag., clutch; effers,—Wandsworth Motor Exchange, 8t., Wandsworth (Town Station). [1637

N 1914 7-9h.p., clutch model, mileage 2, flent condition; £80; by appointment.—Pu

AN Powerplus Combination, 1916, spring frame, settle lumps, speedometer; £125.—Clifford Wilson to, 70, Royal Hospital Rd., Chelsea, 8.W.3. [1534]

) Indian Combination, 7-9h.p., new late October, unscratched, full electrical equipment, speed-; offers.—Ward, 81, Monks Rd., Lincoln. [1463 AN Sporting Combination, thoroughly over-alled and parts renickeled; owner going abroad; all, £90.-26, Rattray Rd., Brixton, S.W.2. [1855] AN 5-6h.p. Combination, 1916, 3 speed, clutch, ak starter, stored 3 years, almost new; £125, ton, 2, King Edward Parade, Norbury, S.W.

Powerplus Indian Combination, 3-speed, k dupter, electric lighted, in good order; £110 33, G.N.R. Potato Market, York Rd., London,

Powerplas Indam, clatch model, spring frame-thoroughly overhanded, spleadid condition, hot searty for speed and power; £85.—Paber, Pep-glassian and power; £85.—Paber, Pep-[1285] eauty for speed

NY 7-9h.p. Road Racer, completely overhauled, r tyre, liead lamp, generator, mechanical born, controls, very fast but doube; any trial; £65.

Jeanings, 34, Streatham Place, S.W.2. [1349] JCHOPE'S, 9, Shoe Lane, Fleet St., London, 2.C.4,—7-9h.p. Indian combination, 1914, 5-6h.p. Indian and sidecar, 1914, £80; Indian combination, 1914, disc wheels, £105.

N. 7-9h.p., 1915, 3-speed, hand-foot clutch, ge conchbuilt sidecar, with hood and 2 lockers, a condition, all on: £115; Sunday morning intuent, 7, Recreation Rd., Sydenham, S.F.

IN Combination, 5-6h.p., 1915, 3 speeds, hand 1 foot clutch, lamps, horn, speedometer, wind 2 spare tubes and 1 chain, tyres almost new, m good; £100.—Smith, 38, Sydenham Hill, [X3905]

iN Combination, 8-9h.p., late 1915. 3-speed ch, turing bars, beautiful sidecar, with wind and hood, electric head and tajl lamps, acety-lecar lamp, speedometer, mechanically perfect, Apply, Wbyman, 17, Soho Sq., London. (X3971

in 7-9h.p. 1914 Combination, 2'speed, kick int, foot clutch, Gloria sidecar, complete with 5, tools, spares, 2 new spare covers and tubes, 0 miles since August, 1914, just overhauled, condition; £120-114, Underhill Rd., S.E.22.

N 51/hp, Twin, late 1915, Amac carburetter, peeds, clutch, kick starter, plating and enamel brand new Miller head light, electric tail m, new tyre rear wheel; beautiful condition; setting heavier bike; £70.—Nisbet, Trinity Cambridge.

N 7-9h.p. Powerplus Combination, Millford car, new Binks carburetter, kick starter, side-alves, Revolds chain, set tools and lamps, 1916 issued 12 Sonths, overhauldt recently, mileage 10; seen at Plymouth; 100 gns.—Box 1,050, Motor Cycle.

-Late 1919 Indian combination, 7-9h.p. Powers, Swan sporting torpedo sidecar, all das wheels, eettie lamps and horn, special copper exhaust, t, excellent condition, distinctive turnout, not 00 miles; first cheque secures.—P. Gond, 20, XOswich.

1915 5-6h.p. T.T. Indian Combination, 3 seds, clutch, kick start, Mills-Pulford sidecar, een, dise wheels, and 2 long pickel-plated exces, new chains and tyres, Klaxon, speedometer, pares, etc., just been overhauled, £100, or -Gwalia, Osborne Rd., Southampton. [1341]

Indian Powerpus, 3-speed, ideal sidecar ma-ne, lamps, unchanical horn, Bounksen speed-iust fitted new Rom combination, Brooks 400 ell looked after by engineer owner, mechani-fect, appearance very good, £110; sidecar, not £20 extra H required.—J. Dowland, 15, Park-, Sutton, Surrey.

1, Sutton, Sutrey. [1631]
7, 1915, 7-94, D.P. Spring-frame Combination, 3-81, clutch, kick start, und Bosch mag., Mills-5g., coachbuilt sidecar with two commodions. The start of the start

speed 2-stroke. Orders booked for early de-y.-Rothwell nod Milbourne, Cowleigh Garage, 16186

Ivy-Precision, 3-speed, F.E. clutch. coachilt sidecar, lamps, spares, as new; £65.—11, ght Rd., Birmingham. [X3910]

In the "News and Leader," May 28, 1915,

"KUKLOS" related how he obtained his new machine

JULIAN'S OF READING

At first I expected to find my choice a matter of embarras de richesse, but a weck of inquiry left me wondering if I had not purted with the light car carelossly. The iremendous extent to winch the makers of all motors, big and little, are involved in the war was brought right home, and I was after a big twin of 900 to I,000 cc, with three-sp-ed countershaft gear box, and either all-chain drive or chain-cum-bett. The 1-9 hp. Matchess was one of my earliest fancies until I heard that the Plaunstead firm wanted three mouths for new orders. I wrote my old friends, Pheion and Advanced the control of the

Before 4 o'clock I was oft back on the road with the new outfit, and home before 8 o'clock. We live in times of unceremonious haste, but I fancy I have got the pick of the basket.

You may also be lucky if you write at once.

H.JULIA 84, Broad Street, READING.

'Phone: 1024.

Biggest Dealer in the South.

MOTOR CYCLES FOR SALE,

1 h.p. Ivy Motor Cycle, J.A P engine, Bosch mag., 2 in good running order, trial given; £22.—Bed ford, Sunnyhill Rd., Streatham.

H. G. HENLY and Co. are London and District agents for the Lyv motor cycle. Full particu-lars, 91, Gt. Portland St., W.1. Mayfair 4084 [C022

IVY 25th.p. 2-stroke, 1916 sports model, new tyres, tabes, and belt, with lamps, stoted 2 years, perfect condition; £40, or nearest offer.—P. Woodman, 45. Victoria St., Burnhamon-Sci., Somerisci. [934]

Ixion.

1 14 Ixon 2-stroke, 2½h.p. Villiers engine, not used since 1916, guaranteed perfect; £30.—Box 1,064, cto The Motor Cycle. [1554]

19¹⁵ 2¹⁵h.p. Ixion, Villiers 2-droke, and accessories.
in good condition; £35.—Call or write, Parsons,
43, Stephenson St., Thoundy-on-Tees. [1221

HONOR Oak Motor Mart.-Immediate delivery James models.-129, Brockley Risc, S.E.23. [1400

JAMES 1920 5-6h.p. Combination, unused, private (139)

JAMES 1920 5-6h.p. Combination, unused, private (139)

JAMES 3/5h.p. twin, 1920 model, in stock; £115, plus carriage—Edwards, 7, Exhibition Rd., Scutt Kensington.

Kensington.

JAMES. - New 1920 51/2h.p. twin model; delivery from stock; price £115. - Redditch Garages, Ltd., Red-aread [X3878]

JAMES 4'4h.p. Combination, 1919; £115; seen 3 Thursdays, or appointment.—25, Davisville Shepherd's Bush. lamps

JAMES, 1919, 5-6h.p., run about 10 miles, la and Klaxon; £98.—Phone: Hammersmith for further particulars.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—41(1), D. James and sidecar, 1916, 3-speed, clutch, and K.S.; £125.

JAMES 41/h.p., believed 1914, powerful, good tyres, 2-speed gear, perfect; £60, or nearest offer.— Griffith, 6, Gipsy Hill, Norwood. [2066]

Grifffth, 6, Gipsy Hill, Norwood. [2066]
1 h.p. James, 1914, recently overhauled and the defendance of the complete with lamps, etc.; £48.—Sewell, 2, Holly Park, Fluchley, N.3. [1721]

E48.—Sewell, 2, Holly Park, Fitchney, N.S.

D. VARTY, Thundersley, Essex, sole agent for Routhendon-sea and district; early delivery; book now; exchanges:

JAMES 1919 5-6h., Twin, nearly new, 3-speed, chain drive, hand clutch, only ridden a few miles solo: £113.—Elec and Co., 15-16. Bithopsgate Av., Camomile St., EC.3. (1905)

19 44/h.p. James and Coachbuilt Sidecar, lamps, mechanical horn, speedometer, tyres nearly new, spleadid condition; £85, or nearest.—Agnew, Wellington, Salop.

19 20 James 5-6h.p. and De Luxe Sidecar, all lamps, hore etc. delivered this week, not wanted, bought car; best offer over £165 secure—Carter, Chittoe, Chippenham.

JAMES 1915 3½hp. Twin and Sidecar, engine overhauled, good condition, complete with tools, lamps, cyclometer, owner deceased; £75.— D., Box 1,118. c/o The Motor Cycle.

JAMES 1913-19 Big Single Countershaft Coachbuilt Combination, aluminium disc wheels, engine and gear box like new, sound outfit, little and carefully, used; £100.—H D., 6, Park Rd., Kingston Hill, Surrey, [1953]

JAMES, Iate model, 2-speed, 2-stroke, good tyres, speedonster, Lucas lanny, mechanically perfect, a new, writer guarantee; lowest 250, or exchange with 10.19, clo The Motor Guck.

JAMES 1919 (Dec. 3) 245, pp. Twin, 500 miles, Dunloo Beart, Terry's spring luke, Lucas lamps, Bonnisen speedometer, Cowey horn, bandle-bor murk, knee grips, the whole indistinguishable from new; 2150; Cumbechand.—10s 7,16s, clo The Motor Speed, 112.2

Cumberland.—Box 7,169, cto The motor type. [Lazu WHITEX] and Son have in stock: 1919 Jumes de Luxe combinations, fully equipped, several, £140; Jumes 3'ch, br. twins and 2-strokes, brand new, executionally fine selection of Jumes his, sincle combinations: Tourist Trophy 3'shp. Jumes twin, £85; lugage grids, 42/:; leg shields, 52.6; spares and repairs.—Write, phone, or call, Whitty and Son, the Jumes specialist, 7, The Vale, Acton, W.3. 'Phone: Chiswick 1513.

JA.P.

COMBINATION.—C.B. Sidecar, 6b.p. J.A.P. engine,
Jardine 4-speed, good order; £75, for near,
Shakeshaft, 109, Beam St., Nantwich,
J.A.P. 25/h.p. 1919 Model, hardly used, Enfeld gear,
used tyres, all accessories; price £62.—Seen between
9 and 5 at Messrs, Lawler, Ayes and Co., Ltd., J.
Broad Street Place, E.C.

Broad Street Place, E.C. [8490]
J.A.P., 90 bore, special machine, 8h.p., o.h.r. J.A.P.
pengine fitted into special B.S.A. frame, with 5meed countershaft gear, special coffin-abapted tank.
fittings include electric lighting set, Cower speedmeter, etc., a fast and powerful machine, smitabfor a sporting rider; £130; any time after 5.30—Benrose, 24, Harlington St., Derby,
[X398]

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J.E.S.

J.E.S. Motorcyclette, better than a scooter, economical, reliable.—Enquiries invited by J. Blake and Co., Liverpool and Manchester. [6579]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—7-9h.p. J.H. combination, 1915, M.A.G. engine, Sturmey-Archer countershalt gear, clutch, and K.S.: £125

Lea-Francis

LEA-FRANCIS, 1920. --Place your name on our mounts.-A. J. Sproston, Ltd., 196, Gt. Portland St., W.I.

L EA-FRANCIS 3½h.p. Twin Combination, 2-speed, kick start, detachable wheels, coachbuilt sidecar, tyres in good condition; £85, first cheque.—40, Junction Rd. Kingsley, Northampton. [X3368] Kiusley, Northampton.

10 19 Lea-Mancis Combination, Grindley sidecar,
dh.p. J.A.P., lamps, horn, speedometer, and
tools, new August. 1919, perfect, bought car; £140,
or near offer.—Alisup 37, Gt. Bolton St., Blackburn.
11852

Leaf-Reancis Late 1915 3½h.p., but 1948 medel, having been recently overhauled and refitted by makers with latest 2-speed egar, etc., hand and foot clutch, kick starter, enclosed chain drive, detachable wheels, beautiful condition, most reliable and luxurious machine, and exceptionally powerful, excellent lamps, horr, speedometer, and tools; 55 gns, no offers; seen by appointment—Charles Nettleton, Greenways. Tunbridge Wells.

Levis

EARLY Delivery Levis.-John Aldrich and Co., trict Agents, Diss, Norfolk.

CYRIL WILLIAMS for early delivery of Levis.— Chapel Ash Depot, Wolverhampton. [X8626

L EVIS Popular, 1919, as new: £49.—Shell, 7, Devonshire Row Mews, Devonshire St., W.1. [1944]
L EVIS 2½h.p., 1919, semi-T.T. hars, like new throughout: £37/10.—D. F. Heybourn, 22, Powney Rd., Maidenhead, [1958]

19¹⁸ Levis 2½h.p., beautiful machine, all on; £45, or exchange good 3½h.p.; after 5.-79, Tubbs Rd., Harlesden. [1268

LEVIS Popular 1920, brand new, never been ridden, ride away; £65, or near offer.—Lithgow, 96, Felbrigge Rd., Goodmayes, Essex. [X361]

LEVIS, brand new 2½h.p.; 2 speeds, chain drive, lamps, horn, and accessories, only used 150 miles: £65.—Box 1,069, c/o The Motor Cycle. [1559]

LEVIS, 1919, 200-300 miles, new lighting set, make's' tool ontit, etc., splendid machine; owner going abroad; £48.-3, High St., Newport,-Salop. (D) [1236]

HOVE Engineering Works, Davigdor Rd.-Levis; deliveries from stock; sole agents Brighton and district; all accessories. Estd. 12 years. [8190]

Levis 24h.p. 1920 Foundar Model, in stock.—Vivian Model, the further and Lune, Ltd., authorised agents, 24, Woodstock St. (off Oxford St.), Bond St., W.1. 'Phone: Mayfair 6599.

1915 Levis Popular Model, 21/th.p. single, lamps, born, etc., drip reed lubrication, new Palmer ford hack, condition as new: £40.—W. J. Dawson, 45, Thorpe Rd., East Hum, E.6.

1019 (Sept.) Levis de Luxe, 2-speed, chain dive, mileage under 1,000, tyres unpunctured, adjust able jet, accessoires, beautiful condition; nearest 265.

-Weod, 17, College Rd., Alun Rock, Birminghum.

L.M.C.

L.M.C., 6h.p., bought January, 1920, Millford sidecar, hood, screen, 3 lamps, College shields, speedometer, etc.; £165.—Richardson, Green Lane, Romiley. [X3816] M.C. 1919 4(4)h.p. 3-speed, hand or foot clutch, K.S., complet set of spares and tools, P. and H. acetylene set, horn, in perfect condition throughout, as new, any trial 90 gns.—Dent, 47, Jesus Lane, Cambridge.

MAG

10 19 4h.p. M.A.G., overhead, fitted with Dixie, finished until November, coach sidecar, not run 400 miles; £105, or near offer.—Fuge, Pitt Rd., Hanham Bristol.

Martin.

M ARTIN-J.A.P. 4h.p., o.h.v., single, overhauled, re-cnamelled, grey, 1914, mileage 8,000; -£40.— Hawes, Woodview Rd., Pangbourne. [1861] MARTIN-J.A.P. 1915 2%h.p. Twin, o.h. aero valves. deel pistans, lamps, speedometer, competition machine; £60, or offers.—24, Faraday Rd., Wimbledon.

1914 Martin-Jap 3h.p. Sporting Overhead Twm, 3 speeds, perfect; £57; particulars, photo, 3d.; exchange Triumph.—107, Market St., Hedneslord, Staffs.

Martinsyde.

Martinsyde.

M. ARTINSYDE - NEWLAN - Atthur Horshold M. (Abdres), Ltd., new brokang orders for early free from 1 delivery.—19-20, North Andley St., W.L. [1893]

MARTINSYDE NEWMAN Combination, the sensation of Olympia—1806 year order new for strict rotation delivery with J. Blake and Co., the motor cycle experts, 110-112, Bolt St., Livernool, Britain's presider motor cycle saloon; also at Blackfrairs St., 110-112, Marchitect.

We can offer delivery of many of the following before Easter.

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A.J.S. A.B.C. ARIEL ALLON B.S.A. BROUGH BLACKBURNE CLYNO DIAMOND LEVIS MATCHLESS MARTINSYDE METRO-TYLER N.U.T. NORTON NEW IMPERIAL O.K. OMEGA RUDGE ROVER ROYAL ENFIELD SUN SCOTT

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TRIUMPH

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From Stock-

ROVER 6 H.P. NEW IMPERIAL 8 H.P. W.D. COMBINATIONS.

Finished "Service" Green, J.A.P. Engine, three speeds, clutch, kick-starter, all-chain drive

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MOTOR CYCLES FOR SALE. Matchless.

MATCHLESS Combination, 8h.p., hub gear; loffer.—Stooke, 4, Berrylands Rd., Surbiton. MATCHLESS.-Place your order now for ear livery.-Egertons, Northgate St., Ipswich. WAUCHOPE'S, 9, Shoe Lane, Fleet St., L. E.C.4.—Sh.p. Matchless twin, single-speed;

MATCHLESS Competition Machine, 8h.p., good condition; £80,-27, Courtland Av.,

JONES' Garage, apecial agents for Matchless, way, Muswell Hill, N.10, and Woodside I North Finchley.

WE Are Agents for the Matchless. Place order with us to secure good delivery. King and Harper, 6, Bridge St., Cambridge.

MATCHLESS.—Orders being booked for ear livery, Model H, spring frame combina Rhosha Motor Co., Mawneys Rd., Romford. REX G. MUNDY, Matchless expert, now be formed for early delivery at list price of famous combinations.—10, Dean St., W.1.

MATCHLESS Combination, 8h.p. 1913 J.A. gine, kick start, electric light, wind screen tyres, perfect condition; 90 gns.—175, Shooter Rd., Blackheath.

OFFERS Wanted for 8h.p. Matchless-Jap Contion, 3-speed hub nearly new, aluminium all round, first-class running order.—Box 1,12

O hp. Matchless-Jap Combination, cane body gear box, 3-speed, K.S., engine rebushed, and tank re-enamelled; nearest £85; bargai Villiers St., Stoke, Coventry.

MATCHLESS Model H Combination, hood, linns, horn, speciometer, spare wheel and driven 2,400 miles, perfect condition, ready to combination the combination of the com

MATCHLESS New Spring-frame Model, booked for rotational delivery. Demonstrated on view. Replacements for Matchless mt all dates in stock.—Tassell, 1a, Bloomfield Rd, stead; S.E.

MATCHLESS Model H., 1920, only run a few MATCHLESS Model H., 1920, only run a few and lamps, tyres all perfect, condition as ne-trial; offers wanted.—Barker, 19, Rookfield Ar-well Hill, London, N.

MATCHLESS Model H Combination, dynam-ing, fully equipped. Book now for early at Authorised London agents, Vivian Hardie and Ltd., 24, Woodstock St. (off Oxford St.), Bond S' Phone: "Mayfair 6559.

Phone: Mayfuir 6559.

MATCHLESS Combination, 8h.p. J.A.P: eap men, brand new coachbuilt sidecar, 3-spectrality gear, Nick starter and clutch, det can be seen to combine the seen to be see

Metro.

METRO-TYLER, 1920, new; £55; London 1, 1,129, c/o The Motor Cycle. METRO-TYLER, hrand new, 21/4h.p., 2-speed exhaust; £65.—Rogerson, Newtown, Wigan.

METRO-TYLER, 244h.p., 2-speed, free engir tyres, fine machine; £42/10, bargain.— Thornhill Edge, Dewsbury.

METRO-TYLER.—Enquiries from Liverpo-district invited by J. Blake and Co., J Bold St., Britain's premier motor cycle saloon.

19 19 Single-speed Metro-Tyler, condition just overhauled at makers, not mild miles; £43.—Fulwood, Vaults, Eastwood, Notes

METRO-TYLER, 1919, in splendid condition tric lighting, tools, Pedley grips, very sporting; £47.—27, Lower Clapton Rd., Clapto

METRO-TYLER.—New models in stock of th 2-stroke lightweight, ready to ride aw City Agents, Elre and Co., 15-16, Bishopsga Camonile-St., E.C.S.

1 9 19 T.T. Metro-Tyler, disc wheels, long ple haust, large Miller lighting set, Kinxo etc., very sporting mount; 50 gns.—2, Blenbei dens, Wallington, Surrey.

S PORTING Metro-Tyler, 1920 model, long plice hanst, lamps, done 200 miles, a Rolls R stroke; 49 gns.; exchange combination not earlie—Warwick, 5, Lynnonth Rd., East Finchley.

Minerva.

MINERVA Combination, 4h.p., Bosch, perfection, Wells-Forde, Stanhope Mews East, Sousington, London.

SPORTING Minerva, 3½h.p., E.I.C., B.B. und pulley, fast machine, excellent condition horn; £35.—10, Upper Park Rd., New South

Miacrya.

*INERVA Combination, 4½hp, twin, clutch, 2-speed amart addent, excellent lamp set, horb, etc., pet condition throughout; snerifleo £55.—Nuldrett, 5¢ 3 St., Horsham. [141]

at St., Horsnam.

Lhp, 2-speed Minerya, believed 1912, and wick at decar, in cunning order, new Dunlop beloft max. Jones speedometer; £25, or offers. a. 13. Crescent, Combs. Stowmarket, Suffolk.

Moto-Reve

Moto-Reve 2 Lih.p. Lightweight Twin, B. and B. mag, good tyres and condition, overhanded gain. £25.—Majestic, 195-197, Stonhouse St. pham Common, London. [171]

Motosacoche.

) 14 Motosacoche Lightweight, perfect rnnalag order: any trial; £20.-Iuman, Worksop. [1505] 22.—Motosacoche, mag., very nice little machine runs well.—Hartis, 130, Wahn Lane, Cricklewood 7.2.

14 Motosacoche, almost new, M.A.G. 2!h.p., per feet; £25.—Lovatt, Dove House, Groby Rd., penhull, Crewe. [1386]

OTOSACOCHE 114h.p., just overhauled, splendi condition, new tyres, Bosch; £25.—Rose, Rothu d Rd., Wing, Leighton Buzzurd. [192)

OTOSACOCHE-M.A.G., 2 h.p., Bosch mag, Sen spriy carburetter, perfect condition guaranteed, light, easily controlled, 120 m.p.g., 35 m.p.h., just hauled after tim to Cornwall; seen Sundays or an tument; 230.—141, Portual Rd., W.9. [XS79]

New Hudson.

EW HUDSON 4h.p., 3-speed, kick start, good condition; trial; £59.-Regerson, Newtown, Wigan, [X382] p. New Hudson, 3 speeds, kick starter, lamps, etc. conch sidecar; £100.-82, York Rd., Battersea.

EW HUPSON 1914 4h.p., 3-sperd, good reliabl machine; £45.—Fitt, Barrossa Ter., Church St. [2017]

W HUDSON 1915 2-stroke, 2-speed, 25₂h.p., in cessores, little used, splendid funning order, £45 n he seen, central Marylebone Garage, 300, Maryle Rd., N.W.1.

n. Twin New Hudson and Coachbuilt Sidecar, 3 speed, kick starter, new condition throughout, 9 290, or nearest offer.—Derwent Garage, Chape Belper, 'Phone: 30,

2W HUISON, 1914, 25th.p. J.A.P., 3-speed, clutch, electric lamps, Klanon, pump, tools, splen condition; 240; trial Sotundays only by appoint 2-Cook, Southfield Atkins Rd., Clapham, S.W.12

18 New Hudson 2-stroke, 2-speed, lightweight dought May, 1919, only done 850 miles, good tion, electric head and rear Innys, horn, tools rgain, £45.—Storks, 6, Broomfield Place, Heading Leeds.

New Imperial.

OW Bros, High St., Guildford, have contract-largely for 1920 New Imperials. [X794 ONOR Oak Motor Mart,—Lumediate delivery No. Imperials,—129, Brockley Rise, S.E.23. [140]

6 21 h.p. 2-speed Imperial-Jap, good condition £38, lowest.—Butler, Bootmaker, Bracknell. [146) 20 New Imperial, 6-8h.p., brand new, delivered June 28th; £125 cash.—Box 1,067, c/o The Moto [155].

W IMPERIAL 8h.p. Unused W.D. Combinations: £145.—Clifford Wilson Mfg. Co., 70, Royal Hos-Rd., Chelsea, S.W.3. [1532]

W IMPERIAL 1916 254h.p., 2-speed, lamps; any trial; £40.—Laurel Motor Co., Melbourne Rd., on, E.10. Walthamstow 426. [1844]

19½ New Imperial, 25th.p. J.A.P., 2 speeds, just as new; offers.—Wandsworth Motor Exchange t St., Wandsworth (Town Station). [1636]

E Are Ageots for the New Imperial. Place you order with us to seeme good delivery.—Apply oad Harper, 6, Bridge St., Cambridge. [851;

W IMPERIAL-J.A.P., 1916, 25th.p., 2-spec countershart, in splendid running order; 45 gas.-r, Tor Castle, Banavie, Fort William. [1224]

W IMPERIAL-J.A.P. T.T. 254h.p., 2 speeds lamps, horn, copper exhaust, disc wheels, beautiondition; 242.—50, Coasing Crescent, Wood Green, 252.—50, Coasing Crescent, 252.—50, Coasing Cres

W IMPERIAL, 1915, 254h.p. J.A.P., 2-speed F.E., countershaft, perfect condition, lamps, horn: ce £45.-20, Treen Av., Hoggers Corner, Barnes

19 8h.p. New Imperial-Jap Combination, practi-colly new, khaki, 3-speed, clutch, kick start, o, and all accessories; £138.—Gray, Eastwate ley, (No dealers.)

W Imperial 8h.p. J.A.P. Combination, new April, 1919. Russian model, all chain drive, perfection; £145; seen by eppointment.—F. Andrews outh Rd., Yoxford, Suffolk. [1652]



The Service Co.,

AGENTS AND CONTRACTORS FOR ALL THE BEST MAKES

A.B.C., ALLON, ARIEL, A.S.S., 3AT, BLACKPURNE, BROUGH CLYNO, DIAMOND, HARLEY-DAVIDSON. ENFIELD. LEA-FRANCIS, LEVIS, HUMBER MARTINSYDE. MATCHLESS METRO, NEW-IMPERIAL, NORTON, N.U.T., O.K., OMEGA, P.M., QUADRANT, REX, ROVER, ROYAL RUBY, RUDGE, SCOTT, SUNBEAM, TRIUMPH. ZENITH. ETC.

It is impossible to quote DEFINITE DELIVERY DATES, but the moulders strike is over at last and we hope the manufacturers will soon be getting busy with deliveries.

Let us know the make and type of machine you are requiring, we shall be pleased to let you know what we can do for you.

AT THE same time we have some good SECOND-HAND machines (solo and combinations) in STOCK, all overhauled for IMMEDIATE DELIVERY. When writing, kindly state make, type, and approximate price you wish to pay

- Cash or Extended Paymints

289-292, HIGH HOLBORN. LONDON, W.C.1.

'Phone: 6430 Holborn. 'Grams: "Admittedly"



MOTOR CYCLES FOR SALE.

New Imperial.

19 15 215h.p. New Imperial Jap, 2-speed, T.T. model, in good condition, fast, Amac with variable jet, lamps, horn, and accessories; £48; seen after 6 p.m.—Bashwood, 18, Chernwood 8t, berby. [1659]

NEW IMPERIALS A.P. 1915 25th.p., 2-speed, completely overhanded last month, new parts fitted most time, those, R and R, cardinatetre, Hoselt mag, first-lass condition; what offers?—Hughes, Newsgent, 6minuted for the property of the condition of lingay, Sandy.

NEW IMPERIAL Combination, \$19.5 JAP. W. V. W. B. Wetther mode, count-cloud "appear seri, en-closed all chain drive, new lost been not un 500 mles, complete with speciometer, 3 lomps, accumisator, norm; North London; best offers over £130.—Bux, 1.015, c/o The Motor Cycle.

Norton.

CROW Bros., High St., Guildford, Norton agents. Let us reserve you one. [X7947

JACK HEALY, Cork, official Norton ogent.—Rotational delivery. No premiums accepted. [6486 19 20 Big Four Norton, just delivered, unuse offers.—Lee, Westfield, Wetherby, Yorkshire

N ORTON, 1916, B.R.S. certificate, mileage 7, Philipson, horo, Bonniksea, tools; £80.—Ha Woodview Rd., Pangbourne.

Woodview Rd., Pangbourne. [1860]
1916-17 Norton Conclibniit Racy Combination,
conclibniit Racy Combination,
conclination, paramtee perfect; £120.—16, York St., Dover. [1528]

indimine petiett; £120.—16, York St., Dover. [1528]
D16 Fair Norton and Sideau de Luxe, ordered May,
1919, promised February. Advertiser will transter order for £20, include £5 depost paid.
1,021, clo The Motor Cycle.

NORTON No. 16 3'd-bl.p. T.T. Contestant Spart's
ist, expected Febr, advertiser will transfer offer for £10 or offer; buying car.—Lt., M.C.C., Shorchamdes.

NORTON 1919 4h.p., 3-speed, disc wheels, watch, small mileage, fitted Cancelet Minor sidecar, enameled aluminium, very fast machine, and new appearance; £165.—Jones, Rocklands, St. George's Rd., Wallicey, Cheshire.

21h.p. T.T. Norton, h.h.c., Philipson pulley, just D2 overhauled, new mudguards, 1920 pattern, negine as new very fast, in first-class running order, letts, lamps, horn, tools, spares; first offer £30 ceures.—Box 1,003. c/0 The Mulor Cycle. [9402]

9 1h.p. Sporting Norton, guaranteed nearly like new, 9 2 negine fitted with all new wearing parts, in-luding piston, brand new 3-speed Sturmey, chain-um-bolt also fitted, very sporty and last, fitted with iluminium discs, kine gripe, mechanical horo, large 2 and H. lamp, Binks; any examination here; first heque for 210 secures. I have also a brand new for the property of the secure of the property of the parts of the Thomas, 16. Shrewsbury St., Prees, Sales, X3536

3 th.p. N.S.U., 2-speed, Bradbury, Bosch, B. and B. 2 carburetter, good tyres, io going order, sideout Derwent), excellent condition; \$55.—Compton, Newton Burgoland, Leicester.

N.U.T.

J ACK HEALY, Cork, official N.U.T. agent.-Rotational delivery. No premiums accepted. [6489 STANLEY RUSSELL, Newport, sole Isle of Wight agent for N.U.T. motor cycles; early delivery

N.U.T.-Orders being booked for early delivery of this superb machine.-Rhesha Motor Co., Maw-neys Rd., Romford. [1888]

N.U.T., 1920. quite new, 354h.p. twin, Lucas dynamo lighting, mmediate delivery; offers.—Box 37, c/o The Motor Cycle. [1956

19 to T.T. N.U.T. 31/2h.p. Twin, o.h.v., 3-speed, knee gripe, lamps, etc., fast and sporty; \$75.—Stevens, Woodcroft, Springfield Rd., Windsor. [1429]

W. SPARROW, Ltd., Osborne Garage, Yeovil. sole agents for Somerset, including 10 miles radius of Yeovil, for N.U.T. motor cycles; early deliveries. Write for particulars.

N.U.T. 1920 Models.—To obtain earliest delivery book your order now with the city agents; demonstration machine in stock.—Elee and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. (0066

N.U.T. 1920 Model 35;h.p., Lucas dyaamo lighting, electric horn: 140 gns., complete. Authorised Lou-lon agents, Virian Hardle and Lace, Ltd., 24, Wood-tock St. 6ff Oxiord St.), Bond St., W.I. "Phone: Mar-fair 6559. Book now for early delivery."

19²⁰ O.K. Union, 2³4h.p., 2-stroke, actually in stock.-Kemp's Garage, Louth, Lines. [X3900]

O.K., 1915, o.h. valve, tyres, etc., perfect , overhauled; \$42, offer.—Marshall, 1, Highworth Villas, Worthing.

19 15 254h,p. O.K. Junior, overhead valves, 2-speed, lamps, perfect; £40.—Ward, 104, Pemdayon Rd., [1454]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. A33

о.к.

O.K.—New 2-speed 2-stroke, Villiers, in stock.— Chandler, Reyre and Williams, Hitchin, Herts. Phone: 165 Hitchin. [0064]

JONES' Garage, special agents for O.K. machines, Broadway, Mnswell Hill, N.10, and Woodside Parade, North Finchley.

19 17 O.K. Junior, J.A.P. engine, 254h.p., just over-hauled, all accessories; £45, bargain.—28, Napier Av., Putney Bridge, S.W.6. [X3796]

D⁰ not delay in ordering your O.K. Union. You will be disappointed if you do. We can give earliest deliveries.—Elliott Bros. and Stevens. [X3932]

Omega.

19 20 Omega-Jap, brand new, not ridden, 2 speeds, kick starter and clutch; 72 gns.—Box 1,071, clo

OMEGA-J.A.P., 2-speed, and model de luxe, at 64 and 72 gns. respectively.—Stocked by Lloyd and Son, 29, Station St., Lewes. [1675

STANLEY RUSSELL, Newport, sole Isle of Wigh agent for Omega-Jap unfor cycles; early delivery OMEGA-J.A.P., 1919 (Augnst), 2-speed, sports model, disc wheels, rubber grips, mechanical horn, ruu 1,000 miles.—Maxted, Queen's College, Cambridge.

P. and M.

P. and M., 1915, coach sidecar; £85.—Collier's Motories, Union St. South, Halifax. [1438] 1918 P. and M., 2 speeds, kick starter, perfect, not used much; £78.—82, York Rd., Battersea. [1196

CYRIL WILLIAMS for early delivery of P. and M.'s.—Chapel Ash Depot, Wolverhampton. [X8624 19 12 (?) P. and M., 25/h.p., 2-speed, just overhauled, in good condition; £30.-W. Walden, Wisbech Rd., King's Lynn.

19 15 31/h.p. P. and M., now being overhauled, new bearings fitted, new tyres, all lamps, etc.: £65.—Carter, Chittoe, Chippenham. [166/

P. and M., 1919, excellent condition, lamps, horn, £88; 1917 ditto, overhanled, £70.—Edwards, 7. Exhibition Rd., South Kensington.

19¹⁰ P. and M. 2-speed Motor Cycle, just overhauled, complete less magneto; £30-doux, Fairfield Rd., Grove Park, S.E.12.

P. and M., 2-speed, excellent climber, lamps, pump etc. (new), recently overhauled; bargain, £42.-Pem, Anally House, Drum Hill, Walmer, Kent. [1526]

19¹⁷ 3h.p. P. and M., Lucas accessories, new tyre and tubes, in splendid condition; £80, or best effer.—Woodhead, 23, Hutton Av., West Hartlepool.

P. and M. Combination, late model, overhauled, brand new E.I.C. mag, fitted 2-speed, kick star-ter, new coachbuilt sidecar fitted; £90.—Griffin, Combend, Radstock, Somerset.

1010.

1 Georgia (LAF) model] P. and M. Cembination, delivered new 2/11/20, 3 new lamps, 2 generators, sideen appro, all tools, etc. auscartched, perfect nuning order, milenge 300; £125, or best offer.—4, Natien Wembley.

P. and M., R.A.F. model, delivered end of December, 1919, perfect condition, 500 miles, complete with Cowey speedouneter, lamps, horn, etc., and Junhill coachbnilt sidecur, screen, apron, etc.; £130.—Clarke, 2, Grimwood Rd., Twickenham.

P. and S.

WAUCHOPE'S, 9, Shoc Lace, Fleet St., London, E.C.4.—2½h.p. P. and S., new 1920; £67; easy terms arranged. [1702

Peugeot.

5-6h.p. Peuegot Combioation, twin (less body), 2-speed, clutch, countershaft, all-chain, Bosch, B. and B., 2 band hrakes, running order; 245.—195, Stonhouse St., Claphem Common, London. [1715]

Phœnix.

3 1h.p. 2-speed Pheoix Combination, mag., chain 52 drive, good going order, tyres equal to new; £27, or separate; by appointment.—S. O. Chappell, Peak Dale, Stockport.

Precision.

PRECISION Enquiries Invited by J. Blake and Co., the leading motor cycle experts, Liverpool and Manchester. [6582

Premier.

PREMIER, 21/2h., semi-T.T., perfect order, lamps, horn etc., good tyres; 30 gns.-10, Birons-mead Rd., Barnes. [1954]

PREMIER Lightweight, less tank, been converted similar to Calthorpe-Jap; £19.—Syd Pearson. (See Miscellaneons.)

R. D. VARTY, Thundersley, Essex.—Premier 1914 21/h.p. lightweight, in most exceptional condi-tion; £38; exchanges. [1787]



HOME BOOT REPAIRING.

THESE soles are specially prepared with an adhesive surface and fixed with bitte Solfix Solution. WE GURANTEE THEM TO HIDD AS I HAVE BELLEY TO HIDD AS I HAVE BELLEY TO HAVE BELLEY BELL



Size Per pair Size Per pair. 10·11 ··· ·· 2/9 6·7 ··· ·· 2/-8-9 - 2/9 4-5 2/-6-7 - 2/6 Boys' and Youths':

Size Per pair Size. Per pair. 4-5- 2/3 1-13 - 2/-2-3 - 2/- 11-12 - 1/9

Sol-fix Solution In Tins 8d, 1/3, 2/6, and 4/6. An 8d tin is sufficient for 2 pairs of soles.

Solution Brush. 4d. Please remit 6d. to cover cost of-postage. Any excess will be refunded.



(Dept.A) 264 Vauxhall Bridge R. Victoria SW1

MOTOR CYCLES FOR SALE.

Premier.

PREMIER 314h.p., wicker sidecar, Bosch mag., cyl., speedometer, working order; £45.—H. S. 10, Marine Drive, Margate.

PREMIER (late 1914) 21/h.p., C.A.V. mag., been thorongly overhanded, condition excellent B. S. Marshall, Ltd., 33-34, Foley St., W. 'Pho Maylair 5906.

1 Q 13 2½h.p. Single Gear Premier, 3½h.p. Chater 2 2-speed, both excellent condition; exchanges 3½h.p. or 4h.p. combination, cash adjustment.—Re 18, Cornfield Rd., Easthourne.

7 3h.p. Premier, guaranteed as good as new to be provided by the control of the c

Quadrant.

QUADRANT 2b.p., Amac, footboards, low posicol ignition, less accumulator; \$15, or offer, 29, Pulross Rd., Brixton, S.W.9.

WAUCHOPE'S, 9, Shoe Lene, Fleet St., Lor E.C.4, supply new Quadrants from stock, models, for immediate delivery; solos £95, com

QUADRANT.—New 1920 models in stock: 40 3-speed, chain drive, solo £95, combin £122/10.—Elce and Co., 15-16, Bishopsgate Av., Cmile St., E.C.3.

QUADRANT 4h.p., Mabon clutch, adjustable μ B, and B. carburetter, Simms mag., good and belt, absolute running order; £40.—A., 34, To ton Place, Finsbury Park, N.4.

Radco.

H ONOR Oak Motor Mart.—Immediate delivery R -129, Brockley Rise, S.E.23.

RADCO 2-stroke, a real genu; £32/10.—As Thornhill Edge, Dewsbury. STANLEY RUSSELL, Newport, sole Isle of Vagent for Radco motor cycles; delivery comme

R. D. VARTY, Thundersley, Essex, agent Radco motor cycles, all models; early delivexchanges.

JONES' Garage, special agents for Radco, 1 way, Muswell Hill, N.10, and Woodside P. North Finchley.

RADCO, inst overhauled, perfect condition, spended, model, T.T. bars; what offers? After 6 Crump, 16, Inverness Terrace, W.

1919 Radoc 2½h.p., as new, new Lucas lamps, tools; £45; esparate lubrication.—Tittern The Gables, Guildford Rd., Lightwater, Bagshot, S

19 Radco 2½h.p., 2-stroke, single gear, 1,000 miles, perfect condition, complete, acetylene lamps, new rear tyre oversize, belt speedometer, and Berko dyname extra; what off Armytage, Waterside, Liphook.

Reading-Standard.

R EADING-STANDARD 7-9h.p. 1917-18 Con tion for sale; 98 gns.—Seen at 2, Kingston Teddington, Middlesex, after 6 p.m.

READING-STANDARD, the world's master cycle; deliveries this month; book now, agent Northumberland, Melville and Co., Campbe Westgate Rd., Newcastle-on-Tyne,

READING-STANDARD, the world's master cycle, 10h, p.—Distributing-agents for this is machine for Manchester and wide indius: Leec Taylor, 4, Cateaton St. (opposite Market Place), chester.

Regent.

R. D. VARTY. Thundersley, the Regent 5-7h. flat twin; book now for deliveries; exchanges.

SEND postcard for particulars of Regent 5.7h., twin to us. We can give earliest deliveries of machines.—Elliott Bros. and Stevens, Cambri Lanarkshire agents.

Rex.

5 -6h.p. Rex. recently overhauled, 2-speed, 1 start; £35.—M., 2, Macclesfield Rd., South wood.

WAUCHOPE'S, 9, Shoe Lane, Fleet St. Lo E.C.4.—8h.p. Rex twin combination, equipped, new 1920 model; £196/10.

5 hp. Rex Twin, drop frame, spring forks, max, hund-centrolled clutch, B. and B. retter, requires adjustment; £20.—1vydene, Grgs South Farnborough.

19 15 8h.p. Rex Combination, complete with 2 tric lamps, horn, locker, etc., recently hauled, in splendid condition.—B. S. Marshall, 17a, Hanover Sq., W.1.

REX Combination, 6h.p. twin, 2-speed, free chandle start, lamp set, mechanical horn, proof Bosch, good tyres, perfect running order new appearance; 255.—Martin, 10, Herbrand St. (nr. Russell Hotel).

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AND FOR OVER SIX YEARS THE ONLY PAPER. SOLELY DEVOTED TO THE

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The Forder rates quoted above aprily also to men in the Services about.

United States—The International News, Assence, New York.

LOANAL AND FREEDOM ASSISTS.

LOANAL—Toronto News Co., Lid., Montreal News, O., Lid., Montreal; Winnipeg

AUSTRALIA—Gordon & Gotch, Lid., Molbeared, Victoria, Scrope, (N. S. W.), Erichmon (Q-sensiand), Aldelided (S.A.), Aldelided (S.A.), Aldelided (S.A.), Molbeared, Co., Scrope, Tyronto, New York.

NEW ZEALAND—Gordon & Gotch, Lid., Wellington, Auckland, Christchurch, and Duncilin. INDIA—A, If Debourch (W.A.), and Lanneeston Tammania', NEW ZEALAND—Gordon & Gotch, Lid., Wellington, Auckland, Christchurch, and Duncilin. INDIA—A, If Debourch, 24s Rus Rivoll.

Petrol at Three and Tenpence.

N addition of nine and a half pence to the price of petrol, combined with the certainty of increased taxation when the Budget comes along, is a serious setback to a large number of motor cyclists. So serious is the position that we feel it must undoubtedly have an adverse effect on the motor cycle industry. It is true that, in all probability, the petrol tax of sixpence per gallon will shortly be removed, but if that tax goes the increase in the flat rate of motor cycle taxation will more than counterbalance this slight relief, and the remaining three and a half pence will prove the last straw to a number of owners and prospective owners. The industry has not had a chance of recovering from the effects of war. It was hard hit by the moulders' strike, and this additional blow is unjust to a young and growing industry. Clearly, any decline in the sale of machines is bound to lead to further unemployment, which is distinctly against national interests. cannot help feeling that the Government is largely responsible for this grave state of affairs. Nothing seems to have been done to check the petrol ring, and nothing to develop a homeproduced fuel.

New Legislation Wanted.

Regarding the new taxation, we emphatically protest against any considerable increase in the taxation of a type of vehicle which occasions little or no damage to the road, and is undoubtedly the poor man's automobile.

The price of fuel, however, is a different matter, and we feel that the Government is sadly to blame in allowing a key industry, such as the motor industry has proved itself, to be almost at the mercy of the petrol ring.

We repeat that this country can produce the whole amount of fuel required for mechanical transport, and is only restrained from so doing by effete legislation. The obvious solution is a mixture of benzole and alcohol. The former

is already available in fairly large quantities, and the output could be increased considerably given suitable encouragement. Alcohol could easily be produced in almost unlimited quantities were it not restrained by legislation. A home-produced fuel would tend to reduce our imports, and thereby assist our exchange; it would provide employment for a mass of labour; and would have a very beneficial effect on the motoring movement by lowering the price of the most vital necessity. What is hindering the Government in encouraging the production of alcohol? Is it the fear of increased inebriation? If so, it should be a simple matter to prevent the sale of power alcohol otherwise than in a form suitable for power purposes (e.g., mixed with benzole), which would be sufficiently unpleasant to discourage any but the most determined drinker.

Protection has been Earned.

The war proved conclusively that the motor industry is a key industry. It made possible the enormous and vital transport services, aviation, tanks, and other kindred branches, and yet it is rewarded by increased taxation and an entire lack of protection. It attained its present importance in face of repressive legislation, though the Government was glad to employ its services to the fullest advantage during the war. Why, therefore, is the opportunity to repay the industry to some extent ignored? Did not the war prove that the motor industry was a national asset?

Our needs in war time were demonstrated with sufficient clearness to leave no excuse for further blundering into repressive legislation. The protection and encouragement extended to the magneto industry should at least be extended to the motor industry as a whole, firstly, by ensuring supplies of Government fuel at a reasonable charge, the profits to go into the National Exchequer to assist in road development; and, secondly, by reasonable taxation, which will not prove a burden and hinder the growth of a young and important industry.



The Lagonda Tricar.

THE other week I remarked that I did not know why the Lagonda tricar disappeared from the market. One of the principal exponents informs me that he gave it up for two main reasons, viz., the accumulator ignition and the automatic inlet valve. He owned a final model equipped with magneto ignition, but it was practically impossible to obtain a handle start with this ignition. He adds that the water-cooling was none too well carried out. Other correspondents confirm my suggestion that there was nothing the matter with the tricar principle, and that if modernised outfits on similar lines were well made, they would give the average sidecar something to think about.

Detachable Cylinder Heads.

TR. A. M. HICKS alluded the other week in interesting fashion to the difficulty of maintaining a gastight joint between the cylinder and its detachable head. That the job is by no means impossible is proved by the number of car engines now equipped with the "loose head." Of course, this joint is infinitely more complex with a water-cooled four-cylinder monobloc than on any motor bicycle engine. On the other hand, the reality of the difficulty is shown by the readiness with which a single valve cap will leak. The exhaust cap on one of my engines is leaking at this moment, although it has a deep, tight-fitting thread, is anointed with Rotary jointing paste, and was clumped well home with a long spanner and a mallet. Mr. Hicks suggests anointing the copper asbestos washer with engine oil, on the ground that the oil will carbonise when the engine is run, and so seal the joint. The notion is not absolutely sound. If the C.A. washer is soft, it will shrivel when it is heated, and the pressure may blow out the carbon; if the C.A. washer is old and hard when the joint is made, there will be leaks at first fitting, and the oil will possibly be blown out before it has time to get carbonised.

The Causes of Leaks at a Detachable Head.

S detachable heads are far commoner than they used to be, it is worth noting the causes of leaks and the appropriate treatment. Leaks may arise from—

(1.) Untrue surfaces.

(2.) Distortion of parts, due to uneven cooling.

(3.) Nuts not being tight.(4.) Dirt between the surfaces.

(4.) Dirt between the surfaces (5.) Shrivelled gaskets.

The last three causes are within the control of any amateur tinkerer, and are easily dealt with. The first two demand rather closer attention. In ninetynine cases out of one hundred the faces of the joint are probably true when a new engine is delivered to A30

a user, but if leaks persist, the faces should be tested, and, if necessary, ground true, which is not a job for a novice. Whether faces which are originally true will remain true throughout a season depends on the designer of the machine. If an engine has a very narrow safety margin in respect of cooling, and is maltreated on the road, either the head or the barrel may distort permanently to a degree which will spoil the gas-tight joint; in this case regrinding is necessary. There may be engines which distort when fully heated, and shrink true again as they cool; but I have never struck a sample of the breed. So far as my experience goes, it is always possible to get a gas-tight joint with the engine cold.

Remaking a Cylinder Head Joint.

S these joints have been comparatively rare for many years on motor cycle engines, readers may be interested in the standard method of refitting the far more complex joints on car engines, such as the Ford, Maxwell, Morris-Cowley, etc. The procedure is as follows:

(1.) Make the metal faces scrupulously clean.
(2.) Examine the old gasket, after cleaning it thoroughly. Reject it if damaged in any way, e.g., copper buckled, asbestos packing lumpy or detached, etc.

(3.) Smear both sides of gasket with goldsize.

(4.) Tighten nuts a turn at a time in rotation (central nuts, if any, first).
(5.) Run the engine for a minute, and apply

spanner again.

(6.) Give the engine a short trip on the road, avoiding full throttle, and tighten nuts again.

When a washer is used at the joint, it is always wise to have a spare washer at hand before breaking the joint, though old washers may be utilised repeatedly if they are carefully handled.

Dissolved Acetylene.

RETURN to this subject because various letters received show considerable interest in my opinions about this illuminant, especially with regard to its absolute reliability in competition work, and particularly in twenty-four hour trials. The general consensus appears to be that its comparative unpopularity in England (as opposed to the United States, where for years past it has been the motor cyclist's standby) is due to: (1.) Scarcity of exchange depots (for obtaining new cylinder). '(2.) High price (the outfit, minus lamps, costs about \pounds ,5). (3.) Sale of short, fat cylinders, whereas long, thin cylinders are desirable for use on motor cycles. I admit the indictment. In fact, I referred to the subject because such lighting still has a potential future upon motor cycles when the necessary remedies are applied.

An Object Lesson in Freak Hill-climbing.

Correct and Incorrect Methods of Negotiating Abnormal Surfaces and Gradients.



HILL.

WORCESTER-SHIRE.

I a recent week-end trial, in which the competitors were all employees of the James Cycle Co., Ltd., a rather amazing variation of performance was observed on one of the test hills included.

With one or two exceptions, the entrants, despite their

trade connection, were pure amateurs as far as motor cycle competition riding is concerned, and, being mostly mounted on identical 5-6 h.p. sidecar outfits, comparison of their

methods was interesting. The hill concerned was one of some severity, with a very loose and moist surface, and we have seen from time to time the most expert competition drivers fail to persuade a sidecar over the worst part, hence failure thereon is no disgrace.

thereon is no disgrace.

The majority failed through whee slip, resulting from rushing tactics. One or two old hands climbed steadily, avoiding the loose crown of the road and selecting firmer ground at the side. The engine must be kept turning over at a moderate rate, well within its power. Undue acceleration and konking are alike to be avoided.

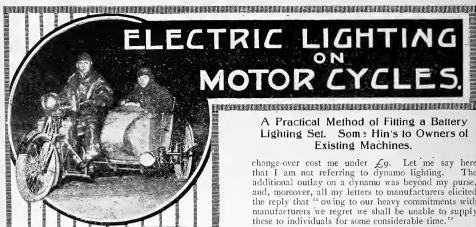
Solo failures mostly resulted from too great a speed. The old hands climbed steadily and slowly, wrists braced, feet on footboards, and eyes selecting the firm places. Main road riders see the hill and loose stones, dash forward, fling out the feet, give a spectacular display, and then subside—the old tortoise and hare story!



The passenger endeavours to prevent wheel slip.

A lightweight owner runs alongside.

Wheel grip is the deciding factor on freak hills.



T must be quite obvious to all who are interested in motor cycling that electric lighting is at last coming into its own. While this must be a matter of great gratification to those fortunate individuals who are shortly to become possessors of new machines fitted with this "luxury," it is apparently only of passing interest to those motor cyclists who have already invested in their post-war machines, and who regard the fitting of electric lighting as being too difficult and expensive a matter to warrant their consideration. The object of this article is to lay my own experiences in electric light installation before those who, like myself, have wearied of messing with carbide and jugs of water on a dark night, and to whom the anticipatory joys of "waiting for the smell" make no appeal.

Moderate Cost.

Some people seem to have the happy knack of being able to get 100% efficiency out of acetylene lamps; they can ride ten miles to town, spend three or four hours shopping, and they can leave their lights unattended for half an hour at a time outside shops, and then ride ten miles back in a high wind over a bumpy road, and arrive preceded by a 1,000ft. beam and with the rear light going strong. I am not one of these. It is only a few weeks since I last fumbled for my licence under the suspicious gaze of a constable at about ten o'clock on a wet night, and as I pushed my heavy machine out of his sight, with but the faintest glimmer of a blue bead in the head lamp, I swore a mighty oath. I have now fulfilled it, and have but to turn a switch before leaving the garage to get ample illumination under most economical conditions, and without covering myself with carbide and the tank with water.

To take the question of expense first, this naturally varies for different requirements and different types, but, broadly speaking, from £7 to £10 will equip a combination with a thoroughly efficient lighting equipment, and naturally, anything that can be raised on the old acetylene lamps reduces the outlay.

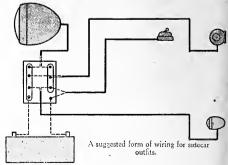
A Practical Method of Fitting a Battery Lighting Set. Some Hin's to Owners of Existing Machines.

change-over cost me under £,9. Let me say here that I am not referring to dynamo lighting. additional outlay on a dynamo was beyond my purse, and, moreover, all my letters to manufacturers elicited the reply that "owing to our heavy commitments with manufacturers we regret we shall be unable to supply these to individuals for some considerable time."

Battery or Generator?

Now a few words as to the selection of the outfit. The first question is "Accumulators or dry batteries?" My advice as regards this is that, considering the state of our roads at the present time, solo riders will get equal satisfaction with less trouble by using dry batteries. A pair of these, costing about 10/6 each, and used at alternative intervals, will last a most surprising time. I used a pair alternately in the above manner for over three months of heavy riding, and could detect no falling off in the light whatsoever at the end of this time. For sidecar outfits I unhesitatingly recommend an accumulator. These will light three lamps for ten hours or so continuously, and can be recharged in the home or elsewhere at a trifling cost. It is also an easy matter to carry a dry battery on the carrier or footboard, to use when riding without the sidecar and as a spare in case of emergencies.

There are other methods still of obtaining current, two of the most well-known being a machine of the "Voltalite" type, and a conversion set to enable the primary current of the magneto to be utilised. With both of these, however, it is necessary to have a battery to provide light while standing. The latter system, moreover, needs a battery for slow speed work, as the



etric Lighting on Motor Cycles .-

agneto current is all required to produce a good ark under these conditions.

Now as regards the type of light to select. I wish warn motor cyclists from investing in an "earth urn" or "single contact type" of lighting set, out from the fact that these sets usually necessitate a scraping of a bright patch on the frame under a switch, and the scraping, in a similar manner, of at portion of the carrier which is to hold the rear tht, the danger of an undetectable leak through ulty insulation is always present. This might well haust and even damage the accumulator, and might to trouble on a very wet night. The best possible

be of lamp set to get is it which is worked on the louble contact?' prinde, as in ordinary house

hting.
Another small, but imtrant, point is that ternals on lamps are, to
the least of them, uniable methods of attachnt. They may get wet
1 "short circuit," or
may become unserswed

ough vibration and drop

The best lamps have conet sockets, into which miniature edition of the linary household adaptits. Choose also a td lamp from which the be and holder may be dily removed while ght. An inspection lamp this sort is a great boon the event of trouble on road at night. As re-

ds wire, the usual twin-coloured "flex," though istic, is hardly strong enough in the insulation to its much of the inevitable chafing which it will fer; its insulation is not absolutely weatherproof, I it soon loses its colour. "A good stout single cable, h as "workshop flex," with two wires inside, is ferable, and will last for years without attention.

Four or Six Volts?

Switches of various types are on the market, some them most ingenious creations of nickel and ebonite, igned to go on to the handle-bar. They are, as rule, expensive, are not always weatherproof, I sometimes must be carefully insulated from the portion of the frame to which they are attached in my faith to the ordinary percelain-based tumbler the, which is best attached to the top tube on all wooden block. It can then have a sort of inled sponge-bag arrangement made out of a piece oilsifik, laced oyer it. The switch is quite water-of, can be worked through the folds of the bag, I, last but not least, children playing in the street, ugh they may squeeze your horn, will not waste ur precious "amps" by switching on your lights, the switch is most effectively hidden.

Before going on to describe the fitting of the lights, ew words would not be out of place as to the voltage at which to run the system. The choice usually lies between four and six volts. I myself choose the latter, which gives a slightly stronger light at the cost of an hour or two cell capacity. It is well to bear in mind when making this decision that most motor cycle dynamos are constructed for this voltage. If you contemplate getting a dynamo in the future, it would be advisable to pay the small extra sum usually charged for a six-volt accumulator and lamps in lieu of a four-volt, as neither the bulbs nor the accumulator will have to be replaced.

Now I will assume that the box containing your electric lighting set has arrived, and lies before you. Unpack it carefully, sifting the straw packing

thoroughly for loose bolts, terminals, and other odds and ends. Bring out the wooden box containing the accumulator, and carefully remove the accumulator from the inside. Take this off at once for its initial charge, usually at least twenty-four hours, so that it will be ready for you when you have completed the wiring-up process. The object in leaving the box behind is to help you to choose a suitable resting place for it in the body of the sidecar, and to have it ready secured there by the time the accumulator is charged. Do not be tempted to utilise locker mulator, which is about

the time the accumulator is charged. Do not be tempted to utilise locker space, which is usually covered with oilskin.

The property of the electric bulb, the type to prove the time the space, which is usually covered with oilskin.

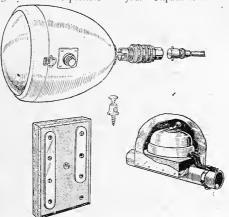
The proventy of the time the accumulator, which is about in a foot forward of it. The box should be bedded level on the floor with a block of wood at one end if necessary, and should be turned with the hinges away from the side. If placed the other way, it cannot be opened owing to the fall back of the lid. Secure the box in position with two bolts passed through the wood and the side of the sidecar. The inside heads should be slotted and countersunk so as to be clear of the side of the accumulator. After cutting out a small section of the side of the lid (to allow it to close on the wire) the box can be bolted in position

Mounting the Lamps.

the sidecar body.

and secured with a nut and washer on the outside of

The lamps, which are supplied with usual clips, etc., should now be fitted. This requires no explanation. A tip which I can give, however, is to place insulating tape or soft packing of some sort under the clips on the handle-bars, carrier, and sidecar lamp fitting. This eliminates any slip, insulates the lamp from the machine in the event of an earth, and also has an insulating effect from road shocks to the lamp filaments. Fit lamps, where possible, on a sprung portion of the frame or chassis. Now obtain a block



(Top) Showing the bayonet fixing for the electric bulb, the type recommended by the writer. (Left) Junction board fitted in the sidecar. (Right) Top tube switch covered with oilskin.



Electric Lighting on Motor Cycles .-

of wood for the switch, square if possible, drill it for wires and screws, and hollow out base so as to seat it on the top tube. It should be secured by a broad metal band passed under and around the tube, and with two small nuts and bolts. Place it well clear of filler caps, gear change levers, and clear of the bounce of the saddle. Now procure a ready-made wooden block, such as is commonly sold as a base for an electric light switch or a wall gas bracket. Drill a hole in the centre to take a 1 in. bolt. Procure eight brass terminals with wood screw stems. These can be bought for about twopence or threepence each, and should be screwed into the block in rows of four, one row on each side of the central hole. The left-hand row should be bedded down on to a strip of thin metal (to connect all four together electrically), and the top three of the other four should be bedded on to a similar, but naturally shorter, strip.

An Accessible Junction Board.

After making sure that the points of the screws do not project through the wood and touch the sidecar body, the block can be bolted up through the side of the body and four or five inchés above the battery. Three holes for the wire must now be drilled through the side of the sidecar, and should have ferrules opened out in them to prevent the wire chafing.

All that now remains is to run the wires. Run one double wire from each lamp to a pair of terminals (one on each strip) on the board. For the sake of

simplicity, I suggest the top pair for the head lap, the next for the rear, and the third for the sid a lamp. Then if any lamp gives trouble its own nections may instantly be inspected. The bottom if of terminals should be connected to the terminal of the accumulator, the last connection of all being he joining of the bottom terminal of the short strike the isolated terminal below it (which already can be battery connection) through the switch.

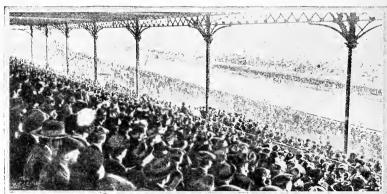
To Safeguard the Battery.

The switch will now be found to control all talights. There is no possibility of battery lead through a defective lamp, since the breaking of switch completely isolates the battery, and, lastly have are neatly arranged with no forked ends, are therefore quite weatherproof.

I have purposely omitted all mention of the lad of the wires from the lamps to the board, as in must necessarily vary for all different machines. A property of the movement of the forks in the head lamp and remember the inspection lamp—you may to use it—also allow for the spring of the sic are body. Clip the wires at intervals with Bowden and you will never have any wiring troubles.

In conclusion, for purposes of current econon recommend the fitting of a higher voltage bulb it rear light; it gives a slightly dimmer light but a lot of "juice." I use an eight-volt bulb in my a light, and it gives quite a good light on six volts.

WD



AMERICAN RAC:

A crowd of 25 people gathered for motor cycle racing Ascot, Los Angeles, month, the largest cro it is stated, that witnessed a motor c race. The great con was between Har Davidson and Inc machines for the hundred miles A: championship, when former gained the vict in 1h. 17m. 42s., average of 771 m.p.l

NICE-LA TURBIE HILL-CLIMB.

THE Moto Club de Nice will hold the above climb on February 19th over a distance of about five miles, the average gradient being r in 14. There will be three classes. Class A, motor bicycles; B, sidecars; and C, cycle cars.

The prizes include a bronze trophy, held since 1912 by the M.C. de Nice, to be competed for by club teams. The Martini trophy is another award for club team competitors

Classification for both trophies will be by the posgained by the first three team members for the co trophy and the first two team members for the lattini trophy.

Entrance fees—motor bicycles, 50 francs; decars, 60 francs; cycle cars, 75 francs—should rich the hon. secretary M.C. de Nice, Monsieur Estat, 39, Avenue de la Victoire, Nice, on or bore February 17th. at 10 p.m.



A City Motor Cyclist's Impressions

THE opinion expressed by the motor cycling public with reference to the general utility of the motor scooter is usually of a vague and puiring nature-a misunderstanding which is, of irse, emphasised by the fact that there still remains great deal of prejudice against this "expensive - and the new public, although interested in the relty, have been unable to experience the joys ociated with its use, as the supply of machines mavoidably curtailed. The use of the motor scooter the limited purposes of the country postman, the ortsman, and the like have been previously criticised, an experiment with one of these vehicles for use large towns and cities, where the congested traffic I greasy roads present great difficulties to the twoseled rider in maintaining his equilibrium, has ealed the practicability of a motor scooter.

member of Motor Cycle recently tried of these maes in the heart London traffic, his impressions probably idenwith any cyclist notor cyclist who not ridden such machine under conditions se ore.

rior to the run, burden of a fear arent, and it out-

lined a vision of enormous motor lorries, 'buses, and waggons. Regardless of the little scooter on the road, they appeared to loom in the distance, only awaiting an opportunity to leap upon the impudent machine which dared to take a place on their privileged route. In practice, however, this impression was quickly removed, and the rider soon discovered that an entirely opposite situation existed. A feeling of growing confidence could be felt as the heavier vehicles, which hitherto monopolised the road, were rapidly passed. Drivers glanced with scorn at the little machine coming along the road and gradually creeping to the front of the column. Amusement could be seen on the faces of the interested crowd who had assembled to witness the over-handicapped Nothing could restrain the progress of the scooter until, having arrived at an open space in

front of the vehicles. touch of the throttle caused the machine to forward and continue a non-stop journey through the heart of the City of London. It was amusing and gratifying to notice the courtesv shown by the drivers of the heavier vehicles as the machine sped by. This was also noticeable at most of the big traffic



The Scooter as a Utility Machine .-

centres. The police, probably realising the nimbleness

of the scooter, gave privilege of passage.

It is possible to classify the advantages observed when using the scooter for the purposes outlined in this article. First, one of the most important factors essential for its general use is the ability to place the machine in safe custody at the termination of a journey without the time-wasting difficulty of locating a garage or other shelter. The scooter, weighing just over 100 lb., can be carried if necessary into the porch of the office or building and left without fear of theft or infringement of the law until it is required again. Secondly, journeys from door to door can be made at an average speed greater than that of public vehicles plying for hire, with greater comfort and at a minimum cost. Should the machine at any time sustain a breakage from which, throughout the writer's experience, it seems to be immune, the smallest corner of any neighbouring building can accommodate it until the rider deems it necessary to repair the defect. Of course the A.B.C. machine under discussion is in effect a miniature motor bicycle suitable for a lady or gentleman. Its open frame enables a heavy coat to be worn in wintry weather. With an engine of 60 x 44 mm. = 125 c.c. bore and stroke and rated at 11/2 h.p. it is naturally low geared, but the little engine does no seem to mind such a low ratio and keeps cool unde: all normal conditions.

What difficulties does a greasy road present to : machine with such small wheels might be asked This, of course, depends to a great extent upon the experience of the rider and the type of scooter used but, during our trial with the Skootamota in question (it was loaned by Messrs. Gilbert Campling, Ltd., I Albemarle Street, London, W.1), no difficulties, so fa as skidding is concerned, were encountered. Should the rider, however, experience a side-slip, the distanc from the footboard to the road is so small that a spil should be impossible.

THE "T.T." AND "TRADE."

Manufacturing Difficulties Not the Only Reason for Probable Lack of Entries.

HAT it is not desirable to hold the T.T. Race this year appears to be an opinion shared by several manufacturers of motor cycles. among those who had fully intended to compete, there are now many who have had to abandon the idea owing to the delays caused by the moulders' strike. Among these latter may be mentioned Messrs. Josiah Parkes and Sons, Ltd. (the makers of the Union engine), Veloce, Ltd., Messrs. Bradbury and Co., Ltd., and Messrs. Chater-Lea, Ltd. Several other manufacturers will not enter on account of other difficulties chiefly concerned with reconstruction problems. Among these are Messrs, F. E. Baker, Ltd., the makers of the Beardmore-Precision motor cycle.

Probable Entrants.

Quite a large number, of course, take a more optimistic view and have already signified their intention of entering, and these include such firms as the Sopwith Aviation Engineering Co., Ltd. (A.B.C.), the Wooler Motor Cycle Co., Ltd., Paragon Motor Manufacturing Co., Messrs. Humphries and Dawes, Ltd. (O.K.), Messrs. Butterfields, Ltd. (Levis), the D.F. and M. Engineering Co. (Diamond), Messrs. Cashmore Bros. (Alecto), Messrs. Hanwell and Sons Components, Ltd. (Cedos), and Messrs. S. A. Newman, Ltd. (Ivy).

A significant feature of the above list is the proportion of newcomers to the motor cycle world. By this progressive attitude there is every indication that they are bidding for recognition; a fact which firms having established reputations should not casually

There are other reasons responsible for the withdrawal of support this year, and, in this connection, we publish a letter from the Triumph Cycle Co. in which the questions of national economy and output are put forward. The decision of this important company not to race this year may have serious effect upon the "entry."

To the Editor of The Motor Cycle.

Sir,—My directors have carefully considered the advis-bility of participating in races or trials during the comin season, especially the Tourist Trophy Race in the Isle (Man, and have come to the decision that it would not it in the interests of the company, or of the trade generally

to do so.

Will you permit me to explain, if only inadequately, the reasons which have guided my directors? The present with satisfactory state of trade is not only based, as we often added to the industrial unrest dominating the world, but also on the depreciation of the value of money. Among the chief remedies mentioned for the latter disturbance as economy and output.

The Triumph Cycle Co. knows from experience that the special preparation of machines for a particular race great hampers the output; the result of such restriction in trace

it is impossible to give in exact figures.

Economy and Output.

As regards economy, we do not think that the participatic As regards economy, we do not think that the participative in a race, which is connected with great expense, is a nece sity for the furtherance of the trade. It may be argue that the Tourist Trophy Race has contributed a great de to the present efficiency of the motor cycle. We have accepted this argument and acted in accordance with it. having participated in every race but one, when the man facturers unanimously decided not to do so. Besides, it Triumph motor cycle, having been adopted as one of first and argument and the British Government during it was been adopted those five very severe and the standard machines by the British Government during it. war, has had such an experience during those five years is will necessarily counterbalance many Tourist Trophy Race The Triumph Cycle Co. believes that it can further the interests of the country and of the trade better by con-

centrating all its energies on an increased output rath than by participating in races which, as has already bet stated, must have a very detrimental effect on the output

of the company.

It must not be forgotten that, owing to the protracte moulders' strike, valuable ground has been lost. Deliver which were promised for past months have been, and w be, delayed, and under the present circumstances it is almo

impossible to regain lost ground.

For these reasons the company has decided not to bus special machines for the Tourist Trophy Race, and to absta during the coming season from those trials where special constructed machines are essential in order to ensure succes
Yours faithfully,

FOR THE TRIUMPH CYCLE Co., LTD., Edw. G. Firkin.



THE POLICEWOMEN OF LONDON.

A Few Humorous Notes on All-weather Riding and Ladies' Riding Apparel.

By COMMANDANT DAMER-DAWSON, O.B.E.

The writer.

TEMBERS of the Women Police Service are congratulating themselves on the possession of the Olympia Show model 3½ h.p. Sunbeam sidear outfit. This "Rolls-Royce" of motor cycle outfits s the most valued possession of Sub-Commandant M. 3. Allen, O.B.E. It carries as its mascot a silver nodel (or should we say caricature) of a "brother pobby," with a brass clock under one arm and a hand aised in time-honoured fashion.

Our sister-riders will welcome the advent of this perfect little roadster. Think of a sidecar with a nudguard so broad that no splashes can adorn the passenger's face, and a wheel so constructed that one in extracted enables the rider to pull out the whole vheel from under the mudguard, slip on a spare, and nend the punctured tyre at leisure.

I was riding a big 8 h.p. combination in pouring vet twilight a few weeks back. Bang went the front yre miles from anywhere! Wheels supposed to be nterchangeable. In the growing dark the various 'washers" rolled helter-skelter, and oh, the Chinese nuzzle to fit that spare wheel, and its washers! When t last all seemed well I found the cone gradually

Commandant Damer-Dawson, O.B.E., with a 1920 Olympia Show model Sunbeam.

uncloing itself-a terrible wobble resulting. It was a borrowed mount, so I will not abuse it further-perhaps its owner understands its tricks better.

Our service owns a varied fleet, among which may be found the Sunbeam, Enfield, Rover, Levis, and Matchless. Among them all I love best a little green 3½ h.p. Sunbeam—a faithful war service friend. It

is not pretty to look at now—rather like Charles Kings-ley's "Doll" poetry—"The paint on her cheeks washed away, dear "-but to me it will always be "the dearest doll in the world." What an engine! It purrs all day almost enoiselessly. Twice has it trotted to North Wales and back this year, and once to Scotland. Another prime favourite is a black and gold colleague ridden by Sub-Commandant Allen, who has many times inspected policewomen all over the United Kingdom. In the sidecars we carry our luggage, enough for a fortnight's tour, spare tin of petrol, and lunch basket. The greasy hills of Halifax, Huddersfield, or Sheffield, equally with indescribable stony mountain tracks in North and South Sub-Commandant Allen, Wales, have no terrors for these excellent machines. I went of the riding apparel from London to North Wales



O.B.E. The suitability will be appreciated.

and back again this summer without having to put a tool on the outfit or even change a tyre or plug. This is what I call a reliable machine.

A Comparison.

- In the early days of the war our service possessed two cars. We were very proud of them, and placed them and ourselves at the disposal of our male colleagues for air raid and emergency work. But the trouble they gave us! How we cranked and cranked at 2 a.m. on an icy winter night, when the Germans would come and would not wait for us. How our brother bobbies cranked also in vain. Then came petrol shortage, and we took to motor cycles. When the call came "Report at nearest police station in seven minutes," our handy mounts were ready to go off first kick, in jumped the passengers, and we were ready to go anywhere at top speed.

There will be no more grateful or more enthusiastic metor cyclists than we of the Women Police Service in the glorious days of open roads and joy rides galore.



The Policewomen of London .-

Are we down-hearted about taxes, the rise in petrol, or rotten roads? Not a bit of it, for we know that nothing can or will daunt the real motor cyclist. He and she know joys that no Chancellor of the Exchequer and no petrol combine or Transport Minister can choke. Where there's a will there's a way! Are we not enfranchised citizens? M.P.'s, beware! Have we not tongues and pens, and The Motor Cycle to voice our wrongs?

But I must say a word upon dress. These are a woman's views written in The Motor Cycle for women readers, and we must not forget that dress came before the 'franchise. We are so interested and so amused to read all that is written in motor cycle journals of the struggles of our sisters to settle motor cycling dress for women, and we appreciate the kindliness of some male encouragers and smile at the venomous "boot" given by some jealous young bloods and stone-age old fogies. Of course, we ride in breeches and boots. With mufti we sometimes affect stockings with bright tops and Scotch garters with tassels and smart brown brogues. Corduroy breeches with corduroy riding coat and hat to match we have

proved can be smart enough to wear without adverse notice in the smartest hotel.

Our experience is that as motor cycle riders whether in uniform or mufti (we have gained a very wide and varied experience in the last four years), we have met with unfailing courtesy from men and women, much interest from all classes of society, and have made some very valued and firm friends while on the road.

The Value of Mudshields.

Mud! It does not trouble us. We can ride ou Sunbeams with legshields in the muddiest Londor streets, and arrive with blue cloth and topboots un spotted. If it rains hard, the naval "slip-on," wit inner oilskin or mackintosh lining and mackintosh over alls, is an impervious and easily donned protection.

We can claim that we are all-weather riders. We have undertaken "inspections" in blizzards with toe fronts to our coats, and are occasionally almost blow off the road when crossing the Romney Marshes in howling sou'-wester—but nothing cools our ardour calters our conviction that a motor cycle with or without sidecar is a fine sport and tremendous convenience for women as well as for men.

FRENCH NOTES.

No Sidecars in this Year's Grand Prix for Motor Cycles and Cycle Cars.

IT is on Saturday, August 28th, that the French Motor Cycle Grand Prix and the Cycle Car Grand Prix will be run in the neighbourhood of Le Mans. These two races, which will be held together, will be the most important speed contests of their kind in France, for, although the detail organisation is left in the competent hands of the Automobile Club of the Sarthe, they nevertheless constitute the official events of the Automobile Club of France.

The last time the Motor Cycle Grand Prix was run was in 1913. The following year all preparations had been made, but the war interfered with the realisation. Several changes have been made in the rules since the last race. Notable among these is the increased distance and elimination of sidecars. The authorities have been led to this decision by reason of the very poor showing made by sidecar machines in the past, and it is considered that they do not lend themselves to high speeds. It should be remembered that this is a speed contest pure and simple, held on practically level and very fast roads, carefully protected at all dangerous points.

Grand Prix Course.

On the day following the motor cycle and cycle car races there will be held an important voiturette or light car race. The detailed rules of this have not yet been published.

The Sarthe course selected for the Grand Prix is 33½ miles round. The 500 c.c. machines will have to cover nine laps, or 301½ miles. For the 350 c.c. machines the distance is reduced to eight laps, or 268 miles, and for both the 250 c.c. motor cycles and the 750 c.c. and the 1,100 c.c. cycle cars, the distance will be seven laps, or 224½ miles. In accordance with the general rules of the Union Motocycliste de France, there will be a minimum weight for each class of machine. The 250 c.c.

machines must weigh not less than 88 lb. without oil or petrol; for the 350 c.c. machines the minimu weight is 110 lb., and for the 500 c.c. machines the minimum weight is 132 lb.

Two classes are provided for the Cycle Car Grar Prix, one of these being 750 c.c. machines having minimum weight of 3 cwt., and the other the 1,100 c. machines weighing not less than 3 cwt. 49 lb. Fight small cycle cars, the minimum tyre size is 55 mm the bigger cycle cars must have 60 mm. tyre size least. All the cycle cars must be fitted with a clutt

and change-speed gear, and must carry two person throughout the whole of the race.

Some Regulations.

For both the motor cycle and cycle car races, at the essential organs will be scaled and must not learning the contest. Tyre and petrol pi will be established opposite the grandstands, at supplies can only be taken from this point. At competitor receiving outside assistance away from the grandstand will be disqualified. Entries for the two races are received both by the Union Mot cycliste de France, Place de la Concorde, Paris, at by the Automobile Club de l'Ouest, Le Mans. The latest date for receiving entries at ordinary fees June 15th, but entries can be made on payment double fees until July 15th.

In France competitors must be supplied with the regulation driving and road licence, but in the case of foreign competitors, the international car and driving ticence will be accepted in place of these. In the way, British competitors who bring their machines be road and who enter France with the usual tripty issued by the Motor Union, will not have any specificant by the motor union, will not have any specific the contribution of the supplies to the specific production.

formalities to comply with.

The cylinder measurements will be verified on Augu 26th and 27th, no tolerance being made.

FRICTION CLUTCHES FOR MOTOR CYCLES.

By R. WARING-BROWN, AM LA.E.

art I.—Some Remarks on Clutch Design and Descriptions of the Best Known Types.

The design of a clutch may make or nur an otherwise good machine. With the object of discussing the ndvantages and disadvantages of the different types of clutches on modern motor cycles, the accompanying article-written by an experienced designer-has been prepared. The writer holds the view that, notwithstanding the perfection to which the modern clutch has attained, finality has not in any way been reached.

THE adoption of free engine and speed gear transmission is accepted as standard practice on the modern motor cycle, and the advantages gained the use of such transmission are very apparent.

se are made possible by the use of some form of ch whereby the transmission of power from the ine to the road wheels may be gradually applied juickly disengaged.

In investigation of the subject, it is first necessary observe the chief essentials in the design of a really cessful clutch. These are:

t.) Capability of transmitting the full power of the ine efficiently.

2.) Simplicity in construction.

3.) Accessibility and ease of adjustment.

'here are three types of friction clutch in general for motor cycle engines, viz., cone, band, and e; and, as far as design goes, their calculation is mple matter.

There T = Torque or twisting moment in pound-feet.

r=Revolutions per minute.

H.P. = Maximum horse-power to be transmitted. n the initial calculations for a clutch, the informa-. at the disposal of the designer is the maximum er to be transmitted and the revolutionary speed eet per minute. From this the torque or twisting nent may be obtained from formula:

(.)
$$T = \frac{5^2 5^2 \text{ H.P.}}{r}$$

'he design of a motor cycle clutch presents a culty not frequently found on a car or other hinery, in that the space at the designer's disal-is very limited.

The Cone Clutch,

n early designs the simple cone clutch was frently adopted, and is still used, although not extenly on motor cycles. This is probably due to the

fact that, to be absolutely successful, the cones require to be of comparatively large diameter, which is not always possible, owing to the restricted space at the designer's disposal. The cone clutch involves an important point in reference to the angle of the friction surfaces. The smaller the angle the less the axial pressure F. This may be seen from the calculation where

P=Pressure in pounds acting perpendicular to the cone surface (usually about 40 lb. per sq. in.).

Then

 $F = P \times \sin a$

It will be easily understood that the angle of the cone surface (a) must not be too small, as otherwise the clutch would tend to "jam," and become difficult to withdraw.

The three factors attending the design of a cone clutch are:

(1.) The frictional resistance between the surfaces in contact (µ).

(2.) The radius of clutch (R). (3.) The angle of the cone (a).

Hence it will be seen that, being limited in regard to pressure on the friction surfaces, and also to their angularity, the designer has only two flexible particulars, viz., diameter and width. As showing what has been done in cone clutches, it is interesting to examine designs herewith.

The only clutch of the cone type which the writer remembers favourably was a design fitted to an F.N. shaft-driven machine, shown in fig. 1, where it will be noted more space is available. A is the outer member of the clutch, consisting of a cast iron annular face bolted to the flywheel. B is the inner member driving the primary gearshafts through a flexible coupling C. It will be seen that this clutch is of adequate diameter and surface, and is extremely simple in construction.

It is obvious that if high powers can be transmitted on cars solely through the medium of friction, the

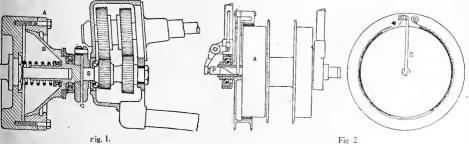


Fig 2

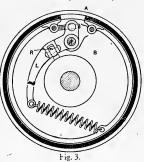


Friction Clutches for Motor Cycles .-

same is possible on a motor cycle by the provision of a friction surface of ample dimensions.

The Band Clutch.

Band clutches can be of two kinds, viz., contracting and expanding. At a first glance it would appear that there is fittle to choose between either of these types. On consideration, however, there is a considerable



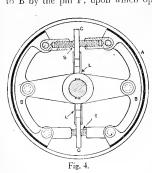
difference. high speeds, such as are employed in motor cycle engines, the centrifugal force on the band has quite an effect on the friction between the band and the drum. Centrifugal force at high speeds tends to expand the band, and hence to decrease the force of a

contracting band, and to increase the frictional force of an expanding clutch. The band clutch is most generally used where the transmission gear is of the

epicyclic type.

In fig. 2 is shown, diagrammatically, a common design incorporated in a rear wheel transmission. Where epicyclic gear is enclosed inside the clutch drum A contracting bands are fitted, and the pressure is applied through a spring and lever L, which thrusts against a plunger P having a helical cam cut upon it. This cam, in turn, forces rod R, attached to links, outwards, thereby contracting the band on to the drum.

The method of applying the expanding type is shown in fig. 3. A and B are the driving and driven drums respectively. The expanding mechanism is mounted to B by the pin P, upon which operates the lever L,



whose movement controls the expansion of the band. This lever L has fitted to it a roller R, which is acted upon by a wedge. The whole is embodied in the rear wheel, in a similar manner to preceding the example. The which drawback shows itself most, both in practice and theory, is the

very great difficulty of balancing this type of clutch retationally. The advantage of the band clutch is the partial and sometimes complete elimination of end thrust.

Segmental Clutches.

These are clutches wherein the driven members of the clutch are formed in segments. The one in fig. 4 is really an offspring of the band type, except the segments are formed as blocks. The axial presis transmitted through a sliding sleeve, to whice attached levers L acting on collars C attached screws, having right and left-hand threads S. forward movement of these levers rotates the screwhich thrust the segments B outwards against drum A. It will be seen that the axial pressum multiplied by the mechanical advantages of the product mechanism employed. It is advisable not to a greater pressure than 50 lb. per square inch, which per cent. less pressure will greatly enh success in this type. The axial pressure is nature diminished in this pattern, but the rotating when the clutch is disengaged is very consideral

The clutch shown in fig. 5 is another type of mental clutch, designed on the principle of the Ro son friction gear, and is a Premier design. clutching action is produced by expanding a section inner member A outwards until it engages steel plates B keyed to the hub shell C. The member has V grooves which give maximum fit surface. The cone D, which expands the segm

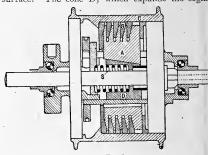


Fig. 5.

is held in action by the spring S. When this is pressed by the actuating rod working through centre of the spindle, the clutch members are tively drawn out of engagement.

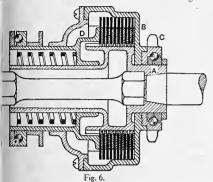
Plate Clutches.

There are three general types of plate clute use, viz.. corrugated plate, multiple plate, and si plate. All these types are the outcome of the orig Weston clutch, which is on the principle of m gripping surfaces. As friction increases in propor to the number of pairs of friction surfaces in con it is possible to increase their number and multiple resistance due to friction to any desired amount

The outstanding feature of the Hele-Shaw clis the use of friction plates, stamped to form a rugation at an angle of 30-40°. The surface contact are limited to the raised part of the plawhich are arranged in series of driving and dr members. The driven members are free to slaterally, but are prevented from rotating by key the drum connected to the driven shaft. The driplates also are allowed lateral movement, and keyed to the inside of the casing connected to driving or engine-shaft. It will readily be un stood that the force required to press the plates gether is inversely proportional to the number

tion Clutches for Motor Cycles .-

tes and their effective diameter. By corrugating plates, as in the Hele-Shaw, the axial pressure reduced practically fifty per cent,; consequently, a given pressure, the clutch will transmit twice turning effort of an equal number of flat plates similar materials. The other advantages of this ch are that, under conditions where heat is gener-



d, the shape of the plate allows of the free cirtion of lubricant, thereby forming a means of t dissipation. The corrugations add so greatly to strength of the plates that distortion is practically possible. The calculations for this type of clutch, and the same designations as previously, are as ows, where

'N=Number of pairs of friction surfaces.

a=Angle of corrugations.

$$F = \frac{T \times \sin \alpha}{R \times N \times \mu} = \frac{Q \times \sin \alpha}{N \times \mu}$$

At the same time, the disadvantage of this type n its slow disengagement, due to oil between the tes. For this reason springs are fitted to the plates separate them.

Multiple Flat Plate Clutch,

This type of clutch is made to innumerable designs, number of plates used being anything from two twenty. They possess the advantages and disadtages of the corrugated plate type. They have further disadvantage in an increase of pressure uired to keep the plates together, the formula in case being:

$$F = \frac{T}{R \times N \times \mu}$$

In slipping this type of clutch, obviously great heat is set up, which it is not possible to dissipate efficiently as the nature of the plates does not allow free circulation of the oil. Consequently, the plates have a tendency to burn and buckle. The plates are frequently perforated in order to allow of a better circulation of the lubricant and also to diminish the tendency which they have of sticking together.

Elimination of End Thrust.

In fig. 6 is shown a Chater-Lea design for chain drive. A is the driving centre fixed to the engineshaft, and B is the driven drum, which is connected to the chain gear C. D is a presser ring, forcing the driving and driven friction plates together under the

influence of coil spring S. The most satisfactory results are obtainable with plates alternately bronze

and steel.

Another interesting example of a clutch which has only two plates is that illustrated in fig. 7. This is fitted to the German Magnet machine, runs in oil, and is embodied in the belt pulley on a countershaft. The two dises MN inside the pulley flanges P are pressed apart by eight springs (S), and are connected to the hub carrying the small chain wheel R, driving on to the rear wheel. In the end of the axle A, which does not revolve, is a quick-thread screw, operated by lever D, which, by means of a distance piece F, presses against the centre of the part M when lever D is turned in a right-hand direction; thus, M and N

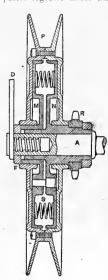


Fig. 7.

are drawn together, and the clutch consequently released. This clutch has several good features, amongst which are notably the equalised pressure, and consequent elimination of end thrust, both in and out of action; also, there is a good leverage for disengagement, which is obtained by means of the screwed lever. The friction surfaces are of cast iron and steel and in practice work together well.

(To be continued.)

THE MOTOR CYCLE AND AVIATION.

ECENTLY we observed an aeroplane landing in a field some two miles from a town, and were surprised to see that a motor cycle was urely fixed to the side of the fuselage. Enquiries me the pilot revealed the fact that he was touring air in order to arrange for suitable flying grounds. it is not always possible to land near a town, an on two-stroke was carried to save fatiguing walks points where information could be gained. The

method of attachment was interesting, the machine resting on a special board recessed to take the tyres, and attached to the lower starboard main plane. After completing the necessary business, the motor cycle was replaced very quickly and without difficulty, the 160 h.p. Beardmore engine fitted to the Armstrong-Whitworth biplane burst into song, and the whole combination soon became a microscopic speck in the far distance.

TAXATION.

Readers' Views on the Hardships of the Proposed Increased Taxation.

TE have received many letters on the subject of the proposed alteration to the motor cycle tax from our readers, who regard the increase as an injustice, especially to the poor man whose riding time is confined to week-ends with the consequence that his yearly mileage is low. A flat rate bears very heavily on such a man, who possibly runs a sidecar outfit to give his wife and family a breath of country air, in comparison with the leisured class who may very likely ride ten times the distance.

We note that the Motor Legislation Committee disclaim all responsibility for the proposals, which they say "have perhaps been injudiciously and prematurely published."

Below are extracts from some of the letters received: Sir,—The proposed new taxes have prompted me to compile the enclosed tables, showing at a glance what the motorist who runs up only a small mileage per annum will have to pay, compared with the man of more miles. Petrol prices are assumed, i.e., 3s. less tax, and 3s. 6d. with tax. It will interest many motor cyclists like the writer.

® .	Total Miles per Annum.	Miles per Gallon.	Price of Petrol.	Tax, Cycle and Sidecar.	Total Cost of Petrol, including Cycle Tax.	Total Cost of Petrol, per Gallon, including Cycle Tax.
4½ h.p., Based	1,000	50	3/-	8o /-	140/~	7/-
on - Proposed	1,500	50	3/-	8o /-	170/-	5 /8
Tax.	3,000	50	3/-	8o /-	260/-	4/4
4½ h.p., Based	1,000	50	3/6	20 /-	90/-	4/6
on Existing	1,500	50	3/6	20 /-	125 /-	4 /2"
Tax.	3,000	50	3/6	20 /-	230/-	3/10

[This letter was written before the increase in price.-ED. 1,000 MILES PER ANNUM.

Sir,-May I be allowed to express my opinion on what I consider an unfair system of taxation. There are thousands of working men, like myself, who, shut up in factories all the week, enjoy a short run on a motor cycle at a week-end; for, after all, the actual maker of the article in question is a factory hand. My point is this. Under the proposed new system of taxing motor cycles it will be extremely unfair for this class of rider, inasmuch as the rich motorist, who lives on unearned income, and to whom the appeal for increased production matters little, will escape as lightly as will the labourer. As is well known, the majority of workers would not cover a great distance in the course of a year. The more one rides, the more one should pay.

JAMES REECE.

Sir,-Sir Eric Geddes is reported to have said that the new taxation is to be based on the use of the roads and the amount of damage done to the roads by different classes of vehicles, and that motor cycles with the right to draw a sidecar will be taxed £4. I fail to see how the amount has been arrived at. There are thousands of motor cyclists who only get the opportunity of using their machines for a few hours at week-ends during three months of the year, and who have to deny themselves in other directions for the pleasure of having a ride and taking their wives and children for a spin through the country lanes. This tax will mean that they will be paying at the rate of 6s. for each run, exclusive of petrol, tyres, etc., supposing they are fortunate enough to have twelve or fourteen rides during the season. Add to this the cost of petrol, tyres, insurance, and garage, it will mean that the average motor cyclist will be forced to give it up. Certainly the writer for one.

W.T.J. Plumstead

Sir,-In reference to the taxation and registration Sir,—In reference to the taxation and registration motor cycles, I think it is excessive, and a hard hit working men, like my father and myself, who look to little enjoyment at the end of the week, and an opportun of getting a few hours' run out into the country to obta little fresh air, which we are deprived of from Monutil Saturday. I should be pleased to see in your colur a general dissatisfaction of the Government's behaving the statement of the control of the control of the first should be pleased to see in your colur a general dissatisfaction of the Government's behaving the should be should b

Sir,—Statements have recently appeared in the press porting to be an intelligent anticipation of the recommendation of the recommend tions of the Departmental Committee of the Ministry Transport, which is known to be now considering the ques

As the name of the Motor Legislation Committee has I confused with that of the Government Advisory Commit concused with that of the Government Advisory Confinit I should be grateful if you would allow me to state that blotor Legislation Committee is a body absolutely it pendent of the Ministry of Transport. It has in no s-countenanced the proposals which have perhaps been judiciously and prematurely published. Nor is it opinion of the Motor Legislation Committee that it of usefully, at the present moment, publicly express opinion for or against a schedule of direct vehicle taxa opmint for or against a schedule of the terror of the period duties, which is stated to the provisional recommendation of a confidential Governm Committee. ALFRED HACKING, General Secretary, Motor Legislation Committe

Sir,—I think this instance of how the new proposed on sidecars (£4) hits will show how unfair it is. I have an old twin (thirteen years old) and sidecar,

have spent the best part of a year since demobilisation dit up in spare time, fitting magneto, etc. I shall probuse it once a fortnight or perhaps once a week, owing long hours and not being in the engineering trade.

My last ride was in 1915, and now I must give up m cycling after four years of the rough.

Surely the petrol tax would be more fair to all.

F. VICTOI

Sir,-It is with great alarm that I read of the proper increased taxation of motor cycles. The increase seems of all proportion, and will prevent very many people is continuing to use motor cycles, and many more from be ning the sport at all. The tax will press most unfairly those who can least afford the increase—e.g., the "km who has money and time to do nothing but run about country on a lightweight with probably a passenger on carrier, will get off with 30s., while the struggling far carrier, will get off with 30s., while the struggling far man, who has only week-ends for the pastime, and is oblited have a powerful 'hus to carry his load, will have to £4. The only fair way of increasing the tax and mathose who use the roads most pay the most towards the is to put a stiff tax on petrol; then the man with a he'bus, but who only has time for week-end runs, would of pay according to his petrol consumption.

All motor spirit of any kind should be taxed so that one could possibly avoid paying. Even if the existing r licence were doubled and a tax put on motor spirit, the would not be much grumbling. A motor bicycle of heaviest type does scarcely any damage to the roads fact, at present, it is the roads that damage the bicyc It is the heavy lorries and 'buses and steam tractors wil tear them to pieces, and it is on these that the burden the taxation should chiefly fall.

There must be thousands of people in England who There must be thousands of people in Lagrangian only just afford to keep a sidecar and who do so enable them to get their wives and children about with the endless expense and bother of train journeys. They do not not so that the long as the old is not want to go fast, but are content as long as the old gets there; the damage they do to the road is negligibut the good they do to themselves and their families incalculable

WILFRID M. BEAL

NOISE: Its Value and Assistance to Motor Cyclists.

A Few Extracts from a Paper by Dr. A. M. Low, A.C.G.I., D.Sc., etc., read before the Cumberland County M.C.C.

T is a very humiliating thought to realise that the modern motor cycle ossesses silence only relatively.

There can be no question that in inter can be an question that in a liter street a 'motor cycle is noisy, and, hen we remember that every kind of ise means wear and loss of some kind, is alone should give us a hint of the terest in the subject uf noise and sound. If a Rolls-Royce six feet wide can wel through traffic safely and silently, rely a motor cycle can do the same. Noise is produced by irregular vibra-Make is produced by friegular vibra-ns of air, and owing to our particular sysical construction it is unpleasant. All forms of sound waves are relatively

gular vibrations.

Let us now see of what particular in-

lest this is to a motor cyclist. It is by means of noise and sound and r cars that we do practically every yele operation on a motor cycle. Riding night is a proof of this, for our eyes e solely occupied in seeing the way. Our eyesight does not tell us whether a tehine is running well, it does not tell to change gear neatly, and it does not of the heavy feeling of a machine eding a lower gear is due to the ear.

Noise and Sound.

Not only do we drive well or badly by and and noise, but we use these two ides almost entirely when we are lging the efficiency or otherwise of a tor cycle quite apart from mere tech-al investigations, which can be con-

Noise and sound differ solely as we ve considered, by being either irregular regular vibration respectively.

Vibration exists in the forms of life, ctricity, heat, sound, and noise.

Sound is a regular oscillation, and refore has a building-up effect.

Now on a motor cycle there are very my noises, and still more parts which we irregularly at portions of their total vement, such as a valve, and regularly oughout their movement, such as an

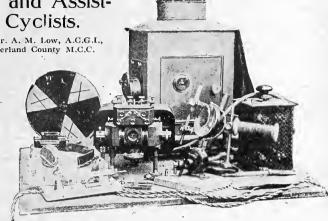
limary hub bearing which contains Is moving partially irregularly. Jutte a number of mysterious sounds to be investigated; by running on ferent gears and at different speeds it easy to see whether a noise synchroes with the rate of movement of the in, the belt, gear box, or wheels: At the same time, one can distinguish

ween a distinct tap and a knock due a rough cam by noticing how often per time revolution this noise occurs, and can then see whether it synchronises in the crankshaft speed or with the ve or half-time shaft.

This is, of course, exceedingly simple; ny other types of noise can be ex-ined in the same way.

Other sounds can be tested for sepa-

ely. Suppose, for example, one has her a loose aluminium piston in an



Some of the apparatus used at Dr. Low's lecture to Cumberland County M.C.C., at which an apparatus was shown for photographically recording noises.

engine, it is very interesting to try the machine both hot and cold and at different speeds.

If one has a two-stroke engine, and it is suspected that a loose gudgeon pin exists, or if one wishes to distinguish between a carbon knock and a gudgeon pin, which may not be always an easy case, it is a good plan to run the engine fast, and then to slow down and accelerate again, simply because we all know that at high speeds the load on reciprocating bearing parts is far greater due to inertia than it is to actual explosion.

The same case applies to overheated plugs and similar points; that is to say, one can try the effect of accelerating on high gear or intermediate gears in order to see at what particular speed an engine will make a noise.

Periodic Vibrations.

Often, we must remember, we deliberately run on wrong mixture in order to make up for other mechanical faults, and in many engines overheating will only appear at particular speeds or carburetter settings, just as sometimes a machine will be running with perfect regu-larity and will suddenly get into a state of vibration. This is usually due to the synchronisation of out-of-balance forces.

It is not possible to balance a singlecylinder engine perfectly when con-structed in the ordinary manner, and, therefore, all forms of balance are a compromise, and an engine must either be balanced for low or high speed.

Testing by Sounds.

An intelligent examination of sounds produced from an engine is practically the only method adopted by road testers, and if the public once realise how important it is to use their ears we would

have fewer overworked engines.

Take the example of a worn tappet when the engine is raced under load, and

suddenly shut off and opened up again

stowly. In almost every case a knock will result as the engine is shut off, but will entirely disappear when the throttle is reoponed, and the pressure in the cylinder becomes sufficient to steady the valve against the bouncing effect produced by the spring. This I have actually tested, examining the valve in motion by means of a cinematograph.

Varying the sparking point of the mixture will also often show a definite cause of knocking, and help us to distinguish the reason.

In cases where slackness of drive is suspected, the obvious method to adopt is that of producing reversal of stress, either by brake application or by raising the exhaust valve and suddenly dropping it when the engine has slowed down.

In the same way the application of the foot to the pulley of an engine will often either stop a noise entirely or make it worse, clearly showing that we have a loose bearing, and nothing to do with conflecting rod or piston attachment. All these noises are what I may call determinate noises.

Bad roads show up indeterminate or periodic sounds, whereas most deter-minate noises are more of the nature of sound than noise.

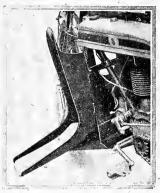
It is extraordinary how most riders can be content with the most weird noises proceeding from their machines, and a trip in a sidecar attached to a motor cycle which the rider has never yet heard except as a rider will often astonish him. It was once said by the elder Mr.

Winans, who was a great lover of horses, that if these animals could cry out every time they were slightly hurt it would be impossible for passers-by in the street to hear themselves speak.

If people would only realise how they are hurting motors by not listening to their gentle voices complaining, they would save half the troubles which exist.

A LEG GUARD AND FRONT SHIFLD.

THE day cannot be far distant when every motor cyclist will be able to mount his machine on a muddy day without troubling to don special overalls to keep the mud from his legs. Quite a large number of riders have devised really



A useful type of leg shield, tootboard, and front shield. The leg shield and footboards, it will be observed; are hinged, permitting easy access to the engine.

efficient guards, and those whose business is connected with motor cycles are placing them on the market. Soon, perhaps, manufacturers will render these extras unnecessary by turning out their machines equipped with such fitments; in the meantime, no doubt there will be a big de-

One of the latter is about to be placed on the market by Messrs. Forfield Motors, Leamington, and has been designed by H. Stretton Ward, a Midland competition rider, who is one of the partners of the

concern. As will be seen from the illustrations, the guards are hinged, by lantern hinges, to a front shield, so that by

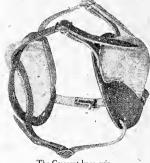
releasing a butterfly nut attaching the former to the footrests the leg guards

may be swing outwards to give accessibility to the engine. The footrest portion of the guards is fitted with rubber mats.

The illustration of a complete Triumph machine gives a good idea of the ex-tremely neat appearance these guards present when fitted, and also shows the large degree of protection which is afforded to the magneto and lower portion . of the engine where it is most needed, especially on machines which have not the protection of a specially designed front mudguard. The designer is to be congratulated upon the pleasing appearance of his product.

THE CRESCENT KNEF-GRIP.

K NEE-GRIPS are very popular among motor cyclists, and the particular pattern under review is most effective. The pads are mounted on circular leather discs with slots for the straps arranged at intervals so that the position of the pads may be altered to suit the taste and fancy of the rider. As at



The Crescent knee-grip.

present arranged on our machine, the pads are so adjusted that the knees fit tightly up against them, thus giving an additional sense of security when in the saddle. The Crescent knee-grips are made by H. Bednall, 55, Sutton Crescent, Walsall, who specialises in leather caps, helmets, and wrist straps.



A USEFUL MAGNETO KNIFE.

HERE have been many magneto knives on the market containing a blade, a file, and a platinum point gauge, but the one illustrated is the only specimen we have seen which contains a plug tester. This tester consists of a a ping tester. This tester consists of a vulcanite body and adjustable spark gap, and is so arranged that it can be held between the terminal and body of the plug while the machine is running and thus indicates whether or not the current is passing. The distance of the gap adjustable by knocking one of the meta



Brown Bros. magneto knife.

portions to one side. It is sold by Messr Brown Brothers, Ltd., 15, Newman Stree London; W.1.

TWO USEFUL TOOLS.

MOTOR cyclists who are capable doing their own repairs will interested in two small machi tools which form useful adjuncts to workshop. One of these is a small se sitive drilling machine, while the oth



is a grinding and polishing head. B these may be driven by foot pow by means of a small electric mot mot or by other means. They are reas able in price, and any skilful amat



A polishing head well suited for a motor cyclist's workshop.

possessed of a lathe may manufacte them himself from castings which u be supplied by the makers, the Sr Brass Foundry, Rylance Road, Wige



The Editor does not hold himself responsible for the opinions of his correspondents, All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address,

VERHEAD VALVE GEAR.

Sir.—In The Motor Cycle for January 22nd I have seen the article, "Back to Pfain Bearings?" and the illustration f overhead valve and tappet gear, by "Ubique." I wish to smind this gentleman that this illustration is the subject f a Mag patent, and is very similar to the design of the verhead inlet valve gear on Mag engines.

THE MAG ENGINE COMPANY, LTD.

OSBORNE DE LISSA, Managing Director.

ATE OF THE MOTOR CYCLE SHOW.

Sir,-May I trespass upon your space to put forward a lea for the holding of the Motor Cycle Show in Angust or lecember, as there are many hundreds of prospective buyers etween the ages of 16 and 18 who cannot get away for the how in November, and by this fact are prevented from noosing their machines from a large selection of models, ad thus have to choose it from the comparatively small election available at an agent's or local dealer's?

Malvern. PUBLIC SCHOOLBOY.

HE PATENT LAWS.

Sir,-May I point out to your readers that the third attement in the letter of Messrs. Phillipss relating to the atents and Designs Act, 1919, which appeared in your sue of January 29th, is incorrect, if the investigation sterred to is that made in the Patent Office? The investition for novelty prescribed by Sections 7 and 8 of the atents and Designs Act of 1907 is in no way extended by te Act of 1919. According, however, to Section 4 of the tter Act, an opposition to the grant of a patent may be minded on "any document published in the United King-

As regards the last statement in the same letter, it should noted that the position of solicitors is unaltered by the ct of 1919, and this is expressly stated in the Act.

TANDARD TYRE SIZES.

Sir, Our attention has been called to reports which have cently appeared in the technical press of a meeting of mopean manufacturers, representing England, France, aly, and Belgium, recently held in Paris, when it was cided to adopt certain sizes of pneumatic tyres. As these ports are likely to create a wrong impression, we beg to vise you that this Association, the official organisation the British rubber type industry, had no part in the gotiations referred to, and does not accept the range of and only the productions of the production of the andards named.

Our Association has for some time had the question of re standardisation in hand and formulated proposals, which re accepted by the official organisations of the car makers, stor cycle and cycle manufacturers, and wheel and rim anufacturers. These proposals were laid before the British geneering Standards Association, and we understand an terim report will shortly be issued by that body setting the complete range of sizes of all classes of pneumatic d solid rubber types and rims adopted as British standards.
We shall be glad if you will give publicity to this commication. THE BRITISH RÜBBER

TYRE MANUFACTURERS' ASSOCIATION, LTD., W. B. PEAT AND Co., General Secretaries.

PRICE OF FUEL.

Sir,—In The Motor Cycle of January 29th I read with interest your remarks on "Home-produced Fuels." For some time past there has been "talk" of advance in prices of imported fuels; and the only way to counteract these threatened advances is to use and support home produce. But how are we encouraged to support home production?

But how are we encouraged to support home produce. But how are we encouraged to support home production? When I turn to page 125 of The Motor Cycle, I find, without any "talk" or previous threats, that N.B.A. benzole is advanced from 2s. 9d. to 3s. 1d. per gallon.

Are we in the toils of a "home ring" as well as a "petrol ring"?

Derby.

INCREASING THE BRILLIANCE OF ACETYLENE LIGHT.

Sir,—With reference to your article, which appeared in your paper of January 8th, concerning carbide economy, may I add the following hint :

If a little hydrogen peroxide is added to the water for the generator I have found that a noticeably more brilliant light is obtained. One teaspoonful of hydrogen peroxide to half a pint of water was sufficient in my case.

CHARLES W. VINES.

[An ounce of hydrogen peroxide to a pint of soft water is said to increase the light by upwards of 60%, 2 ounces by nearly 70%; beyond this point the increase is at first slight, then it drops.— E_{D} .]

PISTON RINGS.

Sir,-With reference to your contributor's, George Harley's, article on piston rings, the following may be interesting:

It can he shown mathematically that if a piston ring is turned to a diameter larger than its cylinder, has a portion of its length removed at the cut, and then has its ends bulled together by a tangential force, and, being clamped in this position, is finally turned on the outside to the cylinder diameter, it will, when in the cylinder, press with exactly equal force on the cylinder walls all round, whether it is of even thickness or tapered as Mr. Harley recom-

I have made piston rings on these lines in the following way, with results which are in every way perfect.

The rings are cut from a concentrically bored cylinder of

such a diameter as to allow of the necessary portion being

removed, and with an extra small excess diameter to allow for final turning, say, 1/32in, for motor cycle diameters.

A jig is made, consisting of a bar with a flange in its middle, slightly less than the diameter of the cylinder, and a washer fitted on the bar part and secured to the fixed flange with three or four bolts or a nut running on a thread in the bar. The rings, after cutting, are laid, three or four at a time, in a thin tim or brass clip, with two small bolts passing through its bent-up ends, so that the clip and the rings in it may be closed up with a near approach to the "tangential force" of the mathematician. The rings are then clamped between the fixed and loose collar on the jig, set to run true, the clip removed, and are then turned with a light cut. All that remains is to file the allowance for expansion given by Mr. Harley from the end of each ring, and the job is done.

V.P.

LARGER ENGINES.

Sir,-As a reader of your invaluable paper since 1911, may I endorse the remarks of your correspondent, "Jay Gee," on the subject of "Larger Engines."

Although, as a matter of principle, I would not ride a foreign machine, one must admit that, broadly speaking,

America is the home of the big engine.

I have a friend who owns two big American machines; he would prefer English ones if he could get them as powerful. I do not wish to touch on the subject of English v. American machines, but may I suggest that, if the smaller English engine is more efficient than the American, why not huild up this engine to the size of its rival, and let the

I notice immediately following "Jay Gee's" article comes one on "Protection from Mud and Rain." Now, surely, if we had larger engines we should see more luxurious sidecars giving the extra protection required; one would not then feel that power was being sacrificed for comfort.

There are still a large number of people who prefer the powerful sidecar combination to the light car.

W B. CLEGG.

A "PASSENGER SIX DAYS".

Sir,—Your contributor, "Ixion," has always something interesting to say, and his contribution about passenger trials deserves careful attention. There can be no doubt that' passenger machines have more in common with each other than have sidecars and three-wheelers with solo motor cycles; also, that it is more useful to compare the runabout and cycle car (the names are unsatisfactory, but there are no better) with the sidecar than with the luxurious light car. The man who can afford £500 will not be much interested in a Morgan or a G.N. (though I know owners of large cars who keep a Morgan as a tender), whereas the owner of a sidecar is very much interested in a runabout or cycle car, and vice versa. The difficulty of arranging a "Passenger Six Days" is, as "Lxion" says, the question of classification. At present the definition of a light car is based upon horse-power.

So long as 1,100 c.c. was the limit this was fairly satisfactory, especially whilst it included a weight limit; but now that the limit is 1,600 it is another story. The price limit is to be preferred, especially if a consumption limit be added. It is significant that the first light car trial was

run on a price limit.

run on a price limit.

Probably most people would be in favour of such a trial as "Ixion" suggests if a competent authority-could be found to conduct it. I believe that the Junior Car Club could do so if it were willing, but this seems doubtful. There seems to be a reluctance on the part of the club to have any dealings with sidecars, and it would be difficult for it to exclude any light car, however highly priced. The name of the club is against it; but is it impossible for the R.A.C. and

the A.C.U. to appoint a joint committee?

If such a trial is impossible, it seems to me that the best means of comparing all kinds of light passenger machines is to hold two Six Days Trials over the same course and under precisely similar conditions, either in England or Scotland, or, preferably, in both. In this way all machines would be put to the same test, and the public could judge their performance. Let me add that, in my opinion, the three-wheelers will be well advised for the present, and until some-such scheme as "Ixion's" can be carried out, to remain under the A.C.U. Their most-to-be-considered competitor is the H. GEORGE MORGAN.

THE SINGLE-GEARED LIGHTWEIGHT.

Sir,-I notice in The Motor Cycle of January 8th a photograph of Mr. Hugh Mason, climbing Clara Street, Newcastlegraph of Mr. Hugh Mason, climbing Clara Street, Aewcastle-on-Tyne, on a N.U.T., and I can say from my experience that it is a fairly stiff proposition, on account of the steep rise at the foot. I have been up this bill on a number of machines, but the most interesting climb was on a little single-genered 2½ hp. Villiers engined New Ryder two-stroke. I got right to the top of the bill written any aid at the first attempt. I toured the Lake District and part of Scotland last summer on this same machine. Starting from Monk-eaton, I passed through Newcastle, Haydon Bridge, Alston, eaton, I passed through Newcastle, Haydon Brugge, Alston, Penrith, and Kendal on the first day. The second day I took things easy, as the scenery was lovely, and viewed Windermere, Rydal Water, Grasmere, Thirlmere, and Derwentwater, putting up for the night at Keswick. Third day, I passed lasgow. Fourth day I rode through Bearsden to Drymen.

and Loch Lomond, then made tracks for Dunfermline, passing and Loca Lomond, then made tracks for Duniermine, passing through Stirling, Bridge of Allan, Tillicoultry, and Rumbling Bridge. Fifth day I crossed the Forth at Queensferry, and passed through Edinburgh, Dalkeith, Coldstream, Wooler, and arrived at Monkseaton early in the evening feeling very

fit after my short tour.

The only hill I fail

The only hill I failed on was between Grasmere and Keswick, known, I think, as Dunmail Raise. I got nearly to the top, when a head wind beat me.

The distance covered on this run was about 500 miles. Petrol and benzole used, five gallons. Oil, about two quarts. Thus, I averaged 100 m.p.g., not a bad performance considering the contour of the country covered.

The only adjustment I made to the machine was to tighten up the cones in the front wheel hub, with a small spanner which I carried in my pocket. The tool-bags were never once opened. I oiled the bicycle parts once, and that was near Stirling.

I have no connection with either the New Ryder or illiers firms.

J. B. TAYLOR.

Villiers firms.

THE MACHINE FOR SPORT.

Sir,-It was with great regret that I marked the falling off in numbers of the sporting solo single at the Show. I mean the machine fitted with a neat simple engine of about 500 c.c. in a strong rigid frame with T.T. bars, the whole being utterly destitute of such unnecessary hoojahs as gear boxes, clutches, and the like. As far as I can see, the only firms who still boast such models in their original form are Rover and Norton. Only two survivors out of such a mighty

Surely there must be hundreds of young riders like myself who regard this type as the only mount worth riding for pleasure. Personally, I know no more fascinating sport than riding a high compression, high geared 3½ h.p. through heavy traffic, provided one does not mind a little strenuous pushing at times.

Riding this type, one learns to study one's engine, and, with a large exhaust, one hears every complaint that it makes when one juggles with the air and throttle levers. As one gets to know one's 'bus, it is a great pleasure to realise that one can give it just that perfect mixture which affords maximum power and speed.

It is an art in itself to get good acceleration without knock-

ing out of a fixed gear three-and-a-half, yet what acceleration

means can only be demonstrated on such a mount.

On a big single-geared machine one must be continually alert, the throttle and air must be kept moving to suit the road, and the engine to a much greater degree than on a sidecar 'bus.

On a machine "with every modern convenience" one has a similar sensation of being out of work, and consequently bored, as when driving a particularly sluggish touring ear which surely cannot be compared to riding a fast motor

cycle solo without a clutch.

I have never owned a machine which boasted gears, except one with the delightful Philipson pulley, and I do not ever want to. This is in spite of experience of other people's pukka machines which simply bristle with gadgets and fittings of all sorts.

In the old days, when engines needed gear boxes and clutches, there were no such things: now, when they are unnecessary, every motor bicycle is cluttered up with such gadgets till you can scarcely see the engine at all. Present engines are hot stuff, but will they go into a decline? They perhaps every machine will be woolly and high compression be a thing of the past, and everyone who yearns for excite ment will have to save up and buy an aeroplane or a sporting

light car, which costs nearly as much nowadays.

I am becoming morbid. We are all right really so long a Rover and Norton continue to keep us supplied with the goods and firmly resist the guiles of the gadget fiend; but I was sorry to miss my old friends. Requiescant in pace

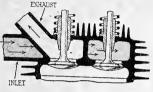
Bournemouth.

Correspondents are urged to express themselves as concisely as possible, especially in view of the fact that only a small. percentage of letters received can possibly be published. Many interesting letters are unavoidably omitted in conse quence of their abnormal length.

N IMPROVEMENT IN AIR-COOLING.

Sir,—Re Mr. Hawley Morgan's ideas in improved air-oling and "Rider's" letter in your issue of January 15th, my I add a further suggestion? In order that there shall a no possibility of the draught of air "short circuiting" flowing across the tops of the fins, I would have a efinite channel for the air thus: Cast the cylinder of ironith the fins spiral, and machine the edges; cast the jacket aluminium, also with fins on the outside. Machine the side to such a size as will make a light joint when shrunk 1 the cylinder. Naturally, overhead valves would present e-simplest job; the cold air would be drawn in round the chaust valve port, and the greater heat of the iron cylinground the would probably make up for the greater expansion of a luminium. I may say I put this idea before a sominent firm of car manufacturers some years ago, in-nding to use a fan in the flywheel, crank case compression the iron and iron a

on, or the indate the and not Mr. ought of Mr. ector principle, it they thought ater v cooling ore satisfac-ry. Another Another y in which



oling might be proved is by

See letter, "Pseudo-designer,"

proved is by

king the mixture after it comes from the carburetter flow

the corburet valve nort before taking one mixture after it comes from the carouretter now rough a duct cast round the exhaust valve port before reaches the inlet port. This would be very simple in side-by-side valve engine; if the mixture only passed besuce-y-side vaive engine; if the mixture only passed been the exhust port and cylinder, I believe a great impovement would result. I expect theorists will say the xture would get too hot, resulting in wire-drawing; if it could easily be cooled by taking a pipe out into the ragain. Overheating is the greatest drawback with motor less to-day; half our troubles would disappear if our lines would stand full throttle for six hours on end, as we should do without warning their cylinders and using y should do, without warping their cylinders and using much oil as a five-seater car. I enclose sketch of overid valve engine with induction passing round the exhaust t. PSEUDO-DESIGNER.

EED WOBBLE.

Sir, -In the issue of The Motor Cycle of January 22nd, xion," referring to my letter, asks two questions about xion," referring to my letter, asks two questions about speed wobble theories. The first question "Ixion" answered himself, saying that I "will hardly find chine on the road which has its front wheel centre in line of the steering head axis, yet a large percentage of sting machines do not wobble at the speeds which are the thing that the compass." (Italics are mine.) I have pointed two conditions of wobbling: Position of the centre of front wheel, and the position of the centre of gravity. upose it is quite clear that a different combination of se two positions gives a very wide range of wobble ting speeds. Some of the machines are practically unbling because they simply cannot reach a critical speed. only a machine with the centre of front wheel in the of the steering head axis will not wobble at any speed, he second question, about the centre of gravity, is not imple, and needs some experiments. I quite agree with don't that the centre of gravity is higher when a rider in the saddle. But I notice that my machine becomes e steady when I stand on the footboards, therefore I cose that the centre of gravity of the machine changes place according to the riding position. [Standing upon footboards does not, of course, lower the centre of

footboards does not, or coarse, vity.—ED.]

Ixion" does not give to us any description of his ampion wobbler," and I should like to know if it has following features: (1) Nearly vestical position of the ring head tube; (2) centre of the front wheel is in the incly forward position; (3) distance from the approximately forward position; (3) distance for the rear wheel is held less than the same to the front wheel? If my control is a control is a control is a control in the footboard of the wobbling his machine "at all speeds."

NICHOLAS OLECHNOVICH (Lieut.).

Sir,—I have read with great interest a letter signed "E. B. Ball" in your issue of January 29th, with reference to speed on the road, and I am in entire agreement with all your correspondent states.

I have ridden, during 1911, a T.T. Triumph, and in 1912 a T.T. Rover, both machines having done well over 65

m.p.h. before I sold them, and never had a suspicion of a "wobble" when all out on either.
In 1913-14 I rode a 23 h.p. Douglas, which has done 61 m.p.h. stripped, over short distances, and never "wobbled."

It was quite easy to ride any one of the foregoing "hands off" from about 20 to 45 m.p.h., and for this reason I should be very glad if one or more of your renders, who may possess a "wobbly" bus, will state at what speeds it is possible to ride it "hands off"—if at all.

I have yet to ride a T.T. machine which developed a "wobble" that could not be cured in a couple of seconds. Cambridge.

PROTECTION FOR THE DRIVER.

Sir,-I have been an interested reader of The Motor Cycle for several years, and although I have only had an ordinary push bicycle for the past two years, I still get your delightful paper, and thoroughly enjoy the reading of it over the week-ends.

I disposed of my 31 h.p. combination fully two years ago, and having reached an age when comfort, etc., is a serious consideration, I vowed then that with my next mount, whatever it should be, I must have more comfort and protection from the weather. I have kept careful watch on all your publications regarding this subject, and especially followed the controversy that raged round the Scott Sociable, but up to the present have not come across the ideal between the cycle combination and the light car.

I am unable to afford a car, and I know there must he hundreds in the same position, who, failing something not keep on grumbling, or, like myself, will, like the immortal "Micawber," wait and see if something more suitable will turn up. A. and I feel that may be prophiled to the transport of the control "Micawber," waif and see if something more suitable will turn up. And I feel that such a machine is not beyond the brains of our British designers. One of these days, I am certain, a genius will hit on the right idea, and we middle-aged riders, with our wives, will be able to enjoy our weekend spin clean and in comfort, and not be arriving at our friend's house more like scarecrows than human beings.

Now, I am neither a genius nor a designer, yet many a time when looking at my old combination, I wondered if it

time when looking at my old combination, I wondered if it was an impossible proposition so to design the sidecar that it would also protect the driver. Is there any reason why the body of the sidecar should not contain the engine, etc., of the cycle, come up in front between the forewheel and the frame, and so go right over to the outside of the driver's right leg, he still sitting astride his machine, while his partner's seat could be brought forward and raised to a level with his? This would allow them to converse without all the pedestrians on the King's highway hearing what was being said. The steering of such an arrangement might present some difficulty, but I think it could be managed. I should like to hear opinions as to the teasibility or otherwise of the idea, as it seems quite practical and capable of accomplishments. ment; while several motor cyclists to whom I have mentioned it seemed to think the idea all right.

Meantime, let me again assure you, and those who are interested in motor manufacture, that there is indeed a great market open when the right thing comes along at a reason A MIDDLE-AGED RIDER. able price.

Harthill.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with The Motor Cycle

"TRACING MOTOR CYCLE TROUBLES."
A reliable system for tracing motor cycle faults and
of remedying any trouble when found. Fourth
Edition

Edition
"THE MOTOR CYCLE" ROAD MAPS.
England and Wales, Scotland, London (showing roads into and out of London and avoiding London).
Mounted on linen, Set of three, complete in case

Obtainable by post (rem.ttance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

LOBRENT

Times to Light Lamps.

	GREENWICH TIME.								
· Feb.	12th			5.34	p.m.				
٠.,	14th			5.38	٠,,				
,,	16th			5.42	,,				
	19+1-			6 46					

One Year's Production.

Motor car manufacturers estimate that 1,700,000 passenger cars will be produced in the U.S.A. this year.

New Index Marks.

Motor vehicles, registered in Liver-pool, which at present bear the index mark K and KB, have the additional mark KC. Bristol motor vehicles, besides being marked AE, may now hear the letters HT, while London has received an additional index, XA.

Monument to Sir John Alcock.

It will interest many motor cyclists to learn that a movement is afoot to commemorate Sir John Alcock's work as an aviator. The Daily Sketch is opening its columns to a public subscription list, among the chief donations up to the present being a 1920 Douglas coupé car. The directors of the Douglas Motors, Ltd., were about to present Sir John with this car, but. unfortunately, his tragic death prevented this happening. Sir John Alcock was an enthusiastic motor cyclist, and was in close association for many years with Mr. S. L. Bailey, of Messrs. Douglas Motors.

Petrol Prices.

A correspondent has forwarded the following figures relating to the cost of importing and distributing American motor spirit. It is only fair to state that the source of information may be not untinged by interest. Also with regard to the price of petrol in New York. We believe we are correct in stating that at the beginning of January petrol could be obtained at 19 cents per American gallon in New York, i.e., approximately 1s. 34d. per imperial gallon—not 25 cents, as stated:

"The selling price to the public is now 2s. 0½d. for the ordinary petrol of commerce. Out of this the retail dealer has as his profit 4½d.; the wholesale distribution charges in two-gallon cans cannot be put at less than 7½d.; the duty is 6d.; American petrol, as the correspondent in the Daily Telegraph has it, can be bought at about 25 cents per American gallon, which, at to-day's rate of exchange, is equal to 1s. 8½d. per imperial gallon—one-fifth larger than the American gallon—one-fifth larger than the American gallon. The charges first enumerated, plus the cost of the petrol, equal 3s. 2½d., or 2d. more than the public are now paying for their petrol, and, 'in addition, nothing whatever is left for the freight. In addition to the above, the wholesale distribution is safe and economic distribution."

Royal Motor Cyclists.

Motor bicycles are growing in popularity with the undergraduate to an even greater extent than before the war.

T.R.H. Prince Albert and Prince Henry were seen last week with their Douglas' motor cycles at Robinson's Garage, where they called in the ordinary way for some minor adjustments. Their Royal Highnesses are using their machines in a similar manner to other members of the University for the purposes of keeping engagements or reaching the golf links and the river.

Fixing a Price.

From our sister journal The Autocar we notice that an excellent example to manufacturers is set by Vauxhall Motors, Ltd., who have adopted the policy of fixing a definite price for a predetermined number of cars. This example might well be followed by motor cycle firms, as it would undoubtedly appeal to the



A miniature motor bicycle owned by Mr. Alfred Kidd. 14. Humphrey Street, Old Kent Road, London, S.E. This he uses daily in travelling to and from his work. It will be observed that the motive power is an Auto-wheel unit used as the rear wheel. The frame and the front forks are built on redal cycle lines.

Special Features.

ELECTRIC LIGHTING.

NOISE.

CLUTCH DESIGN

Oil from Shale in the U.S.A.

Manufacture of oil from oil shale destined to assume a more prominer place in the U.S.A. than it now occupie

An Acknowledgment.

We are indebted to Messrs. Sutton an Sons, seedsmen, Reading, for the admi able photographs used in illustrating the article entitled "The Motor Fuel of the Future" last week.

From the Midlands to the North.

We are constantly being asked frontes from the Midlands to the Nor of England. One of our corresponden points out that the best route is via the Fosseway, most of which is in an excellent state of repair. There, is a bestretch, now being repaired, while begins two miles after leaving the Leicester-Melton road, and ends at the "Durham Ox"; after that the surface in first-class condition. There is verified to the first-class condition.

A Suggestion.

A reader in the extreme North of England complains that, owing to thindifferent railway service to his district his weekly copy of The Motor Cycle not always obtainable on Thursday moring. He suggests that we despatch surpless to such districts by lorry or acrylane, oblivious of the fact that, despi poor organisation, the average speed trains is infinitely greater than that lorries, while several squadrons of the largest aircraft would be required deal with the tons of copies distribute each week.

American Licence Number Plates.

Our American correspondent writes follows:

"This is the season of the year when a our States change the colour scheme of their licence plates. As we understand you use the same tag year in and year or same tag and same number. We do not some 1912 New Jersey has used blue ay ellow, red and white, green and whit white and blue, brown and white, blue and white, grey and white, and red at white. That is only one instance, awe have forty-eight States. Some colocombinations are the result. The me weird we ever lamped was Indiana 1915, brick red and green,"

To British readers the system of issui a new number plate each year may appe somewhat cumbersome, but it should recollected that it eliminates separt taxation, and the annually chang numbers are useful as a visible and p manent receipt for the payment of tannual tax.

A Paris-Nice Team.

The Sutton Coldfield and North Birningham A.C. has nominated H. O. Wood, Rex Mundy, and Albert Milner as the club team.

At a motor cycle club dinner last week in Nottingham, Mr. A. R. Atkey, M.P., humorously suggested that the people who walk should be taxed, as they are the real time wasters—the people who are clogging the wheels of progress.

James Employees' Trial.

In the recent trial organised by the James Cycle Co., Ltd., H. Wardle was awarded the premier sidecar prize of a awarded the premner succear prize of a fighting set, which had been presented by Messrs. F.R.S. In the solo class of 500 c.c. or over, Povey won the gold medal, V. Davies taking the silver medal for the best performance in the twostroke class.

The Price of Petrol.

There appears to be a great deal of confusion as to what is the "official" price of petrol. Last week retailers were harging 3s. 9d. and 3s. 10d. per gallon, which represents in the first case a profit of 5d. per gallon, and in the latter 15% in the wholesale price. At the time of toing to press, however, we are informed by the Motor Traders' Association that he "official" price is 3s. 81d. per gallon and 3s. 64d. for No. 1 and No. 2 respec-

MOTOR (YCLE

IMPORTANT DATES.

Fri., Feb. 13th, to Mon., Feb. 16th-Paris-Nice Trial, Mon., Feb. 23rd, to Sat., March 6th-British Industries Exhibition, Eirmingham Sat., Feb. 28th— Sutton Coldfield A.C, Trial for Colmore Cup Mon, March 1st, to Tues, March 16th-Luons Fair. Good Friday, April 2nd-Inter-club Meet at Richmond, Yorks.

Sun., May 30th— Motocyclo Club de France Grand P. ix Race Fri. May 21st-M.C.C. London Edinburgh Run.

Tues., June 15th-Junior T.T. Race, Isle of Man. Thurs. June 17th-Senior T.T. Race, Is'e of Man.

Wed. and Thurs., July 7th and 8th-Arbuthnot Trophy Trial.

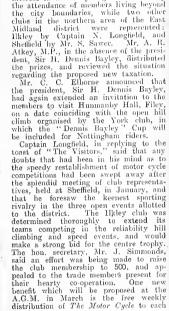
Wed, July 7th—
Union Motocyclist de France et Automobile Club de l'Ouest, Grand Prix Race for Motor Cycles and Cycle Crrs. Sun., July 25th, to Aug. 1st— International Six Days Trial in France. Sun., Aug. 1st, to Wed., Aug. 4th— Anglo-Dutch Trial.

Mon., Aug 23rd, to Sat, Aug. 28th-A.C.U. Six Days Trial.

competition has been abandoned. same may be said of the Jarrott Cup competition, which is held at Easter.

Both as regards the Land's End and Edinburgh runs the effect of these innovations will be that competitors at the





CLUB DINNERS.

Nottingham and District M.C.C.

Club on Friday evening last proved a thorough success, nearly 100 members attending. Evidence of the revival of interest in motor cycling was shown by the attendance of members living beyond

THE rennion dinner held by the Nottingham and District Motor Cycle

Glasgow Western M.C.C.

member.

Fully two hundred members of the above and kindred clubs gathered together on the occasion of the first annual dinner, which was held at the Grosvenor Reswhich was held at the Grosvetor Restaurant on Saturday last. A most enjoyable evening was spent, and the president, Mr. W. N. Simpson, gave a brief summary of the life of the club, outlining the past and future programme. The ultimate aim of the club is to acquire an official club house, which would be the rendezvous of all motor cyclists in the West of Scotland. Valuable trophies are to be competed for this season, including a 100 guinea challenge shield (presented by the James Cycle Co.), sixty guinea cup (presented by the Leicester Rubber Co.), twenty guinea cup to be won outright (presented by the Palmer Tyre Co.), the McLean Challenge Cup, also prizes of twenty guineas (presented by Mr. George Stevens) and ten guineas (presented by Mr. John Robertson). The season opens on March 6th with a reliability trial.



Coventry's reminder of the late war. The Tank now installed in Grey Friars Green was officially unveiled this week. Note the extra petrol tank of the Triumph two-stroke.

ore Difficult M.C.C. Competitions.

In the past the Motor Cycling Club is been not unjustifiably accused of aking its competitions too easy, and epending too much on keeping time to litth of a second, with the object of iding a winner. For 1920 the more important events-

in by this popular club will be conderably improved for the better. As entioned in last week's issue, the Edinurgh run is to be stiffened up considerly, and the return journey part of the Yeecooooooooooo

conclusion of the trials will be free to

return home in their own time.

Motor cyclists who intend entering for the Jarrott Cup competition must their applications for membership to the secretary, Mr. Southcomb May, 34, Gower Place, London, W.C., to reach him not later than March 1st.

The capacity of the engine fitted in the American Militor machine is 1,145 c.c., and not 1,592 c.c. as stated last week.

MOTOR (YCLE SPRING NUMBER AND BUYERS' GUIDE.

MARCH 25th has been fixed as the date of the Annual Spring Number of The Motor Cycle. Special articles are in course of preparation, and a feature of the issue will be an illustrated Buyers' Guide.

THE 1920 Tourist Trophy Races.

Extracts from the General Conditions and Regulations.

Object of the Races.

HE international Tourist Trophy races are organised with the object of assisting the development of the touring motor bicycle. They are not intended for purely racing motor cycles, neither are they necessarily races between existing standard types.

In order specially to encourage the manufacture of lightweight motor cycles, entries of machines with engines not exceeding 250 c.c. capacity have been

invited.

The Course.

The races will be run over a course starting from a point near Douglas, Isle of Man, thence via Ballacraine, Lirkmichael, Ballaugh, Sulby, and Ramsey, and over Snaefell mountain, back to the starting point; one circuit being a distance of 37 miles 4 furlongs. The length of the Senior Race will be six circuits, making a total distance of 225 miles, and that of the Junior Race will be five circuits, equal to a distance of 187 miles 4 furlongs.

Awards.

The entrant of the winning motor bicycle in each race will be entitled to hold the Junior or Senior Tourist Trophy under terms of an agreement. In addition, the driver of the winning motor bicycle will in the Senior Race receive £50 and a special gold medal; and in the Junior Race £40 and a special gold The drivers of the second and third motor bicycles in each race will receive respectively £25 and £15 Senior Race, and £20 and £10 Junior Race.

A gold medal will be awarded in each race to the entrant of every motor bicycle that completes the course within thirty minutes of the winner's time—except in the case of motor bicycles not exceeding 250 c.c. engine capacity, when the period shall be calculated from the time at which the fastest machine of that

capacity finishes the course.

The Motor Cycle lightweight cup will be awarded to the entrant of the winning motor bicycle having an engine capacity

not exceeding 250 c.c.

Team prizes will be awarded on points to the nominated team of motor bicycles in each race, all of which finish within thirty minutes of the winner's time. One team only may be nominated by each entrant.

THE "NISBET" AWARD.—The stewards of the meeting will be empowered to grant the "Nisbet" award to such competitor or competitors who, in their opinion, shall have exhibited such pluck and endurance, or such capacity to triumph over difficulties, as to deserve special recognition. It shall rest with the stewards either to grant or withhold this special award in any year at their discretion.

Entries.

1. Competitors Eligible.—Every competitor must be on the competitors' register of the Union, of the Scottish Auto Cycle Union, of the Motor Cycle Union of Ireland, of any Colonial club recognised by the Union, or of any club in the F.I.C.M.

2. LIMITATION OF ENTRIES .- The Union reserves the right to refuse any entry without assigning any reason, and to limit the number of acceptances as circumstances may require.

3. When Receivable.—Entries for 1920, at ordinary fees, will be received by the Union at 83, Pall Mall, London, S.W.1, up to noon of Monday, May 3rd After that date entries will be received at double fees up to noon of Monday,

4. FEES.—The entry fee shall be £21. 5. FEES NON-RETURNABLE.-Unless, in the opinion of the Union, sufficient entries are received, no race will be held. The entry fee will be returned in full if no race be held, but under no other circumstances will it be returnable.

6. Specification and Guaranter.— Every entrant shall supply the Union, not later than May 17th, a complete specification of the motor cycle or motor or motor cycles entered by him, and no variation in this specification shall be permitted unless application in writing is made to the Union by the entrant not less than three clear days before the race, which application it shall be within the discretion of the Union to grant or not.

Equipment. :

7. Specification of Motor Cycles. SENIOR RACE.—A motor cycle entered for the Senior Race must comply with the following specification:

following specification:

ENGINE: Internal combustion, cylinder capacity not exceeding 500 c.c. Weight: Not less than 60 kilos (123 lb.), without oil, fuel, or tools. Tyres: Minimum diameter 55 mm. (2.17in.), with cover and inner tube separate, fitted with at least three security bolts, one of which may be a bolt valve. Brakes: Two, working independently. Foot. Bac. One. Munporaros: 10 measure not less than 75 mm. (2.95in.) across the chord, and to cover at least 120 of the carrierance of the rear wheel. Sadde of Seat: One. Stand 13 gallons.

8. Special carrierance of Morone Caylors than 14 gallons.

8. Specification of Motor Cycles. JUNIOR RACE.—A motor cycle entered for the Junior Race must comply with the

following specification:

Ioliowing specimenton: Encircle the translation of the control of ference of the rear wheel. Saddle or Seat: One.
Stand: One. Petrol Tank Capacity: Not less than 14 gallons.

Provided that in the case of motor bicycles with engines not exceeding 250 c.c. capacity the weight, size of tyres, mudgnards, and petrol tank capacity may

be reduced as follows:

WEIGHT NOT IES. Hall 40 kilos (88.18 lh.), without oit, fuel, or tools. Tyres: Minimum diameter 45 mm. (1.7 im.), with cover and inner tube separate, fitted, with a least three security bolts, one of which may be a bolt valve. Mupcukans: To measure not less than 65 mm. (2.56 in.) across the chord, and to cover at least 129° of the circumference of the front wheel, and TANK CAPACITY: Not less than 1 gallon.

9. Disqualification.—The Union reserves the right to disqualify any motor cycle from which, in its opinion, any essential detail is omitted or is imperfectly applied.

10. SILENCERS .- Silencers are not compulsory in the race, but they must be fitted for practising, and at all other times during which the motor cycle is on the Island. Such silencers must conon the Island. Such silencers must con-form in all respects to the regulations laid down by the Local Government Board of Great Britain, which came into force on April 1st, 1913. Any motor cycle driven, except in the race, without a silencer will be hable to disqualification. When detached for the purposes of the race, the exhaust must be carried by a pine or purps from the engine, extending. pipe or pipes from the engine, extending as far back as the back axle, in such a position as not to discharge directly upon the ground. When auxiliary ports are fitted, they must be closed in completely, and the chamber into which they discharge must lead into either the exhaust pipe or silencer.

Practising.

14. Practising. — Practising, which will be regulated and supervised by the Union, will be allowed at certain definite times. From the day on which prac-commences until the conclusion of the races no competitor will be allowed to traverse (except during the hours of practising and during the races) any part of the course on any description of motor vehicle, other than as a passenger, with-out having first obtained a permit to drive over the course, or any part of it, from the Union. Competitors should note that the roads are not closed to other traffic during the times allotted for may then be encountered.

15. Minimum Amount of Practice.—

A motor cycle will not be allowed to start unless the driver has completed at least six circuits of the course in practice, one of which must be covered in one hour by drivers in the Senior Race, and one hour and ten minutes by drivers in the Junior Race. Provided that, in the case of drivers of motor cycles with engines not exceeding 250 c.c. capacity,

this time shall be extended to one hour and thirty minutes.

Inspection and Examination.

17. WEIGHING.—Both the competitors and their motor cycles will be weighed, and the weights will be published.

NEWS FROM THE I.O.M.

Our Isle of Man correspondent advises that hundreds of men-mostly discharged soldiers—are now employed getting the I.O.M. roads in good condition, and that the Manxmen are again organising a carnival, to be held during the T.T. week, which is to make it the "biggest week of the season."

There is a little hitch, -however, concerning the necessary formalities to legalise the race. A special Act to close the roads has to be passed by Tynwald. the Manx Parliament, and at the present time there is a constitutional crisis, the House of Keys refusing to meet in Tyn wald; consequently the resolution authorising the continuance of the Act is held up. It is hoped, however, that every thing will be settled in time for the races.

Notes on the Paris-Nice Trial.

An Instructive Trial with a Representative Entry. Fuel Shortage Probable.

TO-MORROW (Friday) morning at six o'clock the first man will start from Paris on the 650 miles French reliability trial, Nice being the destination. The day's run of 193 miles will end at Dijon, whence a start will be made at 5 a.m. on Saturday. Lyons is the next stop (the distance being 124 miles), and the latter place is left on Sunday morning, again at five o'clock. A day's run of 193 miles will bring the competitors to Marseilles, where the third night is passed. The final stage of 140 miles from Marseilles to Nice is commenced at 6 a.m. on Monday.

A "starting from cold" test and brake test will be held on the morning of the 17th inst. (Tuesday) on the Promenade des Anglais at Nice, while the afternoon will be devoted to an examination of the machines. In the evening the competitors may relax at the Bal Masque at the Opera, and on Wednesday they are free to explore the Riviera on their machines.

A separate hill-climbing competition from Nice to La Turbie takes place on Thursday, February 19th, for which cups and prizes are being offered.

Some of the Rules.

During the actual Paris-Nice trial, an average speed of 183/4 m.p.h. must be maintained, an allowance of ten minutes before or behind schedule time being allowed. Solo machines of 250 c.c. and 350 c.c. sidecars will be allowed fifteen minutes. For each minute earlier or later than these tolerances permit, one mark will be deducted.

Most of the spare parts carried will be stamped, and to those who do not need them a bonus of twenty marks will be given, and two marks will be deducted for each item used.

The competition will be of great interest owing to the number and variety of entrants. At the moment of writing, the entry is made up of seventy-six solo riders and forty-six sidecarists. There are six cycle cars and fourteen unclassified entries.

Additional Entrants.

In addition to the official list of entrants for the Paris-Nice run, published in the issues for January 22nd and 29th, the following entries have also been received. Class 1, 250 c.c.—W. J. Brunell (Junior Thiumph). Class 2, 350 c.c.—Girardi (Garelli). Class 3, 500 c.c.—Detriuchi (A.B.C.), Isodi (Stucchi), and Georges Delaunay (Stucchi). Class 4, 750 c.c.—Russel King (Scott). Class 5, 1,000 c.c.—Vache (Janoir). (In this class Duverne replaces Huret.) Sidecars: Class 8.—Bastide (Norton) and Felix Delaunay (Stucchi). Class 9, 1,000 c.c.—Max Cyril Morris (Matchless). (In this class Pletsier will ride the Harley-Davidson already entered, and Huret rides a Janoir.)

Scarcity of Motor Spirit.

At the moment of going to press, we learn that the fuel situation in France is decidedly grave, and it would not be entirely surprising if considerable difficulty is experienced by competitors during the course of the trial.

M. Sweerts, the organiser, informs us, however, that he has made the necessary provision to ensure the success of the event, despite the situation which has

The Colmore Cup Trial.

Some Comments on the New Marking for Flexibility Hill-climbs.

THE Sutton Coldfield and North Birmingham A.C. regulations for the trial for the Colmore Cup (presented by Mr. F. S. Whitworth) can now be obtained from the Trials Secretary, Mr. P. Mosefale, the Nook, Maney Hill Road, Sutton Coldfield, and all entries must be in his hands by Wednesday, February 18th.

The start will be from the George-in-the-Tree Hotel, Berkswell, at 8 a.m. on Saturday, February 28th, and he route will be as in previous years. Lunch will be taken at Cheltenham, where, as well as at the inish, competitors must sign time check sheets. The competition will be conducted as a non-stop run (with he exception of the luncheon interval), and no adjustments will be permitted.

The flexibility test will consist of one hundred yards idden slowly, followed by one hundred yards ridden it speed uphill, and a new method of marking will be used. The slow part will not be taken into the eckoning, but it must not exceed 6 m.p.h. For the ast part of the climb, the formula recommended by the Motor Cycle for hill-climbs will be used, viz., $\frac{1}{N}$. It has been objected that, in so short a dis-

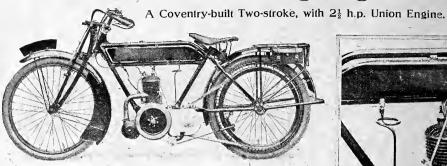
Acceleration Test.

We do not think that there is anything in this objection, and that, if the smaller machine can show better acceleration on formula, it deserves to win. The wise rider will open his throttle before reaching the end of the slow section if his speed enables him to do so, and the larger machine should be able to climb more slowly, and thus leave its rider with a greater margin in hand for this purpose.

The principal award will, of course, be the Colmore Cup, but the Calthorpe Motorcyclette Trophy will be awarded for the best performance on a machine up to 257 c.c., and the Levis Cup for the best performance on a single-geared mount. There will also be several special prizes, gold medals, and certificates.

tance as one hundred yards, a big machine will not be able to obtain sufficient advantage in time to equal the performance of one of less capacity. For instance, if a 350 c.c. machine, weighing 350 lb., takes 10 secs. to cover the fast hundred yards, its figure of merit will be 100. To equal this, a 1,000 c.c. machine, weighing 467 lb. (both weights with rider), must cover the distance in less than 7 secs.

The C.M.M. - Union Lightweight.



The latest addition to the number of the lightweights using the Union engine, the C.M.M.

NOTHER addition to the ranks of A NOTHER addition to the ranks of the light two-stroke halls from the Coventry Motor Mart, London Road, Coventry. It is fitted with the well-known Union two-stroke engine, a Runbaken magneto being driven from the crankshaft. The latest type Amac two lever carburetter supplies the mixture, and is neatly fixed at the side of the cylinder. Three models are listed single-geared, two-speed, and two-speed with clutch and kick-starter—the prices being £60 5s., £65 5s., and £73 10s. respectively. A Burman two-speed gear is fitted, the primary chain being en-

Sutton Coldfield and N. Birmingham

A classic event will be revived in the "Victory" Colmore Cup Trial, which will take place on the 28th inst. Previous winners are: 1911, W. D. South; 1912, Frank Smith; 1913, W. B. Gibb; 1914 (and present holder), N. Lea.

desiring to compete must send in their entry forms not later than the 18th inst.

Ealing and District M.C.C.

actual and intending, who would like to

take part should communicate at once with the hon. sec., Mr. F. A. Longman, 17, Bond Street, Ealing, who will forward

An Isle of Wight Club.

known as the Isle of Wight M.C.C., which has already thirty prospective members. It is desired to hold the first

annual meeting at an early date, in order to elect officers and arrange for the com-

ing season. All motor cyclists interested

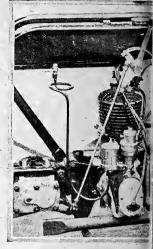
are asked to communicate with the secretary, Mr. E. G. Rapkins, "Lyndhurst," West Hill Road, Cowes, as soon as pos-

Recently a new club has been formed,

The first trial of the season will be held on the 21st inst, to compete for the Longon the 21st ms. to complete for the Long-man cup. This event is a half-day relia-bility trial, starting from "The Anchor," Ripley, at 2.15 p.m. A really sporting course of approximately sixty miles has been selected, and all members, both closed in an aluminium cover. In the case of the clutch model a choice of footrests or footboards is provided.

Turning from the power unit and transmission, we find a sturdy little frame, with a well webbed head lug and Brampton Biflex forks. A wide rear mud-

Brampton Biflex forks. A wide rear mud-quard is fitted, and the specification in-cludes Dunlop 26 × 2½in. tyres, pannier tool bags, and a tubular carrier. Oil is supplied through a sight-feed drip to branch pipes leading to cylinder and bearings on the usual Union system, and the little motor cycle is well fitted and finished in black and green.



The Union two-stroke engine, and the gea unit in the C.M.M.-Union lightweight.

CLUB NEWS.

Neath and District M.C.

A sporting hill-climb will take place between the above club and Ystalyfera M.C.C. at Grynant on the 21st inst., commencing at 2.30 p.m. prompt. This event has been organised by Dr. Alex. Lindsay, Ystalyfera, and Mr. A. L. Cranch, Neath. All motor cyclists are invited to attend. On the 15th inst. a friendly, was to Breach are Partyrlews. friendly run to Brecon via Pontardawe, Abercrare, etc., returning through Hirwain and Glyneath, will take place, starting from the Glamorgan Hotel, Neath, at 12.30 p.m. Prospective members are also invited to this run.

A New Edinburgh Club.

In process of formation is a new club for Edinburgh, membership of which is to be by invitation. Premises are not yet opened, but Mr. L. B. C. Cunning-ham has been appointed chairman. The promoters intend that the club shall participate in team events, and also in the various speed trials which are being arranged for the forthcoming competition programme.

Rochester, Chatham, and District M.C.

The committee has decided to inaugurate short social runs, the first of which was held on Sunday last, Tickets for the whist drive and dance, to be held on the 18th, can be obtained from the hon. secretary, Surgeon-Lieut. S. White, 3, South Avenue, Rochester. All motoring friends are invited.

Motor Cycling Club.

In the report of the annual gene meeting of the Motor Cycling Clu which appeared in our last issue, t name of Mr. Harold Karslake was i advertently omitted from the list committee members elected for 1920.

Surbiton and District M.C.C.

Surbiton and District M.C.C.
Although but recently formed, t'
number of members already excee
160. With such well-known metodas
as Dr. A., M. Low, A.C.G.I., D.Se.,
its president, Mr. T. O. M. Sopwit
O.B.E., and Mr. T. W. Longhborou
as vice-presidents, and Mr. F. W. Barû
of Zenith Motors, as captain, the futu
of the club seems assured. Dr. Low b
promised to give a series of lecture
while the outdoor programme is me while the outdoor programme is mo comprehensive. Prospective, member should communicate with the club section. tary, Mr. W. B. Reeve, 25, Ditton Roa Surbiton.

Bury and West Suffolk M.C.C.

The annual general meeting of tabove club will be held at its heavenurers, the Suffolk Hotel, Bury 'S Edmunds, on Wednesday, February 25' at 7.30 p.m., when all motor cyclists this district are cordially invited.

The honorary secretary, Mr. J. Nunn, County Chambers, Bury S. Edmunds, will be pleased to hear from the secretary of the secr prospective members who are unable attend.

sible. C20

all particulars.

lub News .--

A Motor Cycle Club for Hastings.

With the object of forming a motor ycle club for Hastings, a meeting was ecently held in the Town Hall. The ecentry hear in the rown train. The recting was organised by Mr. Fred S. Broom. Local motor cyclists interested hould communicate with Mr. Douglas ulchin, Broomfield, Sedlescombe Road,

York and District M.C.

An excellent musical programme has een arranged for the annual dinner and oncert, which will take place at 6.30 m. (for 7 p.m.) on Wednesday, the 5th inst., at the Windmill Hotel. Ladies re cordially invited, and it is hoped that Il members will attend.

Tickets are 7s. 6d. each, and the hon. or, Mr. G. A. Reed, will be glad to hear om members at the earliest possible noment as to the number of tickets they

Oxford University M.C.C.

We are pleased to learn that the Oxford inversity M.C.C. has been revived uder the secretaryship of Mr. Godfrey (arwood, 165, Walton Street, Oxford, he old pre-war club was a thoroughly iorting institution, which ran very iteresting and enjoyable events, notably ice meetings at Brooklands and hillimbs against its Cambridge rivals. ne of the moving lights of the new club L. P. Openshaw, a familiar figure on ie track in pre-war days.

Rochester, Chatham, and District M.C.

The annual general meeting of the ochester, Chatham, and District Motororder, Countries, and Bister Moories, Club was held at the Royal Crown otel, Rochester, last week, when there as a large and enthusiastic attendance motorists, which augured well for a accessful 1920 season.

It was decided that a whist drive and ance, open to the motoring fraternity, held at Queen's Hall, Chatham, on

ednesday, the 18th.

Other subjects discussed included a aggested dinner, and also the advis-ulity of organising mid-week runs and aturday afternoon competitions, in ldition to the usual Sunday runs.

The new address of the secretary, Mr. White, is 34, Maidstone Road, ochester.

The Motor Cycling Club,

After a lapse of five years, the club is ce more reviving its activities, and has ranged an opening meet for Saturday, arch 13th, at the Old Ship Hotel, arch 15th, at the Old Ship Hotel, righton, on which occasion the medals in in the recent London-Exeter run Il be presented and an interesting tertainment provided. Application for aner tickets, which are charged at . 6d. each, should be made at the linest residue were to the section. r. W. H. Wells, 366, Euston Road, W.1, as it is necessary to guarantee attendance. Ladies are cordially in-led. Members and friends intending stay in Brighton overnight are asked arrange for their own hotel accommo-It is hoped that every member Il make a special effort to be present, order that a good start may be seenred the 1920 season



Aberdare M.C.C.

A very successful dinner and prize distribution was held in connection with the above club last week. Mr. Illtyd Williams was elected president, and he has very kindly promised to give a cup. . Mr. Hurt has also offered a cap for competition purposes. - Two representatives of the Cardiff club were present, and both clubs are arranging inter-club runs this season

Future Club Events.

Future Club Events.

Feb. 12.—Harropate and District M.C.C. Annual General Meeting, 7.30 p.m.
Feb. 13.—Exter M.C. and J.C.C. Annual Dimer, Feb. 13.—M.M.C.F.U. Rotherham Meeting, Feb. 13.—M.M.C.F.U. Rotherham Meeting, Feb. 14.—Exter M.C. and J.C.C. Innuapiral Meeting, Rose Hotel, 7.30 p.m.
Feb. 16.—Stalybridge and District M.C. Annual General Meeting, Headquarters, 7.55 p.m.
Feb. 17.—Heston and District M.C. Annual Feb. 18.—Feb. 19.—Feb. 19.

Dinner, Clarendon Restaurant, Hammer smith, Mar. 4.—N.M.C.F.U. (Leeds). Smoking Concert. Fletory Hotel, Mischelder and N. Birmingham Mar. 13.—Chetenham M.C. and L.C.C. Meeting, Mar. 3.—Chetenham M.C. and L.C.C. Meeting, Mar. 3.—M.C.C. Opening me to Briphton Mar. 3.—N.M.C.F.U. (Leeds). Whist Drive and Dance. Apr. 3.—N.M.C.F.U. (Leeds). Whist Drive and Dance. Apr. 3.—M.C. Concept M. and M.C.C. Run to Apr. 3.—M.C. Concept M. and M.C.C. Stanton Hiller M. S. Scarborough M. and M.

Apr. 5.—Scattoorough M., ona M.C.C. Stanton Hur-Apr. 5.—Stest mortand M.C.C. Hill-climb, Apr. 5.—Brooklomds A.R.C. Race Meeting, Apr. 25.—Scatborough M. and M.C.C. Run to Farndale. Apr. 37.—Brimingham M.C.C. Trial,

Surbiton and District M.C.C.

At the first annual general meeting of the Surbiton and District M.C.C., held at Woolworth's Café, Kingston-on-Thames, on January 28th, the club was launched on its career.

The club president, Dr. A. M. Low, was in the chair, and had the satisfaction of seeing a crowded meeting, in spite of the adverse weather conditions.

The club is fortunate in having as its vice-presidents Messrs. T. O. M. Sopwith, O.B.E., T. W. Longhborough, R. P. Clowes, and A. S. Mays-Smith; whilst its other officials elected at this meeting include Mr. Walter Scott, hon. treasurer; Mr. F. W. Barnes, M.I.A.E., captain; Capt. R. Charlesworth, vice-captain; and fifteen committeemen, including Messrs. Kay Don, W. Pratt, and Morgan, and the well-known lady motor cyclist, Mrs. W. Hbde.

The official opening of the club season will be marked by a Bohemian concert, the date of which will be announced later. The present membership numbers over 130, and there is every prospect of a very successful season before the club.

The subscription was fixed at one guinea, and an entrance fee of 5s.; this includes the full R.A.C. henefits of the Auto Cycle Union under Division C.

The hon. secretary, Mr. W. B. Reeve, 25, Ditton Road, Surbiton, will be pleased to hear from any prospective members in this district.

Cambridge University M.C.C.

A successful trial was held on the 31st ult., the severity of which may be gauged by the fact that out of twentytwo competitors ten only finished. A brake and acceleration test was incorporated, in which the highest marks were secured by J. V. Prestwich (Norton). The premier award went to B. A. Hall (4 Triumph), with J. R. Allen (Scott) second.

Bedford and District M.C. and L.C.C.

The inaugural moeting of this body was duly held on January 31st, when officers were elected and a committee formed. It was decided that the sphere of operations is to have a twenty-mile radius from Bedford, and over thirty riders gave in their names as intending members. The committee has set to work, and the first committee has set to work, and the first general meeting proper is to be held at the Rose Hotel, Bedford, on Saturday next, the 14th, at 7.30 p.m.

Mr. H. H. Berrie, Goldington, Beds., was appointed hon. secretary, and will be glad to forward particulars to any

person interested. There is no dearth of suggestions for the first year's programme, and a successful season is

anticipated.

N.M.C.F.U. (Wolverhampton.)

The fourth of a series of members' and friends' social evenings was held on . Saturday, the 31st ult., at the Trocadero Hotel, Wolverhampton, an attractive musical programme being presented. In the past season numerous runs, etc., were organised, while by means of convivial evenings during the winter months, the club has not been allowed to flag, and enthusiasm has been maintained, with the result that additional members have been enrolled, and an enjoyable 1920 season is assured, for which the sports committee have prewhich the sports committee have pre-pared an attractive programme. Local motor cyclists who wish to join should communicate with the hon. sec., Mr. D. J. Thornton, 62, Dudley Street, Wolverhampton.

Harrogate and District M.C.C.

The annual general meeting of this club will be held at the Imperial Café, Parliament Street, Harrogate, this evening, the 12th, at 7.30 prompt.

The usual business of a general meeting will be first transacted, followed by

a general discussion. Light refreshments

will be provided free.

Now that practically all Active Service members of the club have been demobilised, it is expected that the club will return to something like pre-war activities, and as a good programme was always given, it is hoped that many new members will be attracted, who will support the committee during the coming

All old and intending members are requested to attend this meeting, if possible, or, if unable to do so, to communicate with the hon. secretary, Mr. H. W. Fortune, St. James Chambers, Harrogate.

Brown.

Bh.p. Brown Combination, 1919. Sturmey-Archer 3-speed, K.S., countershaft, electric lighting, Henderson sidecar, wind screen, insured £140: nearest £135.—Street, Heatherfield, Totley, Sheffield. [2478]

31h.p. B.S.A., 2-speed, excellent condition; 50 gns. Rose, 105, Tavistock St., Bedford, [2809]

B.S.A. 1911 3½h.p., good cound machine, g teed; accept £35.—Welch, 135 Edgware Rd. B.S.A. 4¼h.p., 1915, 3-speed countershaft, sidecur, lamps; £90.—Ripley, Motor Works, Ripley, Surrey. [2646]

10 20 B.S.A., T.T. model, brand new, not ridden, special engine; £94.—Box 1,289, c/o The Motor. [2540]

 $\mathbf{B}^{.8.A.}$ K. Model, late 1919, lamps, Klaxon, mirror, 2 cyls., dissolved acetylene; £120.—Box 56, clo The Motor Cycle. [X4188] 3 th.p. B.S.A., Grado gear, only wants eeeing, plate and enamel like new; £45.-7, Moyers Rd., Leyton, E.10.

JONES' Ganges, special agents for B.S.A., Broad way, Muswell Hill, N.10, and Woodside Parade North Finchley. Broad-

LATE 1915 B.S.A. Sidecor Outst, fully equipped, garge, Winconton.

B.A. 1915 B.S.A. Sidecor Outst, fully equipped, garge, Winconton.

B.S.A. 1915 4(A), p., 3-speed countershaft, clutch, kick start, perfect condition; £75.—1,078, Harrow Rd, Willedden, X.W.10.

31h.p. B.S.A. and sidecar, engine overhauled by makers; 455; exchange for larger power.-10, Colyers Close, Enth, Kent. [2433]

19 13 B.S.A. 31/2h.p., free engine, 2 speeds, Bosch mag., tank, horn, tools perfect; £40.—Brunswick Lodge, Thames Ditton. [2555 B.S.A. 3½h.p. T.T., excellent condition, lamps, generator, horn, variable pulley, good tyres and tubes, fost; £50.—20, Denne Parade, Horsham. [2292

B.S.A. 1920 33/sh.p., T.T. model, bought January 5th, in beautiful condition, lamps, horn, and tools: £95.—Foster, 3, Arrow Hotel, Rhodes, near Manchester. [2208]

B.S.A. Combination, 1913-14, all-chain, 2-speed, sporting canoelet sidecar, perfect; £68; genuine hargain.-253, Ravenscroft Rd., Beckenham, S.E.

19 B.S.A. Combination, Lucas lamps, mechanical born, screen and hood, fitted up regardless of cost, only done 500 miles; £145, no offers.—7, Moyers Rd., Leyton, E.10.

B.S.A. clutch, engine mileage 500, the whole machine as pew, gnaranteed; 55 gns., or nearest offer; apply after 6 p.m.-Blackmore, Hut 30, No. 5 (E) A.R.D., Henlow, Beds. [2079]

B. S.A. J(hp., Nodel K, new August, 1919, thorough running order and good condition, wi Mead and Deakin sidecar; £125, lowest.—Matthe 74, Windsor Rd., Neath. [24

74, Windsor Rd., Acath. 1240-8

S.A. Specialists.—All replacements in stock. B.S.A. stickering, steelens, hoods, and grids in stock.—The control of the stickers of the stock.—The control of the stock.

B.S.A. 1912 35/sh.p., fixed gear, semi-T.T. bars, B. and B., waterproof Bosch, good tyres, good running order; £35, or nearest.—A, Rollo, Greengate, Crimond, Aberdeenshine, Scotland. [2558

Bodd, Adetectables, Scotland, B. S.A. 44hr., Model K., new August, 1918, Millford C.B. sidecur, wind screen, storm apion, F.R.S. electric lamp set, Lucas horn, spane helt, tools, not done 2,000 miles; any trial; £110.—Parker, 66, King George Rd., Hyde.

George Rd., Hyde. [2158]

1015 B.S.A. 4½hp., 3-speed countershuft, kick start. Lain-cum-belt, lamps, horn, speedometer, Millind sideser, Cameo wind screen, perfect condition of the control of the condition of the control of the con

B S.A. combination, 4½ h.p., 1914, all-chain; stored within the war: the expect counterstant, chtch, lam langage errol, sereen; read condition, plendid ramaing crief; £115—Burn, Hillside, Derridge, near Birming lam. (X4174

10:16 B.S.A 44h.p., TT. model, idle during way.

which is the property first and cocondition, nextly
enameled and fitted with 1919 undeguods. King of the
Rond lamp, looks and runs just like new, guaranteed,
absolutely periest order; what offices -O'Hagan Rics,
10 middle.

(25.1)

Dundalk P.S.A. 434h.p. Combination, recently delivered, all-leafur drive, Luces horn and Jamps, only done of the combination, late 1919, chain-cum-beld divis, lamps, land, done alcut 500 miles, \$2125; owner bought crr.——Dunlets, Lighthull, Strond, Globa.

THE BIRMINGHAM HOUSE FOR MOTORISTS

87-91, John Bright St.

'Graph : "Lytear. B'ham"

I can give early delivery of many of the following famous Motor Cycles:

A.J.S. INDIAN ENFIELD NORTON TRIUMPH ZENITH JAMES ROVER HUMBER NEW IMPERIAL **EDMUND** CALTHORPE CONNAUGHT METRO-TYLER

But I can only guarantee this if your order is placed NOW.

The demand for Motor Cycles far outstrips the supply, and orders are piling up daily.

If you would not be disappointed, call, write or 'phone to

BIRMINGHAM HOUSE FOR MOTORISTS.

MOTOR CYCLES FOR SALE.

Calcott.

CALCOTT 25(h.p., 3-speed, clutch, kick starter, to hole condition; £35.—Drabble, Anderton, P month. (D) Calthorpe.

CALTHORPE 23/h.p., 2-speed, 2-stroke; £39; trial.—8, Upper Brook St., Oswestry. 19¹⁷ Calthorpe, 2 speeds, good order, condition £38.—38, Wallbutton Rd., Brockley, S.E. [2

19 16 Calthorpe Jap. Enfield 2 speed, Amac, com with lamps and horn; £37.—Moses, Clyrr, conshire.

CALTHORPE-J.A.P. 1915 2%h.p., 2-speed gear, free engine, stored during war, splendid cion.—Moss, Wem.

CALTHORPE-J.A.P., 25/h.p., 1919, Enfield 2-spring nearly new; £53.—Brind, Gillingham and Calingdon, Berks.

CALTHORPE Junior 1914 2h.p., 2-speed, in perl order, to ride away; £27/10.—Tiller, Greenba Damerham, Salisbury. CALTHORPE 2-stroke 21/h.p., Enfield 2-speed, bro new, at makers' price; £66/3.—Wilkins, Simps and Co., opposite Olympia, London. [23

19¹⁶ (Sept.) Calthorpe-Jan 27(h.p., Enfield 2-span P. and H. lamps, fine condition; any triad; £6-137, Hartington Rd., South Lambeth. [26]

2 3h.p. Calthorpe-Jap, 2-speed Enfield gears, con 4 tion almost as new, any trials; £53; own getting combination—Capt. H. A. Jewell, Clared Place, Barnstaple.

10 15-16 Calthore-Jap 4-5h.p. twin, 2-speed, engine, all chain drive, in perfect run order; £55. Seen between 7 and 9 p.m., or weeke—W., Guildford Garage, Guildford Rd., Clapbam, S.

Campion

CAMPION-VILLIERS 2½h.p., 1917 model, spare, r for same; £30.—258, Brockley Rd., Brockley S.E.4. [X42]

CAMPION-J.A.P. 4hp. Combination. 3-sp. clutch, first-class condition, coachhuit side with spring wheel, exceptional hargain; £80.—Wark Hillmorton Paddox, Rughy.

CAMPION-J.A.P. Combination, Sh.p., 3-speed cht Gloria de Luxe Projectile sidecar, Easting w screen, Klaxon, speedometer, knaps, and tools, just to oughly overhanied, tyres as new; \$110, or near of -Kirkham, Builder, Wood-St., Sheffield.

WAUCHOPE'S, 9. Shoe Lane, Flest St., London 21/4h.p. Carfield, 1920; £59. 19 19 Carfield, 2 speeds, countershaft, Villiers, gine, as new; £49; bargain.—Willetts, Rook Lanesfield, Ettingshall, Wolvernampton. [2]

C. R

1019 C.B. Combination, only ridden a lew mi complete set of lamps and spares, absolute perfect; any trial; £160.—Apply, Alderson, Ross House, New Barnet, (by appointment). [23

CEDOS.—The finest 2-stroke ever produced; ladies gentlemen's; order now for spring delivery.— Blake and Co., Lancashire's leading motor cy dealers, Liverpool and Manchester.

Chater-Lea.

CHATER-LEA 3h.p., excellent tyres, mag., stan fine condition; 28 gns.—White, 93, Forest Leytonstone.

CHATER-LEA Enquiries Invited by J. Blake Co., leading motor cycle experts, Liverpool Manchester.

19 15 8-10h.p. Chater-Lea Combination, lamps, he screen, speedometer, and watch, most head turnout; £140, no offers.—7, Moyers Rd., Leyton, E

Chater-Lea-Fainir. 31h.p. Chater-Lea Fafnir, Bosch, B.B., good tyr £19.—Brown, Salisbury St., Blandford. [2]

Chater-Lea-Jap.

CHATER-LEA-JAP 31/h.p., excellent running ord £30.-70, Baring Rd., Lee, Kent. [2]

Chater-Jap.

CHATER-J.A.P. 3½h,p., Bosch, Triumph carburet re-enamelled: ride away: £28, or nearest-Thornhill Rd., Barnsbury, N.

Chater-M.M.C.

CHATER-M.M.C., 3\(\)(n.p., Dixie, B. and B., 8a forks, good condition, cane sidecar; triol; \(\frac{22}{29}\), Calcutta Rd., Tilbury, Essex.

CLYNO 1920 2-stroke, 2-speed, clutch, in sto £70,-Dominy and Co., Winchester. [2] WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lonsupply new 1920 21/h.p. Clynos; £70.

C32 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

FEBRUARY 12TH, 1920. MOTOR CYCLES FOR SALE.

Douglas

19 4h.p. Douclas Combination, splendid ontilt, dual lighting system, electic and acctyleno, nearly now extra heavy Danlops, Covey speedometer, first-class bood, Triplex screen, side curtains, lugsues grid, much shields, mechanical hera, mirror, etc., mechanically perfect; any examination and trial; £138.—Cooko, 35, Triplex of the cookon, 35, Cricklewood, N.W.2.

Duzmo.

DUZMO 3½h.p. Sincle and 8h.p. Twin. Orders in striet rotation, Deliveries commence All Lancastire and Cheshire enquiries to Leuch and Seed, 16, John Dulton St., Manchester.

Edmund.

23h.p. Edmund, spring frame, 3 models.—Lists free from Gonilay's, Fullowfield. [2951 EDMUND-J.A.P., new 1920 25(h.p., 2-speed, spring frame model in stock.—Moss, Wein, [X4350

EDMUND 1920 3 h.p. Twin, spring frame, new;

Enfield.

TWIN Enfield, good order: £26.-Vail, 57, Colebrooke Row, Islington, London, N. [2439

ENFIELD 3½h.p. twin, 2-speeds, all chain, fast and reliable; £50.—Gadsdon, Crawley, Sussex. [2882]
ENFIELD 1920 2½h.p. 2-stroke, just delivered; £64.—Motor Cyclist, 70, Long Acre, W.C.2. [2801]

R. D. VARTY, Thundersley, Essex—Enfield 1912 2; i.b. twin. chain drive; £35; exchanges, 793 ENFIELD 2-stroke, 1919, milenge 200, as new; £58, —Brailsford, 17, Glenalmond Rd., Sheffield, X4316

ENFIELD 1913 Combination, mechanically perfect, but paint bad; £75.—Ashville, Honor Oak, 8.E.23.

LATE 1916 Enfield Combination, 6h.p., lamps, horn, re-enumelled; £135, offers.—62, Hall Rd., East Lam.

Iom. [2660]

NFIELD Combination, 6h.p., 1917, splendid condition; £125.-40, Replingham Rd., Southfields, .W.18.

N.18. Carrier St. S. Septed, F.E., lamps, etc.: 40 gns.: condition as new.-1, Cheval Place, Brompton td., S.W.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— Enfield Combinations, 1916, 1917, 1918, 1919, tom £120. [3010

NFIELD Combination, 8h.p. .JA.P., £85; Clyno 5-6h.p., 2-speed, K. start, £55, offers.—12, Asmun's full, Hendon. (2070)

PNFIELD Combination, late 1914, lamps, bood, screen, fine condition; £110.—39, Wigston Rd., histow, E. [2368]

NFIELD 2-stroke, 2 speeds, good as new; £48.— Willetts, Rookery, Lanesfield, Ettingshall, Wol-thampton.
NFIELD Combination, 1920, 6h.p.; best offer over £170; just received.—Box 1,519, c/o The otor Cycle.

ONES' Garage, special agents for Enfields, Broadway, Muswell Hill, N.10, and Woodside Parade, orth Finchley. [0031

13b.p. Enfield, 1913, fast, chain, 2-speed, overhauled; 14 £40.—On view Patterson's Garage, Green Dragon, inchmore Hill.

inchmore Hill.

OVAL Enfield 5-Sh.p. Combination, 2-speed, lamps and born, screen, Fowerful outfit; 195.—55, 93, 196.

Outflower Hakeney.

NIELD Combination, 1917-18, £135, ditto 1913, very smart, £981.0.—Halifax Motor Exchange, ifon St. South, Halifax.

[2423]

sion St. South, Hollian. (2423)

919 24h.p. Endled, 2-stoke, 2-speed, lamp, horn, reflex infror, perfect order, almost new £55.

1818 Endled, Settering. (2201)

918 Endled, Combination, 7-Sh.p., twin, exceptions, between £40.—Youngs, Heath Garbarett, Showe, 244. (012)

916 Enfield 6h.p. Combination, little nsed, hood, screen, speedometer, 3 lamps; £130,—Spurling, litthorpe Rd., Hampstead, N.W. [2847]

NFIELD Combination, 8h.p., May (1915), in perfect condition, done under 5,000 miles; £140.—[2509] llers, Ltd., Sharpness Docks, Glos. OYAL ENFIELD 6h.p. 1916 Combination, in per-lect condition; 125 gns.—Longman Bros., 17, 1d St., Ealing. Phone: Ealing 689. [2982

NFIELD 6h.p. Combination, new 1919, not done 1.600 miles, speedometer, lamps, etc., as new; 10.-94, North Denes Rd. Gt. Yarmouth. [2456]

OYAL Enfield 23th.p. Twin, 1912 (?), Mctosacoche engine, 2-speed, 2 new cylinders, splendid condi-r; £30.—Startin, 5, Market Hill, Cambridge. [2685]

15 35.D. Schorlto, 5. Market Hill, Cumultage. Leves | 15 34.D. School, 25 speeds, kick starter, lamps, 15 34.D. School, 25 speeds, kick starter, lamps, 16 speeds, pick starter, automatic labrication, not ridden 150 miles, new this year; i.-Apply, Cecil Thomas, Penybont, Llandovery. [2814]



The House for 1920 Models.

We have from 20 to 30 New Combinations coming in stock every week; so give us a call, and if we cannot get you what you want, nobody can. Machines quoted below are for immediate delivery.

COMBINATIONS.

1920 MATCHLESS Combination, H Model,

1920 HARLEY - DAVIDSON Combination, lamps, windscreen, horn.

1020 6 h.p. ENFIELD Combination, complete with accessories.

1920 8 h.p. NEW IMPERIAL-J.A.P. Combinashow model Sidecar, speedometer, horn.

1919 (Nov.) ro h.p. HENDERSON Combina-tion, 3-speed, clutch, kick-starter, hand-some Sidecar, F.R.S. lighting set, mileage 500.

1919 A.J.S. Combination, Henderson Elite Sidecar, Lucas dynamo lighting, spare wheel.

1918 HARLEY-DAVIDSON Combination, 1920 lighting set fitted, T.T. bars, sporting Sidecar, very fast.

1919 (Nov.) 3½ h.p. SUNBEAM, brand new Dinky Sidecar, Lucas lamps, electric side-car and back, as new.

1919 (Dec.) 8 h.p. SUNBEAM Combination, spare wheel, Lucas lamps, mileage 250.

SDLDS.

1920 27 h.p. DIAMOND-J.A.P., Enfield 2-sp. gear, new.

1920 4 h.p. TRIUMPH, countershaft, new. 1916 31 h.p. SUNBEAM, 3-speed, lamp, and

1919 5 h.p. twin ZENITH, almost new.

CARS. *

1914 To h.p. STANDARD, very nice order, 2-seater £310

Special Racing CALTHORPE, to h.p., sporting body, dynamo lighting, guaranteed over 60 m.p.h. \$450

1916 Baby PEUGEDT Limousine, very smart, 3 speeds and reverse, com-plete£285

J. SMITH & CO.,

MOTOR CYCLES FOR SALE. Enfield.

ENFIELD 6h p. Twin Combination, as new, wind screen, electric lights, disc wheels, speedometer, space chain; price £180.—Hodgson, 6, Union Place, Boston.

ROYAL ENFIELD, 1912, 6h.p. combination, to new worker sudecar, 3 lamps, tyres in mir dition, best offer over £50.—Chappell, St. Bu dition, 1

1920 Enfleld Combination, just arrived, brad may end 3 lamps; what offers over £180; owner ordered car.—Wire: Reynolds, Shemeld.

ENFIELD 3h.p., 1917, T.T., lamps, horn, spineter, watch, etc., tyres and enamel good, sporting lot: £68; after 6 o'clock.-28, Hopedale Charlton, S.E.7. Alleedo

2 3h.p. Enfield Twin Lightweight, chain drive, Bosch, B.B., new tyres, splendid condition; £35, or neuroffer; Saturday or Sunday only.—Lyuton, Churchfield Av., North Finchley, N. [2093]

19 (October) Royal Enfield, 3h.p., 2-speed, 6 kick starter, horn, speedometer, etc., run miles only, just been overhanded, in pertect conducted £82/10.—Verity, Trinity College, Cambridge. [X

ENFIELD 6h.p. Combination, coachbuilt, 1913, new pistons, connecting rods and hearings, and engua-bench-tested by makers, also new gears, electric light-ing, condition perfect; £90.—Halliday, 121, Lewisbum Rd., London, S.E. Rd., London, S.E. [2240]

19 (24 August) 3hp. Royal Enfield engines no. [25]

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VERY Late Model Enfield Combination, 6hy, and head lights, side and tail lamps, mechanical horn, mud shield, aluminium footboards, sidecar field with aluminium dash, wind screen, apron, luggage grid; this outfit is absolutely as new and unscratched; privately owned.—Seen at Red Lion Garage, Red Lion, Richmond, Phone: No. 153.

Excelsior.

Excelsior.

R. D. VARTY, Thundersley, Essex, agent for American Excelsior; early deliveries; exchanges.
[1784]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—7-9h.p. American Excelsior and sidecar, 1914; [3011

EXCELSIOR 7-9h.p., C.B. underslung combination, speeds, clutch, good tyres, etc.; £90.-69, Cambridge Rd., Kilburn, N.W.6.

L ANCASHIRE, Cheshire, North Wales, Isle of Man only,-American Excelsior; enquiries,-J. Blake and Co., Official Dealers, Liverpool-Manchester. [6586 EXCELSIOR (British), 1915, 294h.p., Jardine 2-speed countershaft, hand clutch, all-chain drive, lamps, pump, horn, etc.; £45.-36, St. Thomas Rd., Hackner.

A MERICAN Excelsior 1917 8-10h.p. Coachbuilt Con-bination, hood, screen, electric lighting, cluston kick transports very fine turnout; 2150, 1,280, clo The Motor Celt.

A MERICAN Excelsion, electrically equipped, in stock, Early deliveries of Henderson, Allon, Connaught, and O.K. Union, from the sole district agent: Hutchin-son, Boroughbridge, Yorkshire.

THE New 1920 American Excelsior represents the best value for money on the market. Book now for early delivery. Fitted with Swan de Luxe sidecent.—Edwards and Parry, 4, Blenheim St., Bond St. May-fair 2666.

BRITISH Excelsior, the best finished lightweight at present made, 2-speed model; £63/16; in stock for immediate delivery; first chaeque secures.—Forfield Motors, 11 and 13, Forfield Place, Leamington Spa.

1 20 British Excelsior, 23th.p. J.A.P., clutch, K.S., Language and Hittings, including speedometer, everything brand new: ride away: cost £87, take £80, with or £70 without fittings, or offers.—C. B. Wigan, Portishead, Someraker,

A MERICAN Excelsior Model 19 7-9b.r., 3-speed, 136 gms.; Model 19E., with dynamo helding configuration of the model of the

Fafnir

Th.p. Fafnir, E.I.C. mag., B. and B. carburetter, good tyres, running order; £25.—150, Camberwell Grove, S.E.S. [2572] F.N.

F.N. 212h.p., just overhauled, good as new; 33 sns.— Elliott, 93, Forest Drive, Leytonstone. [2108

 $F^{
m .N. \ 4-cyl., \ 2-speed}$ and clutch, Bosch, perfect dition; £35.-62b, Highgate Rd., Kentish T P.N., new 1920, 23,h.p., shaft drive, 2-speed, light-weight; £35.—Frank Whitworth, 139, New St., Birmingham.

FOR Early Delivery of the F.N. 7h.p. 4-cyl, or 21/2h.p. lightweight, book your order now with the Premier Motor Co., Aston Rd., Birmingham. [2415]

All letters relating to advertisements should quote the number at the end of each adver-sement, and the date of the issue. BI5

F.N. 23(h.p., 2-speed, shaft new piston and tyres; £25; exchange, cosh adjustment.—Write Stubbs, 103, Moore Park Ed., Fulham, S.W. 12480
F.N., 1913, 2½h.p. single, countershaft 2-speed, free, engine, hand clutch, guarantied; £34.—Letter, watson, 217, Gainness Buildings, Ed.—Letter, 2510
1909 F.N., 4½b.p., 4-cyl., dropped frame, wants at the counterpart of the counterpart

1912 F.N., 5-6h.p., 4-cyl., 2 speeds, dropped frame, wants tuning up: £34.—Smith's, 10-16, Haverstock Hill (opposite Chalk Farm Tube Station). [3100] F.N., 1914, 4-cyl., 5-7h.p., 2-speed, clutch, shaft drive, Bosch, B. and B., good tyres, in perfect condition; £55, or nearest offer.—Shaw, 121, Ecclesall Rd., Sheffeld.

23h.p. F.N., good condition, re-enamelled, drop back frame, new undguards and footboards, horn, and lamp set, 2 spare tyres; nearest offer £33 secures,—W. J. Dickson, Dungannon, Tyrone. [2155]

19¹⁴ F.N. 2%h.p., 2-speed, shaft drive, hand clutch, Dunlops (unpunctured), lamps, horn, tools, punctured, lamps, horn, tools, punctut, and plus, mileage about 4,000, casy perfect order, owner giving up cycling; 246.—58, Dongola Ed. Tottenbaun, N.I.

Grandex.

GRANDEX 3/3b.b., just overhauled, with good wicker sidecar, tools, lamps, new rubber and wicker sidecar, tools, lamps, new rubber and the prompt sale £4/10.—Apply Whitie, I, Priest Hill, Caversham, Reading.

Harley-Davidson.

JACK HEALY, Cork, official Harley agent.—Rotational delivery. No premiums accepted. [6488] BROOK Bros., Burnham-on-Sea, can give immediate delivery of Harleys. Send for catalogue to-day. [2419

BEFORE placing your order for new Harleys, w Brook Bros., Burnham, Somerset. Immed

HARLEY-DAVIDSON.—Book now for early delivery.
Official Agente, The Motor Cycle Mart, Stafford
[X3382] St., Walsall.

St., Walsall. [X3382]

HARLEY DAVIDSON, 1915. and coach sidecar; 2125.—Halifax Motor Exchange, Union St. South, Halifax. [2424]

HARLEY-DAVIDSON Late 1916 7-9h.p. Combination, electric lighting, horn, screen.—Parker's, Bradshawgate, Bolton.

19¹⁵ Harley-Davidson Combination, stored 3 years; 115 gns.; private owner.—Rippingale, 20, Capterbury Rd., Croydon.

HARLEY-DAVIDSONS, all models, for immediate delivery, solo or combination.—Maudes Motor Mart, 100, Paris St., Exeter. [2877

HARLEY-DAVIDSON Combination, 1916, electric model, perfect mechanical condition; £140,—37, Preston Rd., Upper Norwood.

HARLEY-DAVIDSON, 1918, khaki model, dise wheels, in grand condition; £140; very little used -5, Bromfelde Rd., Jeffreys Rd., Clapham Rosy, S.W.4.

19 9 Harley-Davidson 7-9h.p. Combination, mag-model, electric lights, fully equipped; £180.— Smith's, 10-16, Haverstock Hill (opposite Cnalk Farm Tube Station).— WAUCHOPES, 9, Shoe Lane, Fleet WAUCHOPES, 9, Shoe Lane, Fleet B.C.4.—7-3-hp. Harley-Davidson combination, mag-liquidad properties and combination and combination, combination, combination, combination, combination, combination, mag-liquidad properties and combination, combination,

1919, £185; 1915, £157/10. HARLEY-DAVIDSON, 1916, good condition, 5h.p., 3-speeds and kick, Coronet ear, original tyre, front new, Falmer back, exchange Harley twin; sall 2110.—T. H. Hinson, Bourne. [X4293]

HARLEY-DAVIDSON 7-9h.p., 1918, 3 speeds, clutch, kick starter, mag., disc wheels, very little used, excelent condition; any trial, examination; 2150.—198, King St., Hummersmith.

H ARLEY DAVIDSON 1917 7-9h.p. Sporting Outfit, disc wheels, semi-T.T. bars, electric lighting set, in very nice order: £170.—Elce and Co., 15-16. Bishopsgate Ar., Camonile St., E.C.3.

1920 Harley-Devideon, 7-9h.p., complete with 3 hmps, horn, and speedometer, and £45 eidecar, never been ridden, owner ordered ear; what offer sover £2200 - Wite: Reynolds, Shaffield.

19 20 Harley 4h.p. flat twin, completely equipped, automatically lubricated throughout, only 350 miles, brand new middle January; best offer over £152.—Gribbell, 106, Albert Rd., Devenport. [2441]

HARLEVDAVIDSON 1916 5-6h. Combination, nice condition and appearance, accessories, spares; £115, or exchange lower power combination of lightweight.—Clement, Lynton, Oordon Rd., Sept. 19472

LONGMAN Bres., 17, Bond St., Ealing (Td. 682) and 387, Uxbridge Rd., Acton, W.S. Tdl.; Ohiswick 1578.—We are district agents for Hard-Davidsons, and can give immediate delivery of new models at list price.

H.D. 1915 Combination, in special condition: 125 gns.—Longman Bros. (as above). [2985]

NEW AND USED MACHINE TOOLS.

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18in. and 23in. POLLOCK and MACNAB Combination Turret Lathes.

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LONDON OFFICE:

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MOTOR CYCLES FOR SALE. Harley-Davidson.

7-9h.p. Harley and large Milliord sidecar, thoroughly overhauled, tyres as new, bought new in 1915; sacrifice £95.—Reynolds, Waterbeach, Cambs. [2726]

sacrifice £95.—Reynolds, Waterbaach, Cambs. [2726]

HARLEY: DAYIDSON Coachbuilt Combination;
about 1917 hood screen, lumps, heap of spores
and rolls, forty, would consider light car in exchange.
McKnights, 50, Legard Rd, Highbury, London, McKnights, 50, Legard Rd, Highbury, London, 1339

T.O.C.H. have two brand new 1929 Harley-Dayidson
by makers, list prices and the first car in exchange.

House of the second list prices are for Car House, 5, Heath
Bythone; Hampstead 3752. Hours 9.7, including
Saturdays.

Saturdays. [2405]

DELIVERIES this month of Harleys, the motor cycle magnificent; order now and make sure of your mount for Easted we ride Harleys onselves, and have ever conflicted in recommending them to you.—Sole acceptance in recommending them to you.—Sole acceptance in Red. Garage, St. Ives, Hunts. [250, Stetion Ed. Garage, St. Ives, Hunts. [250, Harley DAVIDSON, 7-9bp., 1916 model, bought HARLEY-DAVIDSON, 7-9bp., 1916 model, bought Garage, St. Ives, Hunts. [250, 1916 model, bought Harley Serven (1915, engine No. L13652K, Gloria chains, beautiful condition; £150, or exchange for Morgan faulty runsbout or powerful outfit with 2 seater sidedar.—Burloot, Woodhouse, Andoren. [2624]

Harris.

1914 Harris Peuscet T.T. 35/h.p., new tyres, belt, etc., fast and in splendid condition; 38 gns.—Motors, Hampstead, 78, High St., Hampstead, London, N.W.3. Henderson.

Henderson.

HENDERSON, latest issued, electric model, with Swan spotting sidecar, mileage about 300: offers—Berner St. Wigns.

ANCASHIRE, Cheshire, North Wales, and Isle of Jan. Enquiries for Henderson 4-cyl, wanted-models and Co., Official Dealers, Liverpool-Manchester.

NOW on View, new Model Z2 10h.p. 4-cyl. 3-speed Henderson, 147 gns.; Model Z2E, with thynacial electric lighting equipment, 167 gns. 70 with thynacial livery book your order now with the solar Midland distri-butes, The Fremier Motor Co., Aston Rd., Birminsbane, 25818 Hobart.

Hobart.

Grado gear, new tyres, splendid

HOBART 2%h.p., Grado gear, new tyres, splendid

running order; £37/10.—Fryer, Aslockton, Notts.

1915 Hobart-Villiers, appearance and running order excellent, recently overhauled, lamps, horn forboards; 38 gns.; evenings or Saturdays.—130, London Rd., Kingston-on-Thames.

H. America of The Miller en Politics of the Villers en Bretz with the Willers en Bretz with 2 speed model now available for the Willer within 2 weeks; 265. Limited number Willis The Goldstone Motor Cycle Depth, 32, Goldstone Willis Hove. Humber.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, F.C.4.-6h.p. Humber combination, twin, 1919.

19 19 51/h.p. Humber Combination (Millford), Luca lamps, new condition; £125, or nearest.—59, Hi St., Coventry.

St., Coventy.

3 1b.p. Humber Combination, 2-speed, H.S.; ride
2 army week-end; £35.—Matthews, 96, Sultran
Crescent, Parkinston.

Crescent, Parkinston.

Harde Genine, sood condition throughout, lamps
etc.; cheap.—C. W. Swinford, Way Farm, Mindele
Thared, cheap.—C. W. Swinford, Way Farm, Mindele
Thared.

FOR Sale, Humber combination, 3½h.p., 3-speed handle start, conchbuilt sidecar, in perfect condition throughout.—Write, Johnson, 293, Hainton Av. Grimsby.

Grimsby.

3/4,b.p. Twin Humber C.B. Combination, 3 eyeed countershart, hand clutch, lemps, how fine condition; 2110, eeee Laurdny or Sunday—Normal Allbon, Sunrayie, B. and B. carburetter, Bosch water Spiendigoodition; 226; first cheque secures.—194; Spatischoe St., Leicester.

19 19 Humber, Jýb.p., fat twin, 3-speed and clutch the secure of the secur

290.—H. Collison, R.A. Aless, Ballody, 1998.

19 (September) 34,4n. Humber and Millford sider, with humps, horn, luggage carrier, less undershield for engine, in splendid condition, and car undershield for engine, in splendid condition, and car undershield for engine, Post Office, Melboumbully used: £155.—Varren, Post Office, Melboumbully used: £155.—Varren, Derbyshire. Indian.

7-9h.p. Indian, 3-speed, kick starter, nearly new: 8 gns.-29, Streatley Rd., Kilburn.

INDIAN 7.9h.p., good condition; £55.-18, ville Gardens, Hanwell, W.7, near Station. INDIAN Powerplus 7-9h.p., 1918, excellent order tyres as new; £110.—3, Grange Rd., Ealing. [242]

INDIAN and Sidecar, 6h.p., clutch model; &5 seen any time.—89, Vicarage Rd., Willesden 126

EIG All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Indian

15 Indian 7 9b.p. Combunition; £150; examina-tion during day.—Stead, 114, Savilo Rd., Dows-12527

115. Powerplus Indian Combination, magnificent condition; bargain, £135.—10, Lalot St., Ful. [2902]

9 14 7-9h.p. Indian, 2-speed, coachbuilt sidecar; £75.—Mandes' Motor Mart, 100, Paris St., keter. [2260]

9 20 Indians: prompt deliveries.—E. Brown, Indian Speciment 3 and 7a. Parker Lane, Barnley, L: 194. (X0334) L: 194. Burnley.
NDIAN 1920 7-9h.p. Combination, delivery promised 2 weeks; ollers,—Apply, J.G., 12, Ampthili

16 Indian Motor Cycle and sidecar for sale, electric light and horn; £120.—Box 804, Harrods Adverting Agency, S.W.1.

NDIAN, 5-6h.p., late 1914, clutch, K.S., all neces-suries, top-hole condition; best offer.—Wyrcholme, borne Rd., Deneaster. [2113] NDIAN Combination, 7h.p., clutch, 2 speeds, lamps; £85, or near offer; owner giving up.— , Bridge St., Reading.

speeds,

NDIAN, 1913, clutch, 5-6h.p., stored during war, excellent condition: £48.—Brothers, 14, The ungeway, Winchmore Hill, N. [2110]

OR Sale, 7-9h.p. Indian motor cycle, 1914 pattern, sılendid condition, good as new; £65, or near er.—Cunningtor, Brooke Rd., Oakham. [2627

NDIAN 5-6h.p. Combination, 1916, 3-speed, clutch, kick starter, stored 3 years, new condition; £125. Kington, 2, King Edward Parade, Norbury, S.W. [2844]

NDIAN 344hp. Twin, 1915, 3 speeds, clutch, kick starter, lamps, generator, mechanical horn, splea-l condition; 275.-15, Derset Rd., Wimbledon. [2599]

NDIAN 1915 7-9h.p., clutch model, fast, sporting machine, in perfect condition, Lucas lighting set, ls, tyres us new; £75.—Welch, 135, Edgware Rd., 2293

NDIAN Combinations, 1915, 3-speed, 95 gns.; also 1914 combination, 65 gns; both perfect condition, fascoine and Jones, Parade, Lambeth Walk, Ken-ngton, S.E.

OR Sale, Powerplus Indian and sidecar (sporting), in splendid ruoning condition, all spares, lamps, eddmeter, etc.; price £135.—Goudgo, Danesfield, odsor Rd., Worthing, Sussex. [2992]

9h.p. Indian, 1914, 2-speed, clutch, lamps, horn, speedometer, luxurious Swaa sidecar, screen, storm on, spare pair handlebars, condition excellent; £98. it. Ives, Burwood Park Rd., Hersham. [2755

-9h.p. Indian-Rennoc Combination, spring frame, 2-speed, clutch, K.S., mileage 8,000, spare tube d cover, tools, 3 lamps, screen, apron, excellent ler; £90.—Shepperd, Ottery St. Mary, Deron, [2593]

9 16 Indian, 7-9h.p., road-racing clutch model, engice in perfect tune and condition, aluminium cs, lamps. Klaxon, tools, complete; £85.—H. Bartlett, arsholt, High Wycombe, Bucks. 'Phone: 85, [2909

pla 7-9hp. Clutch Model ladian, guaranteed per-lect mechanical condition, professionally re-melled and renickelled, lumps, horn, tools, easy tter; seen any time; £60.-237, Iffley Rd., Oxford, [2968]

12968 9 16 7-9h.p. Indian Spring Frame Combination, 3-speed, clutch, kick, electric lighting, polished minim discs, indistinguishable from new, stored years; nearest £125.—38a, The Vineyard, Rich-hod. (2863

916 Indian 7-9h.p. Powerplus Combination, spring frame, 3-speed, foot clutch, electric lamps, lood screen, in fine mechanical condition, stored 5 years; trial by appointment; £135.—P. Egerton, Goushall

J. Shuep.

O.C.H. have a 1913-14 Indian 7-9h.p., 2-speed and clutch, T.T. bars, excellent order.—Fair Offer Carses, 5, Heath St., Hampstead (near Hampstead 2028 Station), Thone: Hampstead 3752. Honrs 9-7, Buding Saturdays.

TDIAN 1914 7-9h.p. Conchbuilt Combination, 2-speed and clutch, Dualop extra heavy tyres, hore, Corbin-was speedometer, clutch, requires slight repairs; offers was predometer, clutch, requires slight repairs; offers below. The concept of the concept of the concept of the leuk, Greenock. (D)

6h.p. Indian Clutch Model Road-racer, very fast, disc, lamps, springs, tools, speedometer, pillion, etc., ditto as new, engine perfect, a beautiful machine, very sporty; sacrifice 85 gns.; seen Loaden.—Box. 99, clo The Motor Cycle.

AUCHOFES, 9, Shee Lane, Fleet St., London, E.C.4.—7-9h.p. Indian combination. 1914, 120; 5-6h.p. Indian and sidecar, 1914, 280; 1915, Indian combination, 1914, disc wheels, £105; 7-9h.p. Indian combination, 1916, £150. [2997]

15-7-9h.p. 2-speed Indian Spring-frame Combina-tion, electric and acetylene lighting, disc wheels, d new back tyre, all good, thoroughly overhunled, a need during war, owner unable ride through flying best; £115.—Capt. Harrison, Hayle, Corawall, [2370



THE MOTOR CYCLE,—(Supplement ix.)



For Electric Lighting Handlamp etc. Price 14/7 each.

Dry





HAH ReariampshowsRed light, lights No. plate. Complete with switch bulb, wire, clip, etc., Price 9/6 cach.

Fig. 1040.

HAH Portable Electric Handlamp complete with "Flash" 4½ volt Battery as illustrated.

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2.5epe-d, kick start, hand and foot clutch, spring frame, electric lighting large lead lamp, horn, hools, gnaranteed sound easy starter; seen any time; &85.—72, Lensdale Rd. Oxford.

1930 Indian, 7-9h.p., 5 days' old, electrically equipped lamps and horn, owner must sell as to have through wounds to lift, 5160; or will take 4h.p. (late) Triump in part exchange, or other suitable machine.—Write R.L., c/o Martin, 18, Orchard Sc., Bristot.

50. Bissol. [2334]

15-16 5-6h.p. Indian (red), 3-speed, hand-loot clutch, kirk starter, Canoclet coacbbills side-car enamelled red, dark red morece upholstering, 4-point connection, apron. mat, petrol tin carrier, Lacas lamps, hooter, speedometer, spares, low micase, like new, faultless, trial; £120.—65, Scion Rd. Brixton.

Invicta.

INVICTA 1919 21/4h.p. 2-stroke, Villers engine, accessories; £55.-7, Courtfield Gardens, W. Ealing, W.

IVY 2-speed 2-stroke. Orders booked for early de-livery.—Rothwell and Milbourae, Cowleigh Garage, Malvern. [6186 H. G. HENLY and Co. are London and District agents for the Ivy motor cycle.—Full particulars, 91, Gt. Portland St., W.1. Maylair 4084. [0022]

IXION 1914 2-stroke, Villiers engine, not used since 1916, guaranteed perfect; £28.—Box 1,286, c/o
The Motor Cycle. [2537

James. HONOR Oak Motor Mart.—Immediate delivery Januar models.—129, Brockley Rise, S.E.23. [1400

James 1919 6h.p., as new; £120.—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea, S.W.3.

19 20 5-6h.p. James Combination, brand new; price, £158.—Poulton, Westhagley, Stourbrid JAMES, 1919, 2-speed, 2-stroke, humps, hore, total, Jiffst-class order, hardly ridder; £67.—Lumb, Seess Stars Rd. Wigan.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, edge, Clutch, and K.S.; £125.

JAMES (Sept., 1919), 3/4b,p. twin, lamps, Klaxon, James, and Stark, 1916, 3-speed, Clutch, fast; £110, or offer—Cuttwell, Fox Mead, Little Bookbann, Surrey, 2428

1916 43/4.p. James Combination, in grand maning order, complete with lamps; 90 gas.—Motors, Hampstead, 78, High St., Hampstead, Loodon, N.W.3.

R. D. VARTY, Thundersley, Essex, sole agent for the famous James motor cycle in Southend-on-Sea and district; early delivery; book now; exchanges, 11786

1919 James 5-6h.p. Twin Combination, accumulator electric lighting, wind screen, tools, horo, etc., splendid condition; £135.-60, Thistlewaite Rd., Clapton, E.S.

ton, E.S. [2111]
19 James 41/4h.p. Combination, only ridden lew miles, fully equipped, equal to new; £145.—Smith's,10-16, Haverstock Hill (opposite Chalk Farm Tube Station). [3998]

10930 20 James 3¹/₂h.p. Twin, 3-speed connershaft gear, kick starter, No. 7, just arrived from makers, unused; as list, £115,—Browa Bros., High St., Long Satton, Lines. [2225] CALE Model James 2-stroke, 2-speed, model de lux-lamps, hora, tools, all, including tyres, practi-cally as new, lew mileage, suit lady; £54.—Hobbs, Shepton Mallet.

WHITBY and Son for the finest selection of James new and second-hand combinations and solos; spares, repairs, exchanges.—7, The Vaie, Actor, W.3. Tel.: Chiswick 1513.

spares, repairs, excanages—r. [2687]
TAILES 1917 24, p. 2-stroke, complete with speedometer, horn, lamps, accessories, etc., in perfect
ometer, horn, lamps, accessories, etc., in perfect
capt. Harris, 66, Gower St., W.C.1.
JAMES 1919 (Dec.) 56, pp., only done a few miles,
flited with dynamo lighting set, electric horn,
hocd, screen, and spares, ready for any long tent;
£180.—358, Heather Rd., Small Heath, Birmingham,

LATE 1914 James, 41/h.p., 3-speed countershaft, and B.S.A. coachbuilt sideen, lamps, horn, and speed-outer, spare tyre and tube, excellent condition; after 4.30; taken delivery new machine; 36 gus.-27, Cranbone Rd., Barking.

1016 Rd., Barking.
1016 3/sh.p. Jimes Twio, just been thoroughly everlanded, replated and recommelled, complete with horn and lamps; £75.—Holland, Handscombes Stoneygate, Leicester.

stonegate, Leucester.

A UG. (1946) 4½hp., James Combination, 3-speed countershaft, clutch, kick start, all-hann, laups, board of the start, all-hann, laups, and start, all-hann, laups, club, and start, all-hann, laups, and start, all-hann, laups, and start, all-hann, laups, and laups, and laups, and laups, and laups, laup

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B17

James.

JAMES, guaranteed late 1914, 3½h.p. twin engine, just overhauled, plating, enamelling as new, stored 3 years, tools, lamps; £75, or near offer.—Box 1,335, c/o The Motor Cycle. [3082]

JAMES 1916 44/b.p. Big Single and Sidecar, in ex-cellent order, recently overhauled, everything complete: reason for selling, going abroad; £110.— Carver, Hatchlea, Ockley, Surrey. [2551

19 20 James 4/h.p. Combination, Easting wind screen, hood, pillion, Lucas lamps and born, cost £200; accept £160.—Willetts, Rookery, Lanesfield, Ettingshall, Wolverhampton. [2595]

JAMES Combination, 1914, 4%h.p., 3-speed countershalt, kick starter, Canoelet coachbuilt car, screen, lamp, and hom, spleadid outfit: £85.—Butterworth's Garage, 64, Mill Lune, Brixton Hill. [2345]

JAMES 1915 or 1916 4hp., all-chain diven, coach-unit sidecar, electric light, etc., in excellent coa-dition; £100, or ueur ofer.—D., 27, Canfield Place, ad-joining Finchley Rd., Metropolitica Statico, Tel: Hampstead 6247.

J. AMES 5-6h.p. Twin Combination, de luxe sidear, Lucas dynamo lighting, wind screen, speedo-meter, horn, pillion seat, spare chains, valve, tools, fine condition: £165.—Cox, 15, Devonshire Rd., Hands-worth Wood, Birmingham.

James 1914 I.O.M. T.T. 3½h.p. Twin, 3 speeds, clutch, actual machine that took part in race, part in race, and the speed of the speed o

6 h.p. J.A.P. Twin, fast and sporty mount; £58.-1, Bellingham Terrace, Catford. [2769]

21h.p. J.A.P., 2-speed and clutch, Bosch, B. and B., 2 uearly new tyres, in good running order; £38.— Clark, Brickworks, Crole, uear Doncaster. [2653

J.A.P. 1913 3½h.p., adjustable gear, Lucas search-light, belt and tyres almost new, Klaxon, just overhanled, ride away; best over £40.—Lawrence, 100, Edith Grove, Chelsea.

J.E.S. Motorcyclette, better than a scooter, economical, reliable.—Ecquiries invited by J. Blake and Co., Liverpool and Manchester. [6579]

J.E.S. Motorcyclette, mechanical inlet valve, Druids, Whittle belt, Eadie coaster hub, condition as new throughout; £25.—Tulloch, 59, Watson Crescent, Edinburgh. [2608 J.H.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.-7-9h.p. J.H. combination, 1915, M.A.G. engine, Sturmey-Archer countershaft gear, clutch, and K.S.; 2125.

Kerry. K ERRY 2%h.p., new tyres, B. and B., new E.I.C.; 217, lowest; ride away.—Fernlea, Grove Hill, Woodford, E.18. [2189]

Lea-Francis

LEA-FRANCIS, Sept., 1919), 4h.p., mileage 1,000; flow, Graves, Bilberry Tea Rooms, Redual, Birmingham. [X4270]

LEA-FRANCIS 1914 Twin, 2-speed, countershaft, K.S., clutch, in exceptional condition; solo £75, combination £90.—56, High St., Tooting. [2624 LEA-FRANCIS, 1920. - Place your name on only waiting list for delivery of these gristorratic mounts. -A. J. Sproston, Ltd., 198, Gt. Portland St., 1900.

19 19 Lea-Francis Combination, Grindley sidecar, 4h.p. J.A.P., lamps, horn, speedometer, and tools, new August, 1919, perfect, bought car; £140, or near offer.—Alisup 37, Gt. Bolton St., Blackhurn.

LEVIS 3½h.p., 2-speed gear, and free engine, good order,-Moss, Wein, [X4354 EARLY Delivery Levis.-John Aldrich and Co., Dis-trict Agents, Diss, Norfolk. [6632

EVIS Popular 21/h.p., 1920, now in stock; £50.
Dominy and Co., Winchester.

YRIL WILLIAMS for early delivery of Levis.— Chapel Ash Depot, Wolverhampton. [X8626 19 19 Levis 21 (h.p., fully equipped; bargain, £47. 55, Ballspond Rd., Dalston, London. [24]

L EVIS 1916 25th.p., lamps, horn, perfect condition: ±40.-127, Malden Rd., New Malden, Smiey. [2490] 19²⁰ Levis Popular Model: list price in stock.— Youngs, Heath Garage, Newmarket. 'Phone:

LEVIS 25th.p., stored during war, just overhanded, lamps, new back tyre; £36.-50, Taybridge Rd., [2454] Clardam.

LEVIS, 25h.p., 2-speed, just overhauled, in perfect condition; 50 gus.-Ward, Harmood Place, Chalk Farm, N.W.1. [2154]

LEVIS 25th.p., 2-speed, periect condition, complete lamps, Klaxon, pump, etc., good as new; £48.—
Dowell, High Rd., Byflect. [2591



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M3 Mackintosh, cloth lined ... 13/9
Khaki, cloth lined ... 12/6

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Garage-Tottenham Court Road. Phone-Museum, 1240, Telegrams - "Dynametro, Westcent, London."

MOTOR CYCLES FOR SALE. Levis.

L EVIS 1918 Popular 214h.p., Amac, E.I.C., excellent condition; 45 gns.—Write, first instance, Knott, 20, Wycombe Gardeus, N.W.2.

20, wycombo Cardeus, N.W.2.

10 19 Levis, 2-speed countershaft gear, complete, condition as new; price £60, bargain.—Newhery, 10, Heddon St., Goddon.

LEVIS, brand new, only been 200 miles, 2½h.p., 2 speeds, chain drive, lamps, horn, cost £75; accept £62.—Box 1,290, c/o The Motor Cycle.

HOVE Engineering Works, Davigdor Rd.—Levis; deliveries from stock; sole agents Brighton and district; all accessories. Estd. 12 years. [8190] FOR Early Delivery of the new 1920 234h.p. Levis Popular model, book your order now with the Pre-mier Motor Co., Aston Rd., Birmingham. [2414

Levis 24h.p. 1920 Popular Model, in stock.—Vivian Hardie and Laue, Ltd., authorised agents, 24, Woodstock St. (off Oxford St.), Boad St., W.1. Phous-Maytair 5559. [0082]

1 9 16 21/h.p. Levis (not Baby model), as good as new, Lucas lamp, footboards, hore, new tyres, climb anything; £42, or nearest.—11, End view, Letherae, Conlston, Surrey.

L EVIS 2½h.p., 1917 T.T. model, Enfield 2-speed gear, limps, horn, unused 18 mooths, looks new, mechanically perfect; 250; trial by appointment.— Thone Malden 171, or write Beck, 10, Poplar Grove, New Malden, Surrey. Phone Malden 171, Yew Malden, Surrey.

Lincoln: Efk.

INCOLN ELK 2%h.p., sound condition, euamel good; £32.—Write, J.C., 24a, Edgington Rd., Streatham. [2912

31 h.p. Lincoln-Elk, Bosch, B. and B., new 22 and tube, all accessories, excellent condit £37.-42, Beechhill Rd., Eltham, S.E.9.

L INCOLN-ELK 31/h.p., believed 1913-14, T.T. machine, fast, long exhaust, adjustable pulley, fine machine; £45.—R., 92, Savernake Rd., N.W.3.

L.M.C. 6h.p. Twin, Sturmey-Archer 3-speed and ki start; best value in high powered fyins: £120. Louis G. Ford, opposite G.P.O., Eastbourne. [21] Martinsyde.

MARTINSYDENESSAN Combination, the sen-sation of Olympia. Book you order now for strict rotation delivery with J. Blake and Co.. the motor cycle experts, 110-112, Holt St., Liverpool, Britain's premier motor cycle saloon; also at Blackfriars 84, Nachester. Matchless.

WAUCHOPE'S, 9. Shoe Lane, Fleet St., London, E.C.4.-8h.p. Matchless twin, single-speed; £60.

MATCHLESS Combination, Model H., February; what offers for same -Box 66, Motor Cycle. Motor Cycle.

JONES' Garage, special agents for Matchiess, Broad-way, Muswell Hill, N.10, and Woodside Parada, North Finchley.

1920 Matchless Combination, delivery March, a deposit paid; offers.—Gortley, Haslemere, Bush Park Gardens, Teddington.

MATCHLESS Combination, 2-speed, kick start, 6-8 h.p. J.A.P. engine, fine turnout; £35.-57, Kenhury St., Coldharbour Lane, Camberwell. [2787]

WE Are Acents for the Mutchless. Place year order with us to secure good delivery.—Apply, King and Harper, 6, Bridge St., Cambridge. [8516]

MATCHLESS C.B. Combination, 1913, 8b.p., Bosch, B. and B. complete, and in thorough order, less rear wheel; offers.—Lee, 14, Half Moon Crest, Locdon, N.1.

10 20 Spring Frame 8h.p. Matchless Combination, H. model, promised next week; effers wanted by letter.—A. Martin, 59, East India Dock Rd., Poplar, London, E.

MATCHLESS 8h.p., coachbuilt sidecar, powerfol, perfect order; bargain, £75; gradual payment arranged; closed Sundays.—Bunting's Motor Exchange. Wealdstone.

MATCHLESS 1920 Spring Frame Combination.

Spare wheel, etc., many extras, as new; 2210Clifford Wilson Mig. Co., 70, Royal Hospital Rd.,
Chelsea, S.W.3.

MATCHLESS.—We are still booking orders for Model M. H. combination; delivery April or May, Orden executed in strict rotation.—Edwards, 7, Exhibition Rd., South Kensington.

M ATCHLESS, early 1917, M.A.G. engine, bood sereen, 3 acetylene humps, Tun-Sad and back; see any time,-19a, Hardess St., Leughborough Junction S.E. [Private owner]. £165.

90 Bore 8h.p. Matchless Racer, little user enamelled ladian red, Schebler, Bosch, excel tionally fast, but docile as a kitten; £85.-Broch banks, 53. Lord St., Southport.

M ATCHLESS Combination, 8B2, 7h.p. M.A.G. en gine, detachable wheels, spare, good tyres, Luce dynamo electric lighting, hood and screen; price \$150 -F. Jackson, Hockenden, Swanley Junction, Kent. [294]

Matchless. TCHLESS New Spring-frame Model.—Orders booked for rotational delivery. Demonstration I on view. Replacements for Matchless models of ates in stock.—Tassell, i.e., illoomfield Rd., Phungs, S.E.

Trolless 1914 6h.p. Combination, 2 speeds, clutch, and kick start, luxurious Swan under-coachbuilt sidecar, smart outfit, and in excel-condition; £82.—436, Whitehorse Rd., Thornton h, S.E.

17. 3.0. (1972) M.A.G. engine, Jamps, horn, specioneter, new Cl.B. sidecar and Eastwind screen, all recently overhanded and their ly reliable; £140.—Write H.H., 155, McHort Rt. aton Heath.

aton Heath. [2924]
VICHILESS, M.A.G., 3-speed, all-chain, complete combination, just thoroughly overhauled and new part necessary fitted, lamps, horn, etc.; gns.—Longman Bros., 17, Bond St., Ealing. [25]
Let Ealing 639.

VTCHLESS Model H Combination, dynamo lighting, fully equipped. Book now for early deliver, thorised London agods, Vivian Hardie and Lane, 24, Woodstock St. (off Oxford St.), Bond St., W.1. 19: Maytin 6559.

Metro.

eTRO-TYLER.—Enquiries from Liverpool and district invited by J. Blake and Co., 110-112, St., Britain's premier motor cycle saloon. [6581 TRO-TYLER.—New models in stock of this super 2-stroke lightweight, ready to ride away.—The Agents, Elice and Co., 15-16, Bishopsgate Av. unile St., E.C.3. [0067 Minerva.

i.p. Minerva, new mag., Grado gear, good puller; £20.—Call or write, Wray, 41, Maidstone Rd., 5 Park. [2489] Lp. Minerva, Bosch. B. and B., tyres good, fast, good climber; £33, or nearest.—Gables, Brampdd., Bexley Heath. [2874]

ld., Bexley Heath. [2874]
NERVA 3h.p., Mabon, mag., m.o.v., £15/10, also motor bike, less mag., £7/10.—H. R. Hall, High Whetstone, Middlesex. [2164]

R Sale, 3½h.p. Minerva, running order; first £16 secures; carriage paid.—T. Wells, 90, Edward Nuneaton, Warwickshire. [2587

Moto-Reve

i.p. Moto-Reve Twin, recently overhauled, new B. and B. carburetter, etc.; first £20 secures.—56, er Rd., Wealdstone. [2202] TO REVE 254hp. Twin, magneto wants repairing; hargain, £12.—Ellenger, c/o Mrs. Calling-12a, Rectory Lane, Chelmsford. [2171]

Motosacoche.

TOSACOOHE 1½h.p., meg., Druids, B. and B., lamps, horn; £12.—18, Herbert Rd., Woolwich. TOSACOCHE 2½bp., Bosch, new B. and B., and Dunlop belt, thoroughly overhauled, Druid forks, good, perfect condition: nide away; £25, or .4-66, Chauer St., Northampton. [2329]

New Hudson. 4 25/h.p. New Hudson, mechanically perfect: 4 25/h.p. New Hudson, mechanically perfect: £38.—Rhodes and Co., Eigineers, Stainchiffe Rd., [X4251

V HUDSON, countershaft 3-speed, 1916, lamps, etc., new condition; 70 gns.-1, Cheval Place, pton Rd., S.W. [2990] W HUDSON 4h.p., good tyres, helt, lamps, tools, complete, 3-speed, 1914; would exchange for light-L-The Forge, Hatfield Peverel. [2212]

The Forge, Hattled revers.

The Words Adaptive Hubbon Coachbuilt Combination, 3/4.p.,

speeds, club, lamps, accessories, perfect con270.—186, Lichfield Rd., Aston, Birmingham.

[2725]

V HUDSON 1914 4h.p., 3-speed, clutch, lamps, siderar machine, splendid condition; seen any £65, offers.—Roy, Wyke Green, Froxfield, Peters-Hants.

4 New Hudson 4h.p. Combination, 3-speed and clutch, lamps, horn, speedometer, excellent condi-£70; trial by appointment.—Cock, 25, Tylecroft Vorbury, S.W.

V HUDSON, De Luxe Model, 2½h.p., 2-speed, amps, horn, speedometer, good tyres, all in exceloudition; 248.—Madgwick, Biltmore, Portsmonth Lindbead, Surrey.



THE MOTOR CYCLE.—(Supplement xi.)

HOME COUNTIES Agents for

Reading

Standards 10 h.p. TWIN 1170 c.c.

LONDON Agents for

Clyno Humber Rover F.N. Allon Rudge AND HUDSON.

New Machines in Stock

<u>ઌૺઌૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡૡ</u>

MONARCH-J.A.P. - 8 h.p. COMB. DOUGLAS - 4 h p. COMB.
VE 'US - 2½ h.p. SOLO
CLYNO - 2½ h.p. SOLO
LEA FRANCIS - 3½ h.p. SOLO
ROVER - 5-6 h.p. COMB. NEW HUDSON - 2½ h.p. SOLO JAMES - - 3½ h p. SOLO

Used Machines

1919 Harley-Davids n, 7-7 h.p. COMB. 1920 Lea-Francis - 31 h.p. COMB. 1919 Rudge - - 31 h p. COMB. 1919 Diuglas - 4 h.p. SOLO 1918 Sunbeam - 3½ h.p. SOLO 1918 , - - 3½ h.p. COMB. 1920 Clyno - - 2½ h.p. SOLO 1919 B.S.A. - -4 h.p. COMB.

Powell & Hanmer, Miller & Bobjon LAMPS, Klaxon and other HORNS. 650 x 65 and 28 x 3, COVERS and TUBES. NEW RUBBER WADERS, 25/- per pair. DISCS. SIDECARS, etc.

89, Gt Portland Street London. MAYFAIR, 5399 MOTOR CYCLES FOR SALE.

New Hudson.

NEW HUDSON 24/h.p., 2-stroke, 2-speed, Thomson-Bennett max., just re-enamelled, plated, and thomoghly overhanded: £42,—Weekley, Atherly, Kingsley Av., Daventry, Northans. (X4274

1 9 3 3 h.h. New Hudson 3-speed countershaft, with coachbuilt sporting sidecar, in perfect condition, complete Lucus lighting set, tools, cto.; £120.—Manbon, 33, Lyswy St., Walsull, Staffs.

NEW HUDSON 2-Stoke, 2-speed, nearly new Dun-lops, mag., just completely overhanded, with lamics and born, ready to ide away; 240.—Blatchford, 42, Bishopsthorpe Rd., Sydenham, S.E.

19 144 New Hudson C.B. Combination, 4h.p., 3 speed, kick start, Binks, Bosch, speedometer, lamps, etc., good condition; nearest 265.—C.B., 20, Rathcoole Parade, Tottenham Lane, Hornsey. (2959

New Imperial.

CROW Bros, High St., Guildford, have contracted largely for 1920 New Imperials. [X7946 HONOR Oak Motor Mart.—Immediate delivery New Imporials.—129, Brockley Rise, S.E.23. [1401

O New Imperial-Jap 6-8h.p., brand new ridden; £125.—Box 1,288, c/o The Motor

 $19^{\mbox{\scriptsize 20}}$ Sh.p. New Imperial-Jap Combination, equipped, speedometer, etc.; 175 gns.-Balham Hill, S.W.

NEW IMPERIAL-J.A.P. 234h.p., 2-speed, lamps, accessories, splendid condition; £48.-36, Dayid Lane, Shadwell, E. [2811]

NEW IMPERIAL 8h.p. Combinations, unused W.D.; £145.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3.

NEW IMPERIAL 254h.p., 2-speed, T.T. lamps, fect: bargain, £48.—Silver Star Garage, Free Mews, Kinnerton St., Wilton Place, S.W.1.

WE Are Agents for the New Imperial. Place your order with us to secure good delivery—Apply, King and Harper, 6, Bridge St, Cambridge. [8518]

NEW IMPERIAL 1920 Sh.p. and Sidecar, used once: £165; not W.D.—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. [3033]

19 19 New Imperial Jap, 234b., light tourist, 2-speed, chutch, kick starter, fully equipped, as new; £70; after 5 o'clock.—50, Fairlawn Grove, Chiswick. [2320] after 5 o'clock.—50, Frinawa G.O., Collective NEW IMPERIAL-J.A.P. 2½h.p., 1916, absolutely perfect condition, and cash, for Triumpli, not before 1916.—O. Heasman, Chartwell, Westerham, Kent. [2305]

19 19 New Imperial-Jap. 25/h.p., 2 speeds, clutch, kick starter, mechanical condition and appearance as new, 270, or near offer.—G.W., 96, St. Michael's Rd., Aldersthot. [2815]

19 19 New Imperial-Jap, 2%h.p.; 2-speed, lamps, hor nsual accessories, small mileage, carefully driver best offer over £60.—Williams, c/o Lloyd's Bank Hose Ebbw Vale, Mon. [23] horn

19 17 Light Tourist New Imperial, 2 speeds, kick starter, hand clutch, lamps, appearance and order perfect, ride away: £55 lowest.—Trevista, Tbe Grove, Coulsdon, Surrey.

NEW IMPERIAL Sh.p. J.A.P. Combination, April, 1919, mileage 2,000, 3 lamps, Easting, horn, spares, perfect; lowest £140: seen by appointment—13, Oxioid St., Ragby, or Carlyle House, Carlyle Rd., 25203. South Ealing.

1919-1920 8b.p. New Imperial Combination, bought and of December, not done 300 miles, condition as new, electric lighting to sidecar and real lamp, Lucas head lamp, tools, etc., gauranteed in perfect order; £140.—A. Cox, 15, Holywell St., Uxford. [V4224

BRIGHTON.—1919 2%h.p. New Imperial Light for Tourist, 2-speed, chrich, kick start, new Jinne, Warton, and Jinne, a

New Ryder.

1 h.p. 2-stroke, 2-speed, Villiers New Ryder, good

2 condition; £35.—James Garages, Church Stretton.

Norton.

JACK HEALX, Cork, official Norton agent.—Rota-tional delivery. No premiums accepted. [6488] NORTON 3/4-p., 2-speed gear, chain-cam-belt, good cuty. [24,397]

ENUTY.

EXPRESS Norton, 1917, T.T., Philipson. lamps, horn, perfect; £78; Surrey.—Box 1,337, c/n
The Motor Cycle. [3084]

4 h.p. Norton, good condition throughout, very fast, splendid climber, lamps, horn, etc; £60.—Put-terill, Garage, Harpenden. [3102]

19 19 W.D. Big Four, delivered end of November, inleage under 1,000, excellent condition; seen any time, except week-ends.—Eames, Technical College, Loughborough.

SPORTING Norton and Sidecar, Sept., 1919, condi-tion periect, all accessories, 5-speed, K.S., and clutch: £180.—Vermon-Harrison, Quadrant Chambers, Lichfield St., Wolverhampton.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. E19

Norton.

NOTION.

NO. 9 Standard T.T. Norton, delivery any day now; advertiser will transfer order for £20; £15 already paid; reason for disposal, finance.—J. C. Ibison, Newland, Ulverston, Lanc. (2740)

LATE 1919 Big Four Norton, Lucas lamps, speedometer, knee-grips, Tan Sad, not done 600 miles; £125, or exchange late solo Triumph or combination, cash adjustment.—Young, 501, Commercial Road, Portsmouth.

NORTON Combination, believed 1914, new engine fitted this year, not run 50 miles, new Mark III. Druid front foiks, 3-epeed, band clutch model, Stewart speedometer; £90, or nearest offer.—153, Murray Rd., Rugby.

N.S.II.

N.S.U. 2-speed and Coachbuilt Sidecar; £35.—Inext to Green Man Hotel, Whetstone, Middle

2 1h.p. Twin N.S.U. Albion 2-speed countershaft 22 gear box complete, less carburetter; £20.—Newman, Moundsmere, Basingstoke. [2689]

N.U.T.

JACK HEALY, Cork, official N.U.T. agent.-Rotational delivery. No premiums accepted. [6489] tional delivery. No premiums accepted.

STANLEY RUSSELL, Newport, sole Isle of Wight agent for N.U.T. motor cycles; early delivery.

[5295]

19²⁰ N.U.T., aristocrat of motor cycles; list price; in stock.—Youngs, Heath Garage, Newmarket.
Thone: 214. (0119

Thone: 214.

SHROPSHIRE.—N.U.T. sole agents for the county; demonstration model in stock. Orders beoked in deliveries.—James Garages, deliveries.—James (2359)

19¹⁶ N.U.T.-J.A.P., 2³/₄h.p., c.h.v., 3-speed, clutch, K.S., accessories, back tyre new, condition as new, stored 18 months; after 5.—Driver, 17, Acton Langeston, N.W. [2688]

W. SPARROW, Ltd., Osborne Garage, Yeovil. sole agents for Somerset, including 10 miles radius of Ycovil, for N.U.T. motor cycles; early deliveries. Write for particulars. [8395]

N.U.T. 1920 Models.—To obtain earliest delivery book your order now with the city agents; demonstration machine in stock.—Elce and Co., 15-16, Bishopagate Av., Camomie S., E.O.S. (0066

N.U.T. 1920 Model 355h.p., Lucas dynamo lighting, delectric horn: 140 gns., complete.—Authorised Lon-don agents, Vivian Hardie and Lane, Ltd., 24, Wood-stock St. (off Oxford St.), Bond St., W.I. 'Phone: May-fair 6559 Book now for early delivery.

Intr cops. Sook now for early delivery.

AFE 1914 4-5a.b. Sporting N.U.T. Twin, picked lengine, T.T. bars, 3-speed Armstrong clutch, kick start, F.R.S. big head lamp, Lucas horn, long exhaust pipes, enamelling and platting unscratched, good tyres, been properly looked after and in perfect mechanical order, spare valves, springs, exhaust box and pipes, sennine machine for solo or sidecar, open to expert examination; price 278; no offers.—Stockes, 48, Highird Ar., Grimsby.

O.K. 25,h.p. Junior, 2-speed, brand new: £65; immediate delivery.—Birch's Garage, Wolverhampton.
O.K.J.A.P., 2 speeds, about 1917, fine order; £4,7
—Willetts, Rookery, Lanesfield, Ettingshall, Wol.

rerhampton. [2599 O.K. 1916 24/h.p., 4-stroke, 2-speed countershaft, splendid little machine; £42/10,—Welch, 135, Edgware Rd., W.2. [2141

Dogwale Rd., W.2.

G. K.—New 2-speed 2-strcke, Villiers, in stock—
Chandler, Reyre and Williams, Hitchin, Herts.
Hone: 165 Hitchin.

JONES' Garage, special agents for O.K.
Biocdway, Maswell Hill, N.10, and Woodside
Parade, North Finchley,
Do not day in ordering your O.K. Union, You will be disappointed if you do. We can give carliest deliveries—Ellict Bros. and Stevens.

(X3932

O.K. Junior 2-stroke, 1916, engine No. 1298, new tyres, lighting set, and horn; £33.—Caldecourt, 105, Mount Pleasant Lane, Chapton, E.5. [2565]

105, Monter Freisster Lare, Chapten, L.S. (2006)
Lion Twelford, O.K. 4-stroke engine, 1917, Albien Lion 2-speed; exchange with cash for good combination, or sell £37/10.—Morley, Markbeech, Edenhridge, Kent. [2210]

O. K. Junior, O.H. inlet, 2-speed, aluminium foot-boards, lamps, Klaxon, just overhauled from end to end regardless, new ball bearings and dogs in gear hox, new chain, etc., perfect; £40.—Gregory, Sell Ct., St. James's St., S.W.I.

Omega

OMEGA-J.A.P., 2-speed, and model de luxe, at 64 and 72 gns. respectively.—Stocked by Lloyd and Son, 29. Station St., Lewes. [1675

Son, 29, Station St., Lewes.

STANLEY RUSSELL, Newport, sole Isla of Wighagent for Omega-Jup motor cycles; early delivery.

[5296]

O MEGA-J.A.P., 1919 (August), 2-speed, sports model, disc wheels, rubber grips, mechanical hom, run 1,000 miles.—Maxted, Queen's Cellege, Cambridge.



The following new models are either in stock or available for quick delivery.

MOTOR CYCLES:

ARIEL ALLON BLACKBURNE CLYNO METRO-TYLER N.U.T. NEW IMPERIAL RUDGE ROVER SCOTT ZENITH

SIDECARS:

CANOELET MILLFORD HENDERSON SWAN

> **EXCHANGES** ARRANGED.

READY NOW

ROVER 6 h.p. W.D. COMBINATIONS.

J. A. P. Engine, Three Speeds, Clutch, Kick-starter, All Chain Drive.

Cash Price

Deferred payment terms: Deposit with order -12 monthly instalments of £9 7s. 6d.

SECOND-HAND MACHINES.

1919 JAMES 2½ h.p., two-stroke, two speeds, as new, 260 1919 QUADRANT 4½ h.p. and sidecar, three speeds, clutch, and kick-starter, £115 1919 RUDGE MULTI 5-6 h.p. and sidecar,

1919 TRIUMPH 4 h.p., three-speed countershaft gear, and Triumph de Luxe sidecar, lamps, and horn, as new, £145 1915 G.W.K. Light Car, 4-seater, dynamo

lighting, hood, screen, spare horn, speedometer, etc., £249 wheel,

Eastern uarage Co.

Official Repairers to R.A.C., A.C.U., A.A.&M.U. 418, ROMFORD ROAD.

FOREST GATE, E.7.

Telephone: 490 East Ham.

Telegranis: "Egaraco, London."

MOTOR CYCLES FOR SALE,

Omega.

LATE 1919 Omego-Jap, 22th.p., 2-speed, clutch, start, with following accessories, kunps, horn, bars, undershield, valve guard, W.S.R. jet, poun, and sparses; £70.—Rickett, Brockham Green, Betchw (D)

Overstone.

1019 July 2½hr. 2-speed Overstone-Villers, decarbonised, clutch, kick starter, brand Millers head hamp, electric rear light, yump, horn, unpunctured Danlops, as new; £68, or nofer.—20, Alexandra Drive, Serton Park, Liverp

P. and M.

P. and M., 1915, coach sidecar; £85.—Col Motories, Union St. South, Halifax.

CYRIL WILLIAMS for early delivery of P. M.'s.—Chapel Ash Depct, Wolverhampton. [X P.M. 3½h.p., 2-speed, wants mag.; £20.—38, f Grove, Layender Hill, Battersea, London.

1912 P. and M., 2-speed, Bosch mag., good tion; £28.—Bull, Triumph Agent, North

LATE 1919 P. and M. and Sidecar, condition pelamps, accessories; £110.-M., Leigh Place, Reigate. P. and M., Type S, 2 speeds, with sidecar. R.A.F. model; £64.-Hole, 129, Park

Carshalton. P. and M. Late Model, with lamps, overhauled cellent condition; £65, or offer.—193, Broom Rd., Clapham Common.

19²⁰ P. and M. Combination, never been in offers.—A.B., 39, Westbourne Terraca Yrhone: 3418 Paddington.

P. and M., late model, mechanically sound, goo pearance; £75 cash; any time by appointm 39a, St. George's Rd., N.W.6.

P. and M. 3½h.p., 1920 colonrs, late m mechanically perfect; £85, or near offer Shaltesbury Rd., Highgate, N.

P. and M. 2-speed Combination, engine and gean fect; 456.—Silver Star Garage, Frederic 1 Kinnerton St., Wilton Place, S.W.1.

19 10 P. and M. 3½h.p., 2-speed, F.E., Bose and E., serviceable and reliable bus; £28, -Walder, Chelwood, Uckfield, Sussex.

P. and M. 3½h.p. Combination, kick starter, Can Minor sporting sidecar; any trial; £88. The mier Motor Ce., Aston Rd., Birmingham.

P. and M., new October, 1919, and coachbuilt ear, Lucas lamps, Easting wind screen, p condition; £120.-9, Stoneleigh Rd., Kenilworth. (X P. and M. Combination, 2-speed, kick starter, did running order, lamps, generator, horn, symeter, etc.; £60, or near offer.—Bracher, 8, Cl ways Crescent, Horfield, Bristol.

mays v.trascur, Horneld, Bristol.

P. M., 1912, 8-speed, overhauled by makers, p. mechanically and appearance, new gear, brief, and tyres, special heavies, fully equipped, shields, footboards, several spares, unused 5 yourer abroad; wicker sidecar, £4,-Call or (stamp), 5, Crompton Terrace, Station Rd., Wa Kent.

1919 Late P. and M., scarcely ridden, unscral large Lucas head light, etc., LW.K. rear set, Stewart £6/6 trip speedometer, 401- Klaxon alternate footboard and footrest, spare tube, plugs valve spring, alternate wheel sprocket ior solo or is work; £100; owner buying car.—Home, Colley M work; £ Reigate.

D and M. 3½h.p. Combination, 2-speed, clutch, perfect order, done 2,000 miles (no tromble) in Jowner getting big twin for family; 3 H.A.H. el mps, accumulators, etc., complete, Mills under sidecar, waterproof cover, new tyres front and rendy to ride away; 375; best offer accepted.—Hua Temple Sheen Rd., East Sheen, by appointment, of Phone London Well 820.0.

P. and S.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lor. E.C.4.-21/2h.p. P. and S., new 1920; £67; terms arranged.

Peugeot.

PEUGEOT 6h.p., free eugine, fast machine; away; £45.-54, Osman Rd., Tottenham, N

DEUGEOT 7-9h.p., powerful, running order, B Senspray, Grado pulley; offers.—Moore and N Benacre St., Birmingham.

Precision.

PRECISION Enquiries Invited by J. Blake and the leading motor cycle experts, Liverpool Manchester.

PRECISION 6h.p. 1914 Combination, 3-speed on shart, speedometer, all accessories; £96.—Hu 341, Pershore Rd., Selly Park, Birmingham.

PRECISION 1914 Combination, 4b.p., 2 sty clutch, splendid condition, plenty of power; a hargain.—Cox, 5, Southbridge Row, Southbridge South Croyden.

Premier.

EMIER 254p., free engine, perfect condition; 229. 16, Bolmont Rd., Maidenhead. [X EMIER, 31/h.p., new Grado cana sidecar, condition; £55.-54, Bunyan Road, Waltham

(2196) EMIER, 21/4h.p., Armstrong hub, gears complete; 135.-D. Whittingham, 17, New Road, Chippenhou, 5. [2145]

5. [2145]
D. VARTY, Thundersley, Essex.—Premier 1914
215h.p. lightweight, in most exceptional condi-

EMIER 2½h.p., 1913-1914, condition and appearance new, and all accessories; £33.—T. Blackman, Cottage, Kingswood, Reigate, Surrey. [2563

Cottage, Kingswood, Reigare, Sairty, EMIER (late 1914, 2\frac{1}{2}h., Bosch mag., 3-speed, foot clutch, just recently overhanded, good tyres, s, etc.; £40.—2, Acremia Place, Sherborne, 10r-[2109]

15 34h.p. Premier and Coachbuilt Sidecar, 3-speed, chirch, lamps, horn, etc., first-class condition; do, £76; will separate.—H. Woods, Normandy, near Hord. EMIER 2½h.p., late 1914, 3-speed, lamps, etc., tootbeards, spare tube, belt, and good climber, 16-15, 258, or offers.—Hett, Hilcote, near Africton.

arr 5905. [10077] EMHER Coachbuilt Combination, 3½h.p., 3 speeds, clutch, long exhaust, mechanically sound, spares, 1 appearance, reliable; £68.—13, Baltern (fice, W.4.)

dick, W.4. [2318]
EMIFR 315h.p., 1914, 3-speed, free, cintch model, pedul stnt, P. and H. lamps, pertect order ghout; 243/10_Mr. Canton, Yelle Yiew, Gaston, Sturminster Newton, Dorset. [2243]
EMIFR 314.p., 1914, Mills-Fulled secultion; 254, p. 1914, accessories, first-class condition; 256–138, Brook Cottage, Nazeing, Essex. [2287]

EMIER, lete 1913 314h.p. 3-speed, club, kick starter, roomy C.B. sideear, lumps, born, Watford, axceler, ucchain sideear, lumps, born, Watford, werett, Brackenhurst, Sunnughill, Ascot. [2535] CMIER 3/h.p., 1914, in super time, mechanically perfect, starts first kick, original enamel and g. Binks, Bosch watertight, 5-speeds, clutch, and H. lamp set, Lucas horn, Watsonian built to suit; lot. £65.—Gadsdon, Crawley,

. 4h.p. Twin, spring frame, fully equipped, thoroughly overhauled last week, perfect; £50.—H. for, 2, Havnen Rd., Knight's Hill, West Nor-S.E.

Quadrant.

QUAUTHIL.

QUENTY: S. 9. Shoe Lane, Fleet St., London, E.C.4, supply new Quadrants from stock, 1920 s., for immediate delivery; solos £95, combinating for the complex states of 43020 ADRANT.—New 1920 models in stock: 4½h,p. speed, chain drive, solo £95, combination 10.—Elce and Co., 15-16, Bishopsgate Av., Camolt, E.C.3.

Radco.

NOR Oak Motor Mart.—Immediate delivery Radco. -129, Breckley Rise, S.E.23. [1402 NLEY RUSSELL, Newport, sole Isle of Wight gent for Radeo motor cycles; delivery commenced, 18298 D. VARTY, Thundersley, Essex, agent for ladeo motor cycles, all models; early deliveries; [1788]

Radeo motor cycles, an models, Lands [1788] ges.

ES' Garage, special agents for Radeo, BroadTy, Muswell Hill, N.10, and Woodside Parade,
Ty, Muswell Hill, W.10, and Woodside Parade,
Ty, W.10, And Woodside Parade,
T

Reading Standard.

GAIN.—1918 10h.p. Reading-Standard combina-ou, 5-speed, kick start, all in excellent condition; sale £100.—T. Carter, High St., Wendover. [2148] JING-STANDARD, the world's master motor role; deliveries this month; book now.—Sole Northumberland, Melville and Co., Campbell St., ette Rd., Newcastle-on-Tyne.

tte Rd., Newcastle-on-Tyne. [9437]
DING-STANDARD Combination. 1917, 10-12
p. 2-spec in perfect order, tyres as new, engine art, sidecar by Rennoc, new, with hood and wind price £125.—Reply, Box 1,221, c/o The Motor [2101]

6-16 Reading-Standard 10h.p., 2-speed, clutch, kick starter, all chain, 28×3 wheels, Bosch gibt mag, Schibler, good tyres and appearance, condition, lamps, mechanical horn, bargain, oo diers.—Majestic, 195-7, Stonehouse St., Clapommon, Lendon. [2449]

Regent.

R D. VAR.

ne Regent 5.7h.
els es; exchanges.

atcard for VARTY, Thoudersley, Essex, agent for degent 5-7h.p. flat twin; book now for early [1789]) postcard for particulars of Regent 5.7h.p. flat in to us. We can give earliest deliveries of these es.—Elliott Bros. and Stevens, Cambuslang. shire agents. Cambuslang.

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You are probably getting your machine ready for EASTER. If you are, these clearance lines will interest you. Remember, Service Acressories mean you not only get GOOD VALUE, but GOOD SERVICE in every sense.

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MOTOR CYCLES FOR SALE.

Revere.

REVERE, 1920, single and 2-speed models; £55 and £65; immediate delivery.—Birch's Garage, Wolverhampton. [X 4177]

Rex.

2 h.p. Rex, fixed pulley, belt firite, with mag.; £24, burgam.—Seller, 4, Perth Rd., Plaistow. [2118]
14 6.p. Rex Combination, 2-speed, splendid condition; £68.—7, Therabury Rd., Claphan, S.W.2.

A SNIP.—Rex Combination, 5-6h.p., 2-speed, engine, just overhauled; £55.—Garage, 2a, Rest., Hull.

R EX 3½h.p., Bosch, Amac, running order, sma pairs needed; £18, or netrest.—22, Scheffeld London, N.19.

REN. 3/4h.p., mag., B. and B., recently overhauled, good order; £30, or near.—Robinson, Heath,

good order; £30, or near.—Robinson, Heath, Tiputee, Essex.

REX 4h.p. 2-specd, free, Bosch, B. and B., ready to ride; letters only.—J. Nash, 3, Married Quarters, Police Sth., S.E.I.

REX 3(½-bp., mag., fixed gear, good tyree, in splendering, Mill Lane, Brixton Hill.

REX Combination, 6h.p., 2-speed, hande stark, smart and powerful; 265, or exchange lower power and cash.—57, Kenhury St., Coldbarbow Land

1915 8h.p. Rex Combination, complete with 3 elec-tric lamps, horn, locker, etc., recently over-hauled, in splend: 2 condition.—B. S. Marshall, Ltd., 17a, Hanover Sq., W.1.

1 D 2 Sh.p. Rex. with coachbuilt sidecar, 2-speeca and trial here; £60 cash; buying runabout.—Forste Winsley, Bradfort-oo-Ayon. 2-speed.

w mser, Brautont-9-Ayon.

5 - Sh.p. Orenhead Valved Rex, 2 speeds, H. starter,
sight drip lubujcation, kneegrps, lighting set;
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Rd., Birchhelds, Birumgham.

RG, Birchineus, Birdingadan.

FOR Earliest Delivery of the new Rex Model 77
single-cyl. 4h.p. combination or Model 66 twia
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19 20 68bp. twin Rex 3-speed coachbuilt combina-tion, London-Exeter gold medal machine, spare wheel and tyre, screen, side cultains, born.—From solo Rex distributers, B. S. Marshall, Ltd., 17a, Hanover (3., W.1. "Phone: Maylair 5906.

Sq., W.I. "Phone: Naylair 5906. [O107]
19 4 6 hp. Rex Twis, U.H. mag., Senspray carburetter, 650×66 extra heavy Dunloys, free engine,
lamps, sidecar fittings, needs slight adjustment to coutrois, engine equals new; gennioe bargain, £32—75.
Stadey Terrace, Costlendelds, Shræwbury. [2214]

Rochet.

31h.p. Rochet and side ar, Besch mag., running order; £22/10.-176, South Ealing Rd., W.5. [2953

Pover.

19 19 31/h.p. 3-speed Rover and sidecar.—White, 42, London Rd., Camberley. [X4192

R OVER, new 3½h.p., 3-speed countershaft combina-tion in stock,—Moss, Wem. [X4352 ROVER 31/h.p. T.T., fast, and in excellent order; £55.—Gadsdon, Crawley, Sussex. [2883]

R OVER 1914 31/h.p., 3-speed, lamps, good condition;

R. D. VARTY, Thundersley, Essex, agent for Rovers; T.T. models in this month; book now; exchanges. [1790]

exchanges. [1790]
19 O Rover Combination, 5h.p. twin; list price in stock.—Youngs, Heath Garage, Newmarker, Phone: 214.

JONES Garage, special agents for Rovers, Broadway, Muswell Hill, N.10, and Woodside Parade, North Finchley.

19 4 Rover 31 hp., in perfect order, lamp, accessories.—Whilams, 33, Thrale Rd, Streaugher, 1972.

ROVER 6h.p. Combinations, unused W.D. £145-Clifford Wilson Mig. Co., 70, Royal Hespital Rd., Chelsea, S.W.3.

ROVER 1914 T.T., speedometer, lamps, new belt; 445, no offers; owner buying combination—336, Gray's Inn Rd., W.C.

ROVER Combination, 1915, 3 speeds, clutch, lamps, horn, good tyres, mechanically perfect; 75 gns.—48, Derwentwater Rd., Acton. R OVER 31/2h.p., 1914, 3-speed, clutch, Bosch mag., recently overhauled, thorough repair, very little used; £85.—Bailey, Thame, Oxon.

ROVER 1914 31/h.p., 3-speed, engine tuned for speed, long exhaust, Lucas head light; £80.—Ince, 59, London Rd., Horsham.

nuce, 59, London Ru., Horsnam. [2794]

ROYER, 1919. Sepsed, lamps, Klaxon, speedometry, Condition like new, scarcely used; 2110.—Edwards. R. Exhibition Rd., South Kensington.

ROYER 3½h., Combination, 1914, 3-speed, Cancelst sidecar, spiendid condition, new Miller lamp, tools: 265.—Condy, Hill Lee, Russell Hill Rd., Pnrley. [2832]

11b.p. Rover Combination, debivered late October, about 500 miles, as new, complete with lamps, horn, etc.; £135.—Linuell, Whitegate House, Northwich.

ROVER 31/h.p. Clutch Model, Bosch, B. and B., ad-justable pulley, footboards, good order: £38; Saturdays or appointment.—5, Percy Rd., South wood, S.E.

ROVER 1918 T.T. Model, Philipson pulley, Lucas lamps, horn, speedometer, heartiful condition, and exceptionally fast; #85.—Edwards, 7, Exhibition Rd. South Kensington.

10 16 Rover 51/2h.p., 5-speed, clutch, horn, new lighting set, new belt, Bosch mag, excellent condition, ready to ride away; £75.—Evans, 27, Winterton Bd., Scunthorpe, Lincs. [2271]

R OVER New 5-6h.p. Combination and 3½h.p. T.T. Solo, Philipson pulley; in stock ready for delivery at manufacturers' list price.—Elice and Co., 15-16, Bishopsgate Av., Canomile St., E.C.3. [0069

ROVER 3h.p., excellent running order, Bosch, and B., new belt, good tyres, £27/10; also wick sideca, complete, good condition, and controtable 47/5—Huggett, Stiood Faim, Bloodbridge Heath

FO.C.H. have a 1919 3½h.p. Rover, 3-speed, countershaft, small mileage, fully equipped.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3572. Hours 9-7, including Saturdays.

Hangsbeau Abduling Saturdays.

1919 Rover Combination, only run 600 miles, J.A. 1919 Rover Combination, only run 600 miles, J.A. 1919 Rover Combination, only run 600 miles, J.A. 1919 Rover Combination of the combination of

Royal Ruby.

HONOR Ook Motor Mart.—Immediate delivery Royal Ruby.—129, Brockley Rise, S.E.23. — [1405

JACK HEALY, Cork, official Royal Ruby agent.— Retational delivery. No premiums accepted. [6490 19 19 Royal Ruby 2-stroke, lamps and horn; £45; after 6.-130, Drayton Park, Highbury, N.5.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—6h.p. Royal Ruby combination, 1918-19; £165.

ROYAL RUBY, new 1920, 21/h.p., 2-stroke; 48 gns. plus 5%.—Frank Whitworth, 139, New St., Birmingham. [X4328]

ROYAL Ruhy, May, 1919, 25th.p. engine, just been overhauled by Villiers, and as new: £45.—Glossop, Hipperholme, Halifax. [2308

JONES Garage, special agents for Royal Rub Broadway, Muswell Hill, N.10, and Woods Parade, North Finchley.

ROYAL RUBY 2½h.p. 2-stroke, splendid condition; £32, or exchange with cash for latest Levis.—45a, Duntshill Rd., Earlsfield, S.W.18. [2700

1919 8b.p. Royal Ruby Combination, bought end
October, mileage 200; owner ordered abroad;
£160, or offer.—Box 1,283, c/o The Motor Cycle. [2529 19 19 Royal Ruby 8.p. and sidecar complete, and in new condition; price 148 gas, or near offer.—Motors, Hampstead, 78, High St., Hampstead, London, N.W.5.

MOULDERS' Strike.—You will not get delivery of your machine. Why not buy my late 1919 July 8h.p. Royal Ruby and sidecar, absolutely complete, as new; hargnio, £160.—AJ.W.B., 2, Princes Parade, Church Ead, Finchley.

Ruffells.

19 (late October) Ruffells, 2-stroke, 2-sneed, 254 h.p., lamps, 2 horas, spare outer cover, Tan Sad; best offer over £62/10 secures immediate delivery. Who will help a disabled officer?—Burt, Harborne, Birmingham. (D)

Rudge.

I.O.M. Rudge Multi; £70, or exchange.-G., Park View, Weybridge.

CROW Bros., High St., Guildford, Rudge agents, supply at list prices. [X7948 19¹²⁻¹⁹¹³ 3½h.p. Rudge Multi and cane sidecar: £45.—Boydell, Euxton, Chorley. [2495

19 20 Rudge 7-9h.p. Twin, new, unregistered; £130.

HONOR Oak Motor Mart.—Immediate delivery Rudge Multi.—129, Brockley Rise, S.E.23, [1403

19¹⁶ Rudge Multi 3½h.p., jo perfect condition; £58/10.—14s, Balham Hill, S.W. [2366

19 20 Rudge 7-9h.p. Twi Multi; list price; in stock.
-Youngs, Heath Garage, Newmarket, 'Phone:
[0115]

19 14 31/h.p. Rudge Combination, S.A. 3-speed, good order; £75. -Fisher, 52, Condor Grove, Blac



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MOTOR CYCLES FOR SALE. Rudge.

Rudge.

3 1h.p. Rudge Multi, 1915, clutch, lamps, hora, to Oxford.

RUDGE 3½h.p., hand clutch, lamps, etc., new condition; bargain, £45.—Domenys Garage, Jewry 8
Winchester.

JONES' Garage, special agents for Rudge, I way, Mnswell Hill, N.10, and Woodside P.

31h.p. Rudge, clutch model, thoroughly ov. 2 hauled, new condition; £50.—J. Quent Brombam, Bedford.

R UDGE Multi 1917 3½h.p. Coachbuilt Combination hand clutch, lamps, spleadid order; £93.—36.
Thomas Rd., Hackney. RUDGE Multi, 1914, handle-bar clutch; splenc condition, fully equipped; £55.—Simpson, 1 Belvedere Rd., Lambeth [26]

RUDGE Multi 1919 31/2h.p. Roadster, in very a order; #95.-Elce and Co., 15-16, Bishopse, Av., Camomilo St., E.C.3.

19 Rudge Multi, 3½h.p., late Oct., done 500 mi £100, no offers; after 4 p.m.—Salsbury, Ri wood, Sydney Rd., Guildford.

19 20 7-9h.p. Rudge Multi, mileage 250, lamps, he etc.; offers over £140; Cambridge district.—I,284, c/o The Motor Cycle.

19¹⁶ 3½h.p. Rudge Multi, semi T.T., fast, lam speedometer, knee grips, spares, tools; barga—Stone, West Wycombe, Bucks.

P UDGE 31/h.p., powerful and sporty; £45, or change lower power and cash.—57, Kenbury Coldharbour Lane, Camberwell.

RUDGE 1914 5-6h.p., multi gear, in splendid a dition, lamps and hore: £70.—Butterworth's (age, 64, Mill Lane, Brixton Hill.

R UDGE 31/2h.p. and Sidecar, handle-bar clutch, justable pulley, lamps, Klaxon; bargain, 20 89, French St., Inbury, Middlesex.

RUDGE Multi, 1914 3½h.p., with 1919 cylin fitted, in good condition; 50 gns; call after p.m.—13, King Sq., Goswell Rd., E.C.1.

19 13 Rudge Multi, 3½h.p., perfect condition, cobuilt sidecar, new lamps, complete; at Bradford, 2b, Boundaries Rd., Balham.

31h.p. Rudge Multi, 1919, all accessories, v Montgomery coachbuilt sidecar, in per order; £110.-G., 42, St. Aldate St., Gloucester. [2 RUDGE 31/h.p., wicker sidecar, Grado puller, et ric light, first-rate order; 50 gns.; grad payments; closed Sundays.—Bunting's Motor Excha Wealdstone.

NEW 3½h.p. I.O.M. Rudge Multi, mileage special racing cam fitted lamps and horn; going in for higher power.—Sidebottom, R.A.F. Park, Edgbaston.

19 18 3½h.p. Rudge Multi, recently delivered, mand and accessories; £100; owner purchased car. Horne, Colley Manor, Reigate.

1919 5-6b.p. Rudge Multi Combination, Rudge sidecar, condition as new, aluminium discerround, all accessories; £145.—L. Robottom, Park Ho Balsall Heath Rd., Birmingham.

19¹⁴ 3½h.p. Rudge Multi Combination, C.B. car, lamps, horn, etc., just been overhandition; nearest to £80 accepted.—A. Blasummer Lane, Royston, Barnsley.

PUDGE Multi Combination, hand clutch, kick s Senspray corburetter, Ruthardt mag., Dunlon t perfect: £57/10.—Silver Star Garage, Frederic M Kinnerton St., Wilton Place, S.W.1.

R UDGE 34/h.p., C.A.V., B. and B., tyres and practically new, grand condition and power accessories; £44; bargain; seen by appointmen Taylor, 24, Park Grove, Barnsley.

19 19 31/h.p. Rudge Multi and sidecar, not done miles, Bamco No. 2 sidecar, with Easting v science in owner bought more powerful combination & or offers.—Apply, Allam, Jesus College, Cambridge

F.O.C.H. have a 31/h.p. Rudge Multi, brand I list price.—Fair Offer Car House, 5. Heath Hampstead (near Hampstead Tube Station). "Phe Hampstead 3752. Hours 9-7, including Saturdays

19 (November) 3½h.p. I.O.M. T.T. Rudge M hand controlled clutch, Watford speedom Klaxon, new belt, tyres unpunctured, engine per any trial by appointment; £95.—H. C. Juta, T. College, Oxford.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Londo 315hp. 1.O.M. Rudge, 1919, £110; 34 Rudge Multi and sidecar, 1916, offers; 5-6hp. Ra Multi and sidecar, £87/10; 3½hp. Rudge, £ 3½hp. Rudge, £45.

F.O.C.H. have a 1914 Rudge racer, fully equip ing figure—Pair Olfer Call House, 5. Station. Pub-lan figure—Station of the Call Call Call Station. Pub-lan pstead 3752. Hours 9-7, lockuling Saturday.

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PUGE 3½h.p., clutch model, not had much use bitoroughly overhauled, new piston, rings, and igeon pin, rebushed, sound, as men whiteler ere tubes, brand new lighting set, spare Whiteler it, £66, lowest.—Williams, drager, Ferndown, Dort

9 19 (late November) 5 5h.p. Rudge Multi and tter than new, unscratched, not done 500, tyres new, expert examination invited, reason for dis-sal 2 machines ordered both delivered, complete the Easting wind serven; £140 lowest; 'photo-garden's lectain, High St., Utoxeter, Staffs. [274]

Scott

COTT, 1915-16, good condition; £45, or offer; must sell.-23, thex Rd., Willesden. [2442]

ATE all-Scott Combination, every accessory, fault-less; 90 gns.-12, St. Michael's Terrace, Wood [2325]

[2325]
COTT T.T. 1919, mileage 197, £20 worth of acces' sories; price £125.—Ratcliffe, 200, Gt. Portland, W.

9 15 35/h.p. Scott, 2-speed, K.S., lamp set, perfect; £60,-26, Ailsa Av., St. Margarets, Twicken, Middlesex. [2719

m, Middlesex. [2719]
COTT 334h.p., 2-speed, water-cooled, kick start, fine condition; £55,-57, Kenbury St., Coldharbourne, Camberwell. [2790]

ne, Camberwell. [2790]
COTT. 1919, fast sports model, T.T. bars, disc
wheels, Lucus accessories, condition indistinguisht from new.—Panker's, Bradshawgute, Bolton. [X4252]

9 20 Scott, mechanically perfect and indistinguish-able from new, large Lucas lamp set, tyre-nunctured; £128, or near offer.—37, Regent St., [2742]

COTT. 1919 (Sept.), perfect condition, lamps, born, all accessories, discs enamelled to match machine; t offer over £115.—Millburn House, Canaan Lane, mingside, Ediuburgh. [2232]

1) 11-12 Scott, in perfect condition, will exchange for fixed or clutch model Triumph, in running er; deposit wanted with same.—Girling Villa, Gir; St., Sudbury, Suffolk. [2465

OCT Concelet Combination, mileage 6,722. Jones the speechonefer, Binki, Dalloys, magneto-evertor, insured A.C.U. until August, overhanded and patts (receipts shown); £90, offers; after 5 p.m.-ptern, 121, Northbrook Bu, Jifrod, 12191

Singer.

NGER 31/h.p., T.T., perfect condition, nearly new tyres and belt; £47.-4, Ramsgate, Louth. [2856

NGER 31/2h.p., 1914, 3-speed, very little used, gears just temporal from makers; £60.—Oliver and ris, Abersychan, Mon. [1172 NGER 2%h.p., clutch, all accessories, just rebushed, splendid condition: £42, or offer.—14, Tottenhall Palmer's Green, London. [2184]

NGER Lightweight as New, Bosch, good tyres, electric lamps, horn, etc.; £29 lowest.—Sheldon, ley Rocks, Stoke-on-Trent.

14 Singer 3½h.p., clutch, free engine, Bosch mag., new tyre, belt, sound, perfect; offers.—Percy-hing, Norton, Malton, Yorks. [2247]

VGER 21th.p., clutch model, excellent condition, lamps, horn, mirror, tools; price £40.—Gardner, Stoney Stanton Rd., Coventry. [X4308]

VGER 3½h.p., 1913-14, recently overhauled, in splendid running order: £42/10, cheap; offers; sell.—F. J. Rice, New Buildings, Sandtord, near tion, Devon.

TE 1914 414h.p. Singer Combination, 2-speed, clutch, B.B., Bosch, tree as new, stored during ride away, or trial; plating good; 275, or offer, ply Saturdays, 2 to 5 p.m., or write appointment, earner, Staturdays, 2 to 5 y.m., or write appointment, care, Staturdays, 2 to 5 p.m., or write appointment, plating the statut of t

Sparkbrook.

MRKBROOK, 2-speed, lamps, Klaxon, mirror; £58.
--Down, 6, St. Clement's Gardens, Cambridge.

—Down, 6, St. Clement's Guidelle, [X4175] (REFROOK, 1920, brand new; immediate de-livery; 2-speed; £65.—Birch's Garage, Wolverhamp-[X4176]

16-17 Sparkbrook 2-stroke, 2-speed, complete with lamp set, 100 m.p.g., fast machine; near-46.—Lionel Cook, Red House, Amesbury, Wilts. [2613] RKBROOK Combinatiou, 6-8b.p. J.A.P. engine, Easting wind screea, speedometer, complete with ones and tools, excellent condition, ready to drive price £120.—W. J. Burkus, 67, Caversham Rd., ag. Tel., 1011. T.9.: Barkus, Reading. [293]

V.T.S., 2-stroke, 2-speed, perfect in all ways, amps, born, etc.; £50.—Brown, Maldon Hall, a, Essex. [2440]

7 Sun Villiers, 2-speed, excellent condition throughout mileage 2,000; £47.—Jackson, lorne, Oundle. [2477]

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26 × 21 Passenger Heavy, rubber stndded 45/- 55/-

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29 < 24 Rubber studded (oversize, for 28 × 2½ ins) 42/-; 28 × 2½ Diamond studded, 45/-

 $16 \times 2\frac{1}{4}$ Heavy model, 50/-; $26 \times 2\frac{1}{4} \times 2\frac{1}{4}$ Heavy model, 59/-; $26 \times 2\frac{1}{4}$ Medium, 42/6

28×3 Extra heavy 3-ribbed, 72/6; 650×65 WOOD MILNE (slightly soiled)-26×2‡ Keygrip extra heavy ... 48/- 60/- 650×65×75 Keygrip beavy ... 49/6 52/-26×2‡ Combination ... 67/3 84/- 26×2‡ Combination ... 77/- 96/- 26×2‡ Combination ... 72/6 90/6

26×21 Rubber non-skid. 68/6: 700×80 Heavy rnbber non-skid 95 /- (to fit 650 × 65 rims)

GOODRICH-

26×21 Safety tread 57/6 NEW AND FULLY GUARANTEED. 8/6 II/-.....

BELTS. All makes in stock Best English make % in. section, 6ft. lengths,

1/2 per foot

RETREADING

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Extra heavy, 17/6; Heavy, 15/2; Medium, 12/6

12.6
All casing repairs are charged extra according to the description of repairs.
We have a large motor cycle stock, and shall be pleased to quote on receipt of a postcard.



264 Vauxhall BridgeRoad Victoria.S.W.1.

MOTOR CYCLES FOR SALE.

SUBAVILLIERS 2 http. 2 speed Countershaft, lamps, bern, speedometer, new Dunlon, recently overhanded by makers; E45-209, Broadway, West Hendon, N.W. 'Phone; Kingsbury 162.

23h.p. Sun-Villars 2-stroke, 1915, just thoroughly overhanded, remagnetised, rebushed throughout, new tyres, mileage less 100 since repairs; 36 gos; Horsham.—Box 1,333, c/o The Motor Cyrle. (509)

GUN-VILLERS, 1915, countershaft 2-speed, ain-minium footboards, front tyre excellent, back un-soiled, 2 lamp sets, mechanical horn and speedometer; £45.—5, Eglon Mews, Berkley Rd., Primrost Hill flower Chalk Farm Tuck.

SUNBEAM 1918 31 dt.p., with Sunbeam sidecar; £145.—Halifax Motor Exchange, Union St. South, Halifax. [2425]

E 149.—Immis asses. [2425]

BARGAIN, 1917 31;h.p. Sunbeam and Milliors sidepoles, Valence, occ., guaranteed sound; £123.—[2728]

SUNBEAM 1918 31;h.p., black and gold, all-chain,
Sunbeam sideort, haips, horn, new condition;
any trial; £145.—30, Crystal Palace Park Rd., Sydenham.

SUNBEAM 1916 3' (h.p., lamps, horn, speedometer, tools, guaranteed in perfect condition throughout, owner going abroad; £120.—Gill, Melton Mowbray.

WAUCHOPE'S, 9, Shoe Lanc, Fleet St., London.—
313h.p. Sunbeam, 1917, £115; 353h.p. Sunbeam and sidecar, 1914, £127/10; 352h.p. Sunbeam and sidecar, 2175.

L ATE 1919 3 d.p., Sanbeam, black and gold sporting model, Cower, Kluxon, quite new, mileage only 180, including delivery from works in October; £140, No offers.—Write, M., 9, Wood Street, Swindon. [2170]

19 20 3 j.hp. Sunbeam, delivery promised second week in March, owner unable to accept delivery owing to financial difficulty; best offer over list price secures; Sussex.—Box1,339, c/o The Motor Cycle.

S UNBEAM, black and gold, bought new February, 1919, large new P. and H. lanp sets, koee grips, etc., low mileage, condition and appearance perfect burgain, £125, or near.—Reynolds, Waterbeach, Cambs.

19 17 254b.p. Sunbeam, chain-driven, Bosch mag, Senspray carburetter, perfect condition, £70, all accessories; also Comby cacbbullt sidecar, very light, £12/12; both £80.—Gratton, Uplands Cottage, Dymonthich, Kenl

3 thp. Snubsom, late 1916, appearance as new, only no 2 years, engine recently overhanded at makers, new tubes and covers, (Lucas limps, hora, spares, and kit of tools; best offer over £100.—Roberts, 19, Bosseleg Road, Newport, Mon. [223]

2 1h.p. Sunbeam Military Model, new June, 1919, 2 dive green finish, complete with Tan-Sad, lamps, 2 generators, Klaxon, tools, nunerous spares, everything guaranteed periect condition; owner bought car: no dors; £118.-2, Westminster Villas, Hiracombe. [2206

MANISONE Combination, 1913 Susbeam should be a sporting cancelet hack and gold state of the class of the combination of the com

Tate 1919 8b.p. Sunbaan Combination, Henderson, addext, windscreen, complete with all cheereds, Luc addext, windscreen, complete with all cheereds, Luc addext, windscreen, cheered by the specific perfect condition; price £200.—107, Laugheroe Rd, Worcester.

1918 8h.p. Sanbeam Combination, 3-speed gear box, kick start, and all-chain drive, detachable wheels, and complete spare wheel, sidear is fitted with hood, screen, and will seat 2 or more persons, in perfect order; 165 pas, or nearest offer; seen any time.—Wood, 56, New End Su, Hampstend. (Few minutes from Tube Station.)

Thomas.

3h.p. Thomas (American), very low frame, nearly 4 new tyres, Dixie mag., automatic carburetter, freetboards, alumnoium rims, ready to ride away; first £24 secujes.—21, Middleton Rd., Hunslet, Leeds. [2263

Thor.

19¹⁶ Thor C.B. Combination, 7-9h.p., 2-speed, kick start, foolproof mears, enamelled blue, spleodid condition; hest offer.—74, Onslow Rd., Sheffield. [X4315]

Torpedo.

TORPEDO, 214h. Precision engine, m.o. valves, Bosch mag., B. and B. carburetter, single gear, complete, lamps, hora.—J. T. Cleaver, Stoborough, Wareham.

19 17 4h.p. Triumiph. 5-speed, nice order; £80.-1, Bellingham Tetrace, Cuttord.

TRIUMPH, clutch model, all on; £45,10.-19, Wilcox Rd., South Lambeth, S.W.8.

3½ h.p. Triumph, free engine: £44.-R., 37, Mel-rose Gardens, Hammersmith, W.6.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B23

Triumph.

3-SPEED Triumph, coachbuilt sidecar; 285.—Mandes' Motor Mart, 100, Paris St., Exeter.. [2261 3 h.p. Triumph, Mahon clutch, running order; £27/10.-176, South Ealing Rd., W.5. [2954] TRIUMPH, 1913, F.E., good condition, Dunlops, lamps; £40.—Lovegrove, Silchester, Reading. [2656 TRIUMPH 4h.p., 3-speed countershaft model, W.D. handle-bar, new tyres; £65,—Moss, Wem. [X4355] 19 Trimph, Cancelet sidecar, leg shields, spares; £129.—Reginald Boase, Solicitor, Torrington.

TRIUMPH 31/h.p. Early Model, good running of accept £24.—Welch, 135, Edgware Rd., W.2. order:

TRIUMPH Motor Cycle, less mag, and carburetter; 27/10.—Village Stores, Fole, Uttoxeter, Staffs. 1X4268
31h.p. Single' Speed Thimph, just overhauled, very reliable; £30.—Junes Garages, Church Stretton.

TRIUMPH 3h.p., single speed, in good running order; £20.-39, Poynings Rd., Highgate, N.19, [2879] TRIUMPH 31/2h.p. Clutch Model, good tyres, lamps, perfect running order; £35.—Swift, 91, Lamproyd, Colne. [X4248]

1918 Countershalt Triumph, discs, sporting Mont-buten gomery sidecar; £95.-37, Arlington Rd., Sur-[2737] TRIUMPH 31/2h.p., clutch model, good running order; £32.—Surrey House, Baltour Rd., Wey-

AN Exceptionally Good 1913 Clutch Triumph; nearest £45.—Lapthorne, Revelstoke, Shoreham, Smeany

TRIUMPH 31/2h.p., lamps, tools complete; ride away; £38,-Reed, 18, Merthyr Terrace, Barnes. (After 6 o'clock.)

TRIUMPHS.—Large assortment of second-hand models in stock, all fully guaranteed.—Ross, 86, High Rd., Lee, S.E. [5540]

1918 Triumph 4h.p. Countershaft Model, complete, in pertect older; £95.—Brook Bros., Burnhum, Somerset. [1370

4 h.p. Triumph, special T.T. model, guaranteed, 60 n.p.h.; 50 gus.—Hyland, 12, Fordwych Rd., Droudesbury. [2375]

19²⁰ Triumph and Gloria Sidecar, hrand new and Marchester. £155.-53, Cooke St., Old Trafford, [2797]

TRIUMPH, 1919, Swan sporting sidecar, aluminium discs, lamps, etc.; £130.—Ratcliffe, 200, Gt. Portland St., W. [2296 TRIUMI'H 4h.p., countershaft 3-speed, about 1917, condition as new; 65 gns.-1, Cheval Place, Brompton Rd., S.W. [2988]

TRIUMPH 3½h.p., 2 speeds, just overhauled and enumelled; £50.-25, Sussex Mews, Sussex Place, Regent's Park.

JONES' Garage, special agents for Triumphs, Broadway, Maswell Hill, N.10, and Woodside Parade, Way, Masw North Finchley.

ier. , 1919, little used, sidecar complete; no offers.—41, Church Crescent, Church [2594] £125; no End, Finchley.

19¹⁶ W.D. Countershaft Triumph, in perfect condition, complete with lamps; £85.—Nouman, 94, East St., Bridport. [X4170

9 1h.p. Triumph, clutch, splendid condition through 2 out, lamps, horn, etc.; £47/10.—Putterill, Garage, Harpenden. [3103

TRIUMPH, 1918, countershaft, beautiful order, 28x 3 buck tyre; £85.—Edwards, 7, Exhibition Rd., South Kensington. [2920]

TRIUMPH, 4h.p., 3-speed, countershaft clutch, excellent condition; £85.-122, Wimbledon Park Rd., Southfields, S.W. [2708

BRAND New 1919 T.7. Triumph, road racer, done 1,000. lamps, horn, tools, complete; £90, nearest.—Todd, Waterbeach, Cambs. [2335]

TRIUMPH 3-speed, C.B. sidecar, lamps, horn, speedo meter, Easting wind screen, perfect condition £90.-5, George St., Rugby. [X426]

TRIUMPH Motor Cycle, 3½h.p., just overhauled, hxed gear; ±35; exchange Levis motor cycle— Garage, 2a, Regent St., Hull. [2256

TRIUMPH, late 1919, 4h.p., 3-speed, and Gloria side-car, complete, very little used; £160, or offers,— Lamb, Seven Stars Rd., Wigan. [2837

NEW 1919 Baby Triumph, lamps, tools, and complete; £70. — Apply, E. E. Greenl Tucker's Grove, Falkland, Bath. and horn

19¹³ Clutch Model Trimmph, good condition, full equipment; £48; exchange Douglas.—Fernside, Ollerbarrow Road, Hale, Cheshire. [2207]

TRIUMPH 4h.p., 1917, countershaft, lamps, Klaxon belt, tyres good; £70.—Baker, 38, Shirley Grove Lavender Hill, Battersea, S.W.11. [264. TRIUMPH 1910 31/2h.p., perfect numing order, last, engine just overhouded, new hearings:

last, engine just overhauled, new bearings; £35,-Norton, Braunston, Oakham, Rutland. (2219

Ballards Disprietors Erling L. Newborn Cobbett & Codric Crostbwaile MOTOR CYCLE DEPT-

The Leading South Western Motor Cycle Agency.

Sole Distributing Agents for the

DUZMO

for London, Hertford, Bedford, Middlesex & Surrey. Deliveries from February, 1929.

WE CAN DELIVER

3) h.p. SUNBEAM machines at the rate of one per week, absolutely as new, black and gold, just out of finishing shop, complete with new heavy Dunlop tyres, new Lucas lamp set, and horn. This is no "table" description, but it is practically impossible to find any difference from 192) models; £120 each.

We are also Agents for the following machines:
B.S.A., AJS., JAMES, RUDGE, READING
STANDARD - WOOLER, EXCELSIOR,
METRO-TYLER, NEW HUDSON, F.M., LEA-

IN STOCK FOR IMMEDIATE DELIVERY.

1918 NEW IMPERIAL-J.A.P., 2-speed, aluminium discs, fully equipped, as new £68 0 1919 8 h.p. SUNBEAM Combination,

as new£235 0 1919 T.T. NORTON (LATE), all accessories, under 100 miles, very hot105 gns.

1919 late B.S.A. Combination, completely overhauled and fully equipped, ready for immediate delivery 139 gns

23 h.p. DOUGLAS, 2-speed, as new, C.A.V. magneto, not W.D. Model, privately owned.....

Late 1919 HARLEY-DAVIDSON, special 1920 Harley Sidecar, fully equipped and as new, mileage 800, hood, screen,

step, aluminium discs £195 0 1920 31 h.p. twin JAMES; just delivered. List price £115 0

1920 2½ h.p. ROYAL RUBY, lightweight, slightly shop-soiled

1915 ALLDAYS MATCHLESS Combination, countershaft, kick-starter, chain drive, spring footboards, new Sidecar, new lamp set, and horn complete £85 0

1915 8 h.p. ZENITH and Millford Sidecar, hood, screen, clutch, kick-starter, all lamps, and Tan-Sad seat £135 0

Single-cylinder BAT, spring frame, and in good mechanical condition £32 0

Accessories in Stock.

Carne Winderceus, B. & B. Carburetters, Amac Carburetters, Spares for both types, P. & H. Lump Set, F.R.S. Lump Sets, Herris of Cycry, Herris Carburetters, Aller of Carburetters, Aller of Mechanical Horns, Alumintum Diess for all makes, Alumintum Leg Shields for all makes, Values, Nods, mixture Leg Shields for all makes, Walves, Nods, and Carburetters, Alumintum Leg Shields for all makes, Mayers, Nods, and Carburetters and Carburetters and Carburetters. minium Leg Shields for all makes. Val Belts, Chains, Tools, etc.

CALL AND SEE OUR STOCK.

OFFICIAL REPAIRERS A.C.U OFFICIAL REPAIRERS A.C.U. FINEST EQUIPPED MOTOR CYCLE BEPAIR SHOP IN SOUTH-WEST LONDON. WELD-ING, TURNING, GEAR CUTTING. OVERHAULS of every description.

BALLARD'S MOTORS. 92, Gloucester Road, S. Kensington, S.W.7.

Telephone: Kensington, 6312. Telegrams: Ejembalmot, Southkens, London.

MOTOR CYCLES FOR SALE.

Triumph. WAUCHOPE'S 9, Shoe Lene, Fleet St., L. E.C.4.—4h.p. Triumph and sidecar, 1918, 4h.p. Triumph and sidecar, 1916, £95.

T.T. Triumph, free engine, splendid condition, lamps, speedometer, horn, Bosch; £55.—Co Huddersfield Rd., Birstall, near Leeds.

19¹² 3½hp. Triumph, Philipson pulley, lamps reasonable distance to purchaser: £45, or -Ward, 104, Pemdevon Rd., Croydon.

TRIUMPH, in splendid condition, hrand new side new Dunlops, new helt, and policy; hars £80.—Ling, 375, Kennington Road, S.E. [2]

T.T. Triumph 3½hp., fixed gear, recently overhaule new cylinder, piston, valves, etc., fitted; £40, 100, Lansdowne Rd., Seven Kings, Essex. [25] 19 day Triumph and C.B. roomy siderar, sound, the liable condition, lamps; £78, lowest.—Letters on first, Hutchinson, Grove Lawns, St. Albans. [25]

TRIUMPH 4h.p. Cycle and Sidecar, periect condition, speedometer, lamps, horn, tools, complete. £120.—E. Bemrose, 91, Peter's St., Derby. [27]

ORDERS Now Booking for rotational delivery of m 1920 Triumph models: Birmingham only.-T Premier Motor Co., Aston Rd., Birmingham. [24: TRIUMPH Junior, January, 1920, electric light £70; owner buying combination.—Seen, 11, Rie mond Park Rd., East Sheen, S.W. (After 5.30.) [X420]

TRIUMPH, 1911, new tyres, new piston and ring sound throughout, stored since 1914, just over hauled; £35, offers.—Dickinson, Tidworth, Hants. [217] 3½h.p. T.T. Triumph, clutch, in excellent condition Dunlop tyres, and new spare belt; £45; own buying car.—Rawlinson, 33, New St., Chelmsford, Ess.

TRIUMPH, countershaft model, very fast, thorough overhauled, enamelled and plated throughou 80 gus.-10, Bonner Hill Rd., Kingston-on-Thames.

FOUR Countershaft Triumphs, 3 speeds a clutch; from £75 each, or near cash offer lot to one huyer.—Hole, 129, Park Lane, Carshalton

4 h.p. Triumph, late 1916, 2-speed C.S., hand clut disc wheels, plated exhanst, sporty, like ne £87/10, or near offer.—72, Henry St., Woolwich, S.E. TRIUMPH 1914 4h.p., Sturmey-Archer 3-speed clutch, T.T. bars, tyres and condition very got £75.—Buck's Garage, Suckville Rd., Bexhill-on-Sga.

TRIUMPH, 4h.p., 1919 (late), Million-size, speedometer, horn, P.H. lamps, good condition throughout; £130.—Scroggs, Merton College, Oxfor

19 12-13 31/2h.p. Triumph, 2-speed, free engine, Dunlop tyres, good condition throughout; —Smith, The Cot, Market St., Wymondham, Nor

TRIUMPH, 1918, countershaft, new condition, 27 and belt nearly new; price £85, or neur of Lune, 1, Messiter Place, Eltham. Thone; Lee 6 284.

TRIUMPH 4h.p., countershaft model, 3 speeds, he cintch, new siderar; nny tr'el; £110; please after 6 o'clock.—136, Lavenhum Rd., Sontine S.W.18.

1012 31/h.p. Triumph, clutch model, adjus pulley, Klaxon, Avons, lamps, overhauled, serviceable condition; £42; ride away.—86, Den Rd., S.E.5.

TRIUMPH 5!4h.p., Grado, about 1912, cylinder
bored, new piston fitted, new tyres, ride aw
45; after 2 Saturday.—53, Pages Walk, Old K
Rd., S.E.1.

TRIUMPH Cycle, 1914 model, 3½h.p., fitted clut Rosch mag., tyres good, in perfect running ord best offer above £40 accepted.—Cliffords, 34, Haml Rd., Fulbam. TRIUMPH 1914 4h.p. Combination, 3-speeds clutch, lamps, horn, etc., splendid coad little used, any trial; £85.-62h, Highgate Kentish Town.

TRIUMPH, 3½h.p., 3-speed, and clutch, pan plating us new, mechanically perfect, klaxon, hag and tools; £60.—48, Princess Rd, ston, Manchester.

TRIUMPH, 1919, 4h.p., 3-speed, semi-T.T. b sporting Swan sidecar, lamps, horn, etc., in sp did order; £15.—Elce and Co., 15-16, Bishopsgatz Gamommili St., E.C.3.

TRIUMPH, T.T., new tyres, carburetter, Klax Paddle and bags, footboards, perfect, renova perfect running order; price £40.—Lawrence, 2, 8 derland Rd., Forest Hill.

TRIUMPH Combination, 4h.p., 3-speed counters standard handle-burs, Montgomery coachbuilt car, good condition; £105.—The Premier Motor Aston Rd., Binningham.

TRIUMPH, countershaft, 3-speeds, kirk s coamelled and plated, new parks, viz., ey piston, valves, clutch, condition perfect; 84 R.L., c/o Murtin, 18, Orchard St., Bristol.

TRIUMPH, 2-speed and clutch, Bosch, Anne, l. P. and H. highting set, mechanical horn, belt, tyres, chamel, and plating perfect condit £48.—2, Blenheim Gardens, Wallington.

TOR CYCLES FOR SALE. Triumph

lumph, coachbuilt sidecar, 4h.p., 3-speed mey-Archer hub, Boach, decompressor, ex-hanical condition, must sell; £75, or nex Elsinore Rd., Forest Hill, 8.E. [2873

H, countershaft, 3-speeds, kick starter, enamel unscratched, tyres unused, really hable from new, plating beautiful; £90.— lartin, 18, Orchard St., Bristol. [2932

H 1919 4h.p. Combination, coachbuilt side-periect combition throughout, plating and crutched, fully equipped; £125; evenings.— Broombill Rd., Goodmayes. (1)) [2367

H Combination, 2-speed, clutch, kick start, mag, completely overhauled, new coach-ir with cover, go anywhere: £75.—Write, Birdhurst Rise, South Croydon. [2911

umph. countershaft, complete with lamps, and insurance policy, not used during and is no new seen London district; £110 Box 1,281, c/o The Motor Cycle. [2528

H 1916 Coachbuilt Combination, guaranteed sound condition, new 3-speed, piston and earlings, ready for anumer; what offers over ly, 353, Chuich Rd., Leyton, E.10. [2122

s, 55, Chuich Rd., Leyfon, E.10. [2122]
gual T.T. Triumph, perfect condition, acries, 1,000 miles; £90, or nearest offer;
919 countershaft Triumph, T.T. bars, cash
—Tilbury, 164, Uxbridge Rd., Ealing,
[2607]
IS.—We have a few brand new 4h.p.
babat Triumphis in stock, never been on
aco premiums, makers' list price, cerriage
, Garage, 900, Marylebone Rd. Pahl,

tumph Combination, mileage 600, spotless ition; any trial; Klaxon horn, Easting 1, 3 lamps, better than new; £140,-45, d., New Malden, Surrey. Phone: 39 [2562

I, 1919, almost new, 3-speed countershaft, ars, disc wheels £5/5, Lucas lamps, Watometer, Stewart horn, rear lamp, special exgrips, a posh outfit; £119.—Box 1,287, c/o Cycle. [2538

1 4h.p., countershaft, and brand new uilt sidecar, entire outfit as new, tyres unenamelling and plating perfect, only wants rately owned; £115.-48, Grenville Rd., e, N.19.

sems, Essex Rd, N.

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1399, 48n., with Millford conclubulit sideon, 14, clutch, lamps, born, sparse, etc., sparse, 14, clutch, lamps, born, sparse, etc., sparse, 14, clutch, lamps, born, sparse, tec., sparse, Lamps, 10, and 16, tooth engine last all-weather machine, specially tuned feet condition; 110 gns, or hes differminated, Hills Rd, Cambridge.

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Instance, Hais Ru, Cambridge D. D. Sayl Triumph, 3-speed countershaft gear, sporting sidecar, Anster wind screen. dometer, tools, in perfect order; £130, 14ange 1919 A.J.S. or Enfield with cash—cers Arms, 17, Mercers St., W.C.2. [2738] cers Arms, 17, Mercers St., W.Cz. [2750] and and aled by makers, Phillipson puller, semi-ag5.—Fair Offer Car House, 5, Heath St., tnear Hampstead The Station). Phone: 5752. Hours 9-7, including Saturdays. 1872. Hours 9-7, including Saturdays. Imph. single-speed, new Hutchinson backs.

3752. Hours 9-7, increasing control 2403 imph, single-peed, new Hutchinson imph, single-peed and these, lands, nental front, new belt and these, lands, peedometer, pump, etc., spares, recently perfect condition and order; bargain, ut, 112, St. Margaret's Rd, Hanwell, W.7, ut, 125, St. Margaret's Rd, Hanwell, W.7, which is a supersymmetric perfect condition and order; bargain with the supersymmetric perfect conditions of the supersymmetric perf

d. Combination, Dec., 1919, 4h.p., 3-speed, a 400 miles, complete with all accessories, ss. Cower, Elixon, knee-grips, screen, spure lalke, plugs, etc., very smart outfit; best 450.—A.B., 39, west-source Terrace North, B. Paddington.

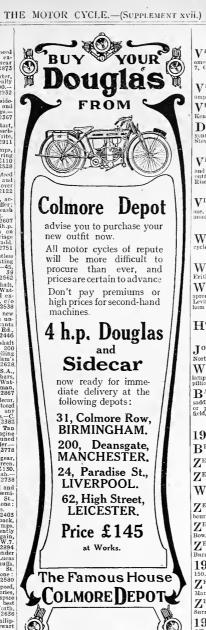
9 Paddington.

3½h,p., semi T.T. model, 1913, Philipariable pulley, decompressor, Stewart Klaxon born, King of the Road lamp, knee pads, new back tyre, good froat feet running order, stored during war; Lk., going abroad.—Blunt, Springfield unn, Stassex.

Velocette.

ILLIAMS, for early delivery of Velocettes.

Ash Depct Wolverbampton. [X8623]



MOTOR CYCLES FOR SALE.

Velocette.

VELOCETTE: November, 1919, 2 speed, chain drive, mechanical lubrication, Klaxon, Tansad, speed-ometer, no lamps, unus d, insurance; £72.—Stewart, 7, Garturk St., Glasgew. . [2437]

VERUS, just delivered, 2-speed, kick starter, one of the best; £75.—Bull, Trumph Agent, North-ampton. [X4358]

VERUS New 1920 2-stroke, 2-speed, kick start, in stock; £75.—Edwards, 7, Exhibition Rd., South Kensington. (2021)

DELIVERY from stock, 2;5h.p. 2-speed K.S. Verus machines. A serious touring mount. Send us year enquiries for other models.—Elliott Brus, and Stevens, Cambuishang, Glasgow. [X3931

Vindec.

VINDEC Special 5-66.p. Combination, new coach-built sideorr, wind screen and apron, new tyres and tubes throughout, 2 specels, lund clutch, whole outfit like new; 285.—Write, A.M.S., 57, Buildingt Rise, South Croydon.

ViPER-J.A.P. 214h.p., immediate delivery, 2-speed spotting model; £67. Agents, Tower Motor Gar-age, Brykley Su, Bristol.—Enquiries to J. Ivens, Stan-more, Kidderminster, until open. [X4231

Wilkin.

WILKIN Enquiries for early rotational delivery invited by J. Blake and Co., the leading motor cycle experts, Liverpool and Manchester.

Williamson.

WILLIAMSON, 8h.p., w.c., 2-seater sidecar, hood, trial; £90.-14, Barnehurst Av., North Heath, Erith, Kent.

Erith, Kent. [2680]
WILLIAMSON 8h.p., water-cooled, 1914, Bosch waterproof mag., F.R.S. lamps, horn, wind screen, apron, Canoelet sidecar, perfect order, 273.—Gray und Levin, 5, The Boulevard, Balham, S.W. Tel.: Strengton, 2417.

Wolf.

HONOR Oak Motor Mart.—Immediate delivery Wol. 129, Brockley Rise, S.E.23.

Wooler.

JONES' Garage, special agents for Woolers, Broad way, Muswell Hill, N.10, and Woodside Parade, North Finchley. [0039]

Woolfer 25th.p., 2-stroke, variable gear, front and rear springing, rebuilt, plated and enamelled, new lamps and Palmer cord tyres, £60; excellent for bard pillion work.—85, Dyne Rd., N.W.6.

BARGAIN.—23(h.p. Wooler larger in principles and larger in saddle, Cower, P. and H. Imps; nist overhanded; 255, or part exchange big single.—Write, Sayers, Ruveus-field, Cambridge Rd., Teddington. (2121

Zenith.

19¹⁴ 6h.p. Zenith, in good condition.—White, 42, London Rd., Camberley. [X4194

Brand New Zenith, 8h.p.; what offers.—Caudler, Churchfield Rd., Walton-on-Naze. [2793

ZENITH 1913 31/h.p., all-red T.T., very fast and smart: £40.—Ashville, Honor Oak, S.E.23. [2644

ZENITH Countershaft 1916 5h.p. Twin; £85, no offers.—26, Totteridge Rd., Enfield Wash. [2616] WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.-4-5h.p. Zenith twin and sidecar, 1919; £145.

ZENITH, from stock, and enriest deliveries of 1920 models.—Louis G. Ford, opposite G.P.O., Enst.—[2107] bourne.

ZENITH 6h.p. Combination, countershaft, K.S. all accessories, trial; £100.—C.S., 14, Swaton Rd., Bow, E.3. [2962

ZENITH Motor and sidecar, Model H., 1916, complete, in perfect condition; £130.—Brook Bros., Burnham-on-Sea. [2418

19 15 Zenith, 6h.p. accessories, tyres, etc., new, splendid condition: £72, or offer.—Lt. Burge. [2735]

ZENITH-GREEN, water-cooled, coachbuilt sidecar kick start, Zeuith gears; 268.—Mandes' Motor Mart, 100, Paris St., Exeter.

ZENITH 1919 8h.p. Combination, ridden once, lamps, Klaxon, periect throughout; £145: Surrey.—Box 1.338, c/o The Motor Cycle. [3085]

1915 Zenith 4h.p., new lamps, mechanical horn, tools, plating as new, good condition; £62.-43, Offley Rd., Brixton. Tel.: 1137 Brixton. [2759]

1919½ Zenith-Gradua 5h.p. Combination, very good condition; owner going abroad; no reasonable offer refused.—Apply, 10, Whitehall Park, Highgate, N. [2802] refused.—Apply, 10, Whiteman From Argon March 1917, W.D., 4h.p. little used, lamps, houn, accessories; bargain, 265.—C., 56, King Edward's Grove, Teddington. Apply after 8 p.m. [2239]

MOTOR CYCLES FOR SALE. Zenith.

4 h.p. Zenith Combination, Gradas gear, just been overhanded, perfect condition, lamps and accessories; £68, no flers.—4, Perth Rd., Plaistow, West Ram, E.15.

6 h.p. Zenith, J.A.P. engine, Gradua gear, Millford C.B. sidecar, 2 belts, pillion seat, paid up insurance policy; lot £50, no offers.—Humphries, 15, Alexander policy; lot £50 St., Bayswater.

ZENTH-GRADUA, 3½-4h.p. J.A.P., discs, lamps, kace grips, plated exboust, T.T. bars, condition and appearance excellent; ±55, lowest.—Dental Surgery, 50, High St., Toebridge, [2220]

ZENITH GRADUA late model 6h.p., countershaft, kick start, lamps, Lucas horn: a bargain, £105.— Write Wilkins, 1, Pitcairn Rd., Mitcham. 'Phone: City 628 for appointment. 2029

ZENITH 1917 5h.p., coachbuilt sidecar, clutch, P. and H. lamps (large), speedometer, horn, pump, tools, pillion seat, tyres easily new, excellent turnout; 110 gus., or offer.—Hayward, 54, Kingsmead Rd., Tulse Hill. [2238]

F.O.C.H. have a 1919 8h.p. Zenith, standard model, fully equipped, mileage under 300.—Fabruolier Car House, 5, Heath St., Hampstead (Hear Hampstead Tube Station). Phone: Hampstead 97, including Saturdays. (238

ZEMITH-GRADUA Combination, 4h.p. J.A.P., 1916, overhauled, new plating, etc., large comfortable Venus conclinuit sidear, lamps, horn, privately owned; 287/10.—Apply, Garage, 626, Seven Sisters Rd., South Tottenham, N.15. (Near St. Ann's Rd.) [2486]

1919 8h.p. Zeoith (October), large head light and rear light, knee grips, spare belt, luora, many accessories, make speedy combination to person purchesing racy sidear, very fast; £125.—W. Stillweil, jun., Park Corner, Little Chart, Ashford, Kent. (2162

Chasida Park Corner, Little Chart, Ashford, Reat. [2102]
ZENTH-GRADUA, Inte 1914, Sh.p. J.A.P., kick start, Bosch, Amor, nearly new 26×8in. Dunlops, new chain and variable pulley, B.S.A. state, Bosch, Chard, Carlon, Carlon

ZEMUTE the node Million counterent clust [233] and the least model Million couch steam new R. Dunlop, and Avon heavy covers, Watford speedometer, head and sideer lamps, and sparse, all in splendid condition; any reasonable trial or examination; £125.—Matthews, Greenfield Lodge, Stufford Rd., Barnet, 2000.

Matthews, oreenness coops, [2274]
ZENITH [61p., 1914, Mills-Fulford, with specific portions of the coops of t

Ladies' Motor Cycles.

1914 2h.p. Humber, lady's model, 3-speed clutch, perfect condition; £32/10.-129, Grove Green Rd...

Miscellaneous.

1917 Rudge Multi 3½h.p., as new; £85.

1916 5-6h.p. Indian Combination; £115.

1919 T.T. Rover, with accessories, as new; £87.

1919 3-speed Countershaft Ariel, £95.

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Phoae: Hompstead 4631. Open afternoons and
[9541]

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A J.S. 1915 Combination, A.J.S. 1914 ditto, Douglas A J.S. 1915 Combination, A.J.S. 1914 ditto, Douglas 1918 ditto, Indian 1919 ditto, Campion 1917 ditto, Rudge 1919 ditto, Campion 1917 ditto, Rudge 1919 ditto, Campion 1910 ditto, Royal Rudge 1919 ditto, Rudge 1919, Blackburne 1919, Junes 1919 ditto, Rudge 1919, Blackburne 1919, Junes 1919, Lea-Francis 1919, Divarday Rudge 1919, Sparkburcke 1919, Lea-Francis 1919, Divarday Sidents Actually in social several new and second-hand Sidents actually in social second-hand Sidents actually second-hand Sidents actually second-hand Sidents actually second-hand Sidents actually seco

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BRITISH EXCELSIOR, 2-stroke, 2-speed, kick-

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CONNAUGHT, miniature, 2-stroke, 2-speed, kick-start, hand clutch.

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D 20 Clyno, 2-speed, clutch, just from maker 1914 Sunbsam. 3-speed, clutch, in perfect dition, only done 5,000 miles, mechanical speeddometer, watch, lamps, and generator, a coccasories, £125; 1912 Donglas, 2-speed, i condition, lamps, and generators, £37.—A.

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officers for the benefit of private motorists, and second and second process of the process of t

MOTOR SCOOTERS.

A .B.C. Scootamotor, slightly used, new coloffers.—Berridge's Garage, Market Harbon WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lo Autoped motor scooters, new 1920 model

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BUILD Your Own Scooter at a total cost Diawings and instructions 51-, post free, played advt., "The Motor Cycle," Jan. 22nd, Balley, 96, King Edward Rd., Rugby.

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t.—Tandem bodies, £10/10.—Makers, Bright Hayles, 78, Church St., Camberwell. [2570 Hayles, 78, University, Cambers, E7/10.—Makers, L.—Lightweight de luxe, E7/10.—Makers, t and Hayles, 78, Church St., Camberwell, [257]

S Coachbuilt Body, newly painted, uphologood, apron and wind sereen; £9.—15, Wimbledon. [2590] , Wimbledon. [2590 FION Coach Sidecar Bodies, underslung or pattern, trade supplied.—Halifax Motor Union St. South, Halifax, [2426]

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BER, paint and varnish does not add to fety of your passenger. We are builders of actor saloon bodies, coupes, etc. Compare ction with others. Our whole life has been dywork.

a not originally chair-makers or anything out hodymakers. Hodies only from £5/10; th chassis from £20. ection with ony other firm.—Note the nd-Ossian Rd., Ferme Park Rd., Strond Green.

Coachbuilt Bodies, smortest designs, lowest any colour, from £5; complete sidecars Coll and inspect at the Laucaster Motor Norwood Rd., West Norwood. [2586]

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TON.— Coachbuilt underslung hodies, s hack with locker, spring seat, nphol-pegamoid, solidly constructed, and not her; from £7/15; several types in stock rem—Burlington Motor Cycle Co., Ltd., de, Clapham Common, S.W.4. [2979]

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RTH-STEVENS. — Immediate delivery. s hnilt throughout of the finest material every sidecar guaranteed. RTH-STEVENS.—Popular model, £18/10; model, £20; model de luxe touring,

RTH-STEVENS can supply sidecars to fit ype of motor cycle, correct fit guaran-to any quantites.

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SANDUM Sidecars.—The most noted hody-builders in

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S'IDECAR Hubs, all sizes.—Apply actual makers, A.
W. Wall, Ltd., Haymill, Birmingham. (X4052
M'ILLFORD Skiff, perfectly new, black, storm apton.
-6, Welleck Rd., Boisover, Chesterfield. [2486

CANOELET Sidecars in Stock; list price.—Youngs, Heath Garage, Newmarket. 'Phone: 214. [0121 CAMBER.-Sidecars from £16/10.-Makers, Bright, and Hayles, 78, Church St., Camberwell. [2572

ENFIELD Chassis, Dunlop 26×21/2, luggage carrier; 27/10.—Slatter, 3, Cliff Terrace, St. John's,

19 Triumph Cloria Sidecar, hrand new, with Motor Cycle.

Cycle.
SIDECARS in Stock.—Crow Bros., Gnildford, bave large contracts ruoning for 1920 Millford and Montgomery. [6929 Montgomery.

Montgomery. [6929]

CAMBER.—Sidecars huilt to customers' requirements. — Bright and Hayles, 78, Church St.,
Camberwell. [2574]

B.S.A. Sidecar, brand new, just arrived, at makers' price; £34.—Wilkins, Simpson and Co., opposite Olympia, Loadon. [2352

COACHBUILT Sidecar, with Cameo screen; bargain, £12; evenings after 7.—Guthrie, 35, Hailsbam Av., S.W.2.

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MIDDLETON'S Invented Chassis with double tubes, also diagonal centre tubes.

MIDDLETON'S, London's oldest established sidecar makers, 27, Stroud Green Rd., Finsbury Park. Tel.: Hornsey 1584.

HANDSOME Bulbons-back Coachbuilt Sidecar, unused, fit Triumph; £21.—Owea, 59, Scholefield Rd., Upper Holloway. [X4320]

NEW Chater-Lea with Veaus body, tyre, done 100 miles, £20; cane body, 50/-; or near offers.—66, Belgrave Av., Watford.

MILLFORD Skiff in stock, £23, plus carriage and crate; fit any machine.—Edwards, 7, Exhibition Rd, South Kensington.

CAMBER.—Sidecars, Model 4, sprang back, beautini finish: £19/10.—Bright and Hayles, 78, Church St., Camherwell.

Church St., Camperwell. [2573]
SPORTING Swan Sidecar, second-hand, but as good by as new: £25.—Elice and Co., -15-16, Bishopseate Av., Camomile St., E.C.3. [0073]

SALE. Canoelet coachbuilt sidecar, everything splendid, except upholstery (passable); bargain, £15.—Box 1,279, c'o The Motor Cycle. [2525]

COACHBUILT Sidesar, in excellent condution, light and countertable, new Fundor tyre; £16.-Right P.O., Longshow, Billings, Wigner.

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SIDECAR ATTACHMENTS.

COACHBULT Underslane Sidear, meally, ner, suit dia, r. 115/10, exchange heavyweight,—86, Townsend Rd., Southall. After G. ANOELET Sidear, brand new, with storm approximate of the control of the control

SIDECAR, Douglas, perfect, Dunlop tyres, £15; wicker sidecar, complete. £5; lamp set, £2, complete.—25, Burlington Rd., Tottenham, London. [2664] A RIEL Sidecar. 1918 model, five condition, £19/10, cheap; countershaft Trinuph, 1918, Lucas lamps, horn, etc., £95.—Eveson, The Dingle, Stourbridge. [2508]

GRINDLAY Coachbuilt Sidecar, Cameo wind screen, 4-point suspension; after 6 Saturday; £26.—Cloverside, Fitzalan Rd., Finchley, N.3. [2834] ROYAL Leicester Sidecars.—Models for all purposes, first-class finish; quick delivery; satisfaction gnaranteed. Write for catalogue.—The Willowbrook Co., anteed. Leicester.

STDECAR Chassis, good underslung, practically new tyre and tube, fit almost any make cycle, com-plete; a snip; £8.—1,078, Harrow Rd., Willesden, N.W.10.

WATSONIAN Coachbuilt Sidecar, upholstered red morocco, good condition, apron, lamp, bracket, excellent Dunlop tyre and tube; £14.—Gulliver, Steeple Morden, Roystou. (X4290

BASTONES for Sidecars at low prices. No better or cheaper house. Inspection invited. Latest coachbuilt 1920 models from £16/10; latest coachbuilt bodies from £4/10.

BASTONES.—We have a large stock of coachbuilt bodies. Latest pattern de luxe, torpedo underslung, atep pattern, tandems, and lightweight. All late models at low prices.

BASTONES for Montgomery sidecars, 1920, litest models in stock. Distributing agent for North London districts. Delivery from stock; trade supplied.

228, Pentonville Rd., King's Cross, London, N.1. [8265] CIDECARS (touring, spotting, and lightweight, fit all makes of motor cycles; also sidecar chassis and bodies only; delivery promptly.—Burbury Sidecar Works, Farm St., Birmingham.

SIDECAR, fine American reed body, side door, upholstering perfect, new Dunlop tyre, unpunctured tube, chossis just been enamelled; £10.—Aldwinckle, Barrowby Rd., Grantham. [2443]

PERPECTION Lightweight and Undershing Coach Sidecars from £17/10; Perfection sidecar chassis from £7/15; prompt deliveries.—Halifax Motor Ex-change, Union St. South, Halifax. [2427]

change, Umoo St. South, Hailiax. [2427]
B.S.A. new Sidecars in stock, list price, carriage paid; also B.S.A. hoods, grids, and screens, or East Motor Co., Brinningham. Motor Co., Broad St., Birmingham. [1566]
SPECIALLY Built Coaclibuilt Sidecar, off Bradbury, off nished black and gold, complete with storm agnor, very nearly new, suit 4h.p. machine; cost 223; what offers.—Hathertow, Oxford Rd., Birkhale, Lunes. [X4234]

MILLFORD Corvette and Skiff, B.S.A. No. 2 Canoslet Minor and sporting, Montgomery all types for almost any machine; over 100 actually in stock.—Maudes', 100, Gt. Portland St., London, W.1. [2677 MILLFORD Sidecar, 1919, suit Triumph or similar, Auto wind screen, apron, extra leather cushion, Lucas sidecar lamp and generator, cost £35; accent best offer.—Apply, J.G., 12, Ampthill Sq., N.W.1.

10: Liston 10: Luxe, fitted with stompton apron and quick detachable fittings, condition perfect, not done 300 miles, weight nuder 70 lbs, suit machine up to 4h.p.; £20.—Box 60, c/o The Motor (XA242)

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BLAKE and Co. 110-112, Bold St., Liverpool, Britain's premier motor cycle and accessories sale divery, including Swan, Grindlay, Cancelet, Mills-Fullord, Patey, Handerson, Luxurette, and J.B. [5584]

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Lid., 7, South Side, Clapham Common, S.W., 12400 STDECARS.—Milliord Corvette, £25/51. Milliord Sidear bodies, £2/8; No. 3 Venus sidear bodies, £26/6; the Star sidear bodies, £26/10 and £10/15; £26/6; South £20/6; All Dowet prices—M.Y. Dept. Metropolitan Machinists' Co., Ltd., 248, Bishopsgate, £26/2.

E.C.2. [3638]
WAUGHOFFS, 9, Shoo Lane, Fleet St., London, E.C.4.—Following new sidecars in stock: 1919 hunglar sidecars, for R dap. Donglar and machines, 227110; Wanchope's No. 5, 222/10; Williamson sidecars, to fix any machine, 225; Chancelt sidecars, to ming machine, 225; Chancelt sidecars, tonging, machine, and Minor models, fitted to any make of mechanical at few hours. All for immediate delives.

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TRIUMPH, 4 h.p., countershaft, & Sidecar &		0
	£7G	
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wheeled Car, in parts, to clear		0
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We specialise in these, and carry a big stock.
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MORGAN, 1914, A.C., hood, screen, lamperfect; £125.—Batchelor, Clarence 8 ston-on-Thames.

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A.C. Sociable, 1913 6h.p., hood, lamps, engine just from makers; any trial; £ day or Sunday.—J.C., 389, York Rd., Wandsw

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Obers.

CASTLE-FHREE, the (super muabout) 4-cyl interchangeable wheels and spare, dynamic provisional price 2250; the flose transbout mainmediately for early deliveries. Particul pleasure. Sole agents most of Lancashire and -R. Bamber and Co., Ltd., Birkdale, Lancs.

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A.V. Monocar, late 1919, mileage 200, 6th spiling 2 species, clutch, hand statuter, fitted spiling and spiling spiling

ThamPLIN Cycle Cars, £150, awarded gold L. London-Exeter trial, embody comlors, J and economy. Finest components: 8h., p. gine, Starre, misde controls, weight 3½ cycl., cor 50-85 m.p.g., Skefko bearings throughout. Concliver k blue and hick; delivery guard works from date of deposit with order. Construction of the controls when the controls were supported by the control of the c

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The Foreign russ and above action to the control of the foreign russ and above action to the control of the foreign russ and above action to the control of the foreign russ and above action to the foreign russ and above action to the foreign russ and above action to the foreign russ and action to the foreign

International Competitions.

HE number of British competitors in the Paris-Nice Trial is, we hope, a good augury for international competitions in the future. There is nothing quite so efficient as a means to create good feeling between neighbouring nations as the meeting of their representatives in a sporting event. This year the competition programme includes many such events both in this country and on the Continent, and it is a great pity that 3,000 miles of water separate Europe from America, and so prevent the riders of both continents mixing more freely. Australia, New Zealand, and South Africa, too, are precluded from international competitions for the same reason, although such distances have not prevented representative cricket and football teams, and even pedal cyclists, from competing in Overseas events. Riders, too, from distant lands have competed in the Tourist Trophy Races. The present conditions concerning motor cycle competitions are, of course, due chiefly to the fact that most competitors are enthusiastic amateurs or riders financed by the makers for whom they ride. In the days of cycle racing, it was the professional rider who generally went abroad, and, while there are professional motor cycle racers in the U.S.A., we have not their parallel on this Probably if motor cycle racing were made attractive in this country, by the building of suitable motor cycle tracks, a class of professional racer would come into being; but whether such a class is entirely desirable is a moot point, for, as a rule, when racing is reduced to a mere question of livelihood, sport takes a second place. However, the idea should not be dismissed without due consideration. The professional teams of footballers which weekly attract hundreds of thousands show that good sport can be obtained by professionalism, provided an efficient organisation exists to govern it, and in this respect the motor cycle movement should be very favourably placed.

A Petition Against Petrol Prices.

N enormous increase in the price of petrol has led the Automobile Association and Motor Union to suggest the organisation of a petition from all motors users to the Prime Minister protesting against a state of affairs which threatens to drive many motorists off the road. The suggestion is excellent,and the A.A. deserves the credit for its energetic policy, but at the same time we feel that a petition of this kind would carry more weight if it had the official backing of all the leading motoring associations. The R.A.C., the A.C.U., the Royal Scottish and Irish A.C.'s, and the M.C.U. of Ireland, should all be associated with this joint petition, when practically the whole weight of the motoring community would be brought to bear on this vital subject.

Our readers well know that we consider that the increase in the price of fuel plus the possibility of increased taxation will produce a very serious state of affairs, not only to motorists, but to the country at large, for it must be borne in mind that both factors will lead to an increased charge for all goods transported by road.

Taxation.

N another part of this issue we publish a proposal for a novel taxation scheme which has much to recommend it. The idea includes a fuel tax, which is admittedly the fairest form, in that the motor cyclist pays according to his mileage, weight, and speed. A novelty, however, is introduced in a system of rebates which are arranged in such a manner as to benefit fair trading, eliminate excess profits, and encourage the manufacture of homeproduced fuels. It is almost impossible to put forward a taxation scheme in which difficulties do not arise, and the new proposal is no exception; yet it is incomparably more just than the proposed weight basis of taxation, and we would earnestly recommend its serious consideration.



MOTOR (YCLE

Plywood Sidecars.

S everybody knows, a good many sidecars have their forepeaks held down on the chassis by means of two huge washers and a pair of bolts. A friend of mine has a capacious sidecar, built of plywood, which he hauls around the country by means of a suitably powerful bicycle. The other day he rashly put a couple of men in the sidecar and proceeded to tour at forty miles an hour. The roads being-what roads are, and the plywood having become, perhaps, a thought soggy with age and damp, the two washers aforesaid bit holes in the plywood after the fashion of a cheese-taster. The sidecar endeavoured to do a vertical climb, and the language of the stern passenger, who was an ex-sergeant-major, R.E.—but I spare you.

Enclosed Engines.

N page 785 of The Motor Cycle for December 18th will be found a photograph of Mr. Hawley Morgan's New Imperial, on which the cylinder is wholly enclosed in a cast aluminium casing, through which air is sucked by an exhaust ejector. Mr. J. L. Norton has patented a somewhat similar design, in which an engine-driven fan is employed to create the necessary current. The same idea is embodied in the experimental Palladium car. Its bonnet has a dummy radiator devoid of holes; all the air is sucked in through scoops in the sides of the bonnet, which deflect the draughts into cast aluminium jackets bolted around the cylinders; the head plate is almost exactly like Mr. Hawley Morgan's design. All these experiments indicate that cowled engines are practicable. Their merits are three in number. They are easier to clean than the naked type. They permit a machine to be properly mudproofed. They can be run for indefinite periods with the machine stationary. (Some tastes might add that their appearance is potentially better—I say "potentially" because the designers in question have not, as yet, paid much attention to looks.)

The Next Stage.

URNING for a moment to aeroplane design, most of us are familiar with the spiky and naked aspect of the primitive aeroplanes. They were almost indecent, and reminded one of Kipling's varu about an elephant losing its temper in a carriagebuilder's yard. By contrast, a modern fighting scout reminds us of a lady's shoe in a Regent Street window -it is smooth, neat, and shapely. The transformation in the external appearance of aeroplanes came to pass within six years for purely technical reasons. Aeronautical research revealed the enormous wastefulness of "drag," and the extra efficiency obtainable by scientific streamlining. The immense speeds of modern 'planes compelled designers to give the pilot better protection from the weather. Encosure and

streamlining were sheer necessities. No such tecarguments compel us to encase the works of a. cycle and streamline its external contours. Net less, there are practical arguments of great va Look at the photograph of Mr. Hawley Morgan' Imperial, mentioned in my, last paragraph. Morgan should ride it in a London-Exeter, he and his machine will keep cleaner than the a motor cycle. Yet the upper half of him wor perished with cold, the lower half of him wo spattered with mire, and the machine could be thoroughly cleaned with less than two hours work after the trip.

The "Fuselage" Type of Motor Bicyc

EXT let your imagination play for a n about the photograph in question. Or off side of the machine is shown, but w exception of the tank there is hardly a square. smooth surface to be seen. The flank of the ma like all others, bristles with chinks and cr There is not the least technical objection (in v the special cooling system) to constructing s mount from pressed steel, with every part exce front wheel and fork buried in a formation rese the breast of a gull or the bows of a boat. front down tube and the curved mudshields jar on each other æsthetically) would be combi a single handsome component. The legshields be backswept at their outer edges, deflecting winds and side splashes, whilst leaving clearar the rider to disengage his legs. The steering might be formed into pressed steel scuttle and ment board, and protect the rider from weather to the level of his chin. Detachable panels screen the entire power unit from dirt and from The contrast between an aged Rumpity and a S Snipe might be reproduced in terms of the motor The merits of such a change are obvious. Its de are that it would be slightly more expensiv current designs, and probably a trifle heavier. new A.B.C. machine represents a half-way. towards this notion, which is a logical develo from Mr. Morgan's ideas. We are not a nation, and I dare not prophesy that we shall pr along such lines.

An Early Avro Design.

LD readers will recollect that before th Mr. A. V. Roe sketched out a "fuselage" motor bicycle with characteristic thoroug He totally enclosed both rider and mech-allowing no side gaps through which the rider could be cleared, and adding side whee stabilising purposes at starting, at low speed on skiddy surfaces. I believe he offered his to the trade without finding either takers or plagrist Of course, the Avro design was before its day.

Occasional Comments,-

now its attractions are minimised by the fact that motor cycles are still so much used for fair-weather joyriding. As a utilitarian all-weather vehicle, the motor cycle is still in its cradle. Most riders regard the Exeter entrants as a species of gentle lunatic. I cannot regard such a condition of affairs as neces-For example, within the near sarily permanent. future we may see a new industrial city, consisting of a central nucleus of factories surrounded by a five or ten mile radius by a ring of garden suburbs, each model dwelling built in the centre of an allotment. Wages will be high: some day when mass production is in full swing and "ca' canny" fallacies have exploded, motor cycles will be cheap. What more probable than that the suburban workers will motor cycle to the What less probable than that a central factories? cold and filthy type of machine should be tolerated for such purposes?

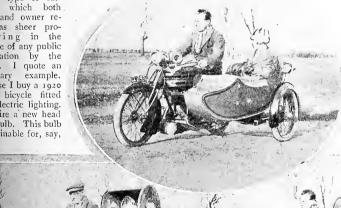
Super-surcharges.

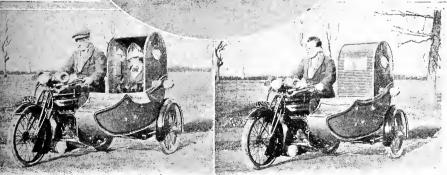
VERY sane man is aware that costs are perpetually rising, and that vendors hardly know from week to week what an article will cost in two days' time. Hence, we are all reconciled to the phenomenon of prices which are extremely elastic

with a stiff upward endency. But there s one type of sur-charge which both igent and owner regard as sheer proiteering in the absence of any public explanation by the culprit. I quote an maginary example. Suppose I buy a 1920 notor bicycle fitted vith electric lighting. require a new head amp bulb. This bulb s obtainable for, say,

3s. from the people who make it, and at the same figure from any agent who has one in stock. The local agent has no stock. I order a new bulb from the factory. When I paid for my bicycle, the invoice was for, let us say, £75 plus 20% plus 30%. I sympathetically accept the eloquent apologies and justifications with which the firm tearfully announced these successive surcharges upon articles of their own manufacture. But when they subject my little bulb to similar surcharges, I begin to kick and eke to doubt their bona fides all round. I know they have bought that bulb from the folk who made it; I know they paid trade price for it; that the village agents make a living on the percentage which separates trade price from retail price; and that trade discount plus two surcharges spells a very walloping profit indeed. If the firm sent a covering letter, saying that, owing to the moulders' strike, they had only turned over £,300 since October with weekly outgoings of £1,000, and hence were compelled to charge such prices lest the end of the company year should find them bankrupt, I might buy my bulbs elsewhere, but, at least, I should retain some respect for the firm. As it is, I-in company with thousands of others - mark such people down as sharks of the first water.

any well - managed concern, the cost of handling goods made by an outside firm should not be so high that trade discount, minus surcharges, fails to show a profit. Bad debts? Quite. I know some motor evelists are not as prompt and honest as they might be in settling petty invoices. But surely trade price is figured to include all that?





A FOLDING SIDECAR SCREEN.

On Jan. 29th, page 131, we gave details and constructional drawings of the Davies concealed sidecar hood and screen. These photographs show a design by Mr. Davies, which also incorporates the use of a roller windscreen, the hood and windscreen being easiland quickly detachable from the sidecar when necessary.

TAXATION.

Consensus of Opinion Favours a Fuel Tax as being Most Fair.

GAIN we print a selection of letters concerning the recently proposed taxation scheme. Last week a letter from an authoritative quarter suggested that the publication of the proposals was premature, and we would remind our readers, especially those who would be hardest hit by the new rates, that it is by no means certain that they will ever come into force.

Undoubtedly a fuel tax would be the fairest way of apportioning liability for road damage amongst motorists. Those who ride farthest and fastest and use the heaviest machines are those who do the greatest amount of damage, and under a fuel tax would pay most highly. Further, an extra tax might well be levied for the use of steel and steel-studded tyres. Pedal cyclists do but little damage, but a small tax might be obtained from them. It would, as a correspondent points out, give them "more voice in the matter of 'rights of the road.'"

Why not tax horse traffic more heavily? A horse's iron-shod hoofs do more damage than a motor cycle.

Sir,—The problem of taxation can be expressed in a few words. Petrol consumption indicates mileage, mileage means wear and tear of roads. I quite agree with Mr. Hills that motorists should pay in proportion to the damage done to the roads, and in my mind the tax on petrol is the only fair way of making them do so.

NEMO. fair way of making them do so.

Norwich.

Sir,-"Eight Year Old h.p. J.A.P." states that unfairness lies in taxing old machines which originally cost, say, £50, the same as modern motor cycles which cost £150.

Surely the basis of taxation is cost of road repairs. A machine eight years old will do just as much damage as new motor cycles.

In my opinion the fairest method of taxation is taxing by the capacity of the cylinder or cylinders.

B. H. JOHNSON.

Sir,-The present system is more fair to the poorer class of motor cycle owners than the proposed method of taxation. Observing that the Government are seeking fresh means to belp the National Exchequer, as an alternative why not impose a small Inland Revenue licence, say a few shillings a year, on pedal cyclists? I think the average pedal cyclist would not complain at this, observing that it would give him more compann at this, observing that it would give him more voice in the matter of "Rights of the Road." Gillingham. PEDAL CYCLIST.

Sir,-The suggested £3 a year for a motor cycle is a large amount for anyone with a small income to pay, and in the event of it becoming law, many will have to give up motor cycling, and sell their machines, as an income of about £160 a year will not permit anyone to keep a wife, child, and a home going, and pay £3 a year motor cycle tax, and just use the machine occasionally when it is fine weather.

I think our motor cycling associations should insist on the tax being put on the fuel, which would be the fairest method for everyone. FAIR PLAY.

Millbrook.

Sir,-Let us analyse the new taxation and its effects on the working man. To arrive at the amount, a distance of 5,000 miles has been assumed as an average distance covered during the year. Thousands of riders will not cover more than 2,000, and can only use their machines twice a week (perhaps sixty-six runs), and will run an average distance of thirty miles each outing.

The standing charges will be for a 5-6 h.p. combination: Tax, £4; driver's licence, 5s.; club, 10s.; insurance, say, £3 15s.; a total of £8 10s. For a distance of 2,000 miles it works out at well over a penny per mile, or 2s. 6d. every

time the machine is used. If the mileage per gallon is fifty, then the machine is used. It the mileage per gallon is may, then the cost of petrol will, at 2s, 6d, per gallon, be 84 of a penny, making a total of 1.84 of a penny per mile. This does not include the cost of oil, repairs, and garaging, which are common to all conditions and not affected by taxations.

To sum up the whole, new taxation and the price of petrol is likely to come such a bandon and the price of petrol is likely to come such a bandon and the price of petrol contents.

is likely to cause such a burden on the industry and sport that thousands will be compelled to lay their machines up indefinitely. No working man can afford to spend a sum of £20 or more to cover a distance of 2,000 miles for pleasure, and that is just what it amounts to.

The key to the whole position seems to be that taxation of petrol is the only fair method of dealing with the question.

SAMUEL TROUNSON.

Sir,-Mr. H. W. Hills says: "Why not tax tyres?" and then claims that in this way the motoring public would each pay his or her own way, with regard to the damage done to the road.

Surely the fairness of this is obvious to all, for I think everyone will admit that the two fly-power scooter, with its tiny wheels, small power, and light weight, cannot possibly do the damage to the road that is done, say, by a big 8 h.p.

combination.

In my district there was a beautiful road, made of tar macadam. Now, this was a main road in and out of the town, and, of course, was the bearer of a great amount of traffic. Well, for years this road stood up to it manfully, and during this time it would have been hard to guess whether it was much used or not, but after a time a motor 'bus service came into action on this road, and I can safely say that in two months the cream was off it, and in another four months it was absolutely ruined. I allude to Yarm Road, which, I feel sure, many of your readers will know. In conclusion, I may add that I am not a scooter maniac,

but a rider of a big twin combination.

Stockton-on-Tees.

Sir,-Since the question of new taxation is apparently Sir,—Since the question of new taxation is apparently assuming such serious proportions, one begins to wonder what the ultimate outcome will be. Whoever is responsible for the new scale proposed should at least be practical and unbiased, as well as being progressive, but the more offereads about the methods of levying the tax the more apparent it becomes that there is something savouring of vindictiveness and persecution of a section of motorists in the originators of a scheme such as we are led to believe is now under consideration. now under consideration.

Obviously, it is not yet recognised that roads were necessary for some purpose or other long before motors came into being, yet it is now almost suggested that the motorist is the only person interested in such things. It hardly seems fair to the average motorist that any exemption from a reasonable share of the petrol tax, for instance, or licensing a reasonable share of the petrof tax, for instance, or incensing rates, should be conceded to the holder of a hackney licence, or to a doctor, or owners of large businesses necessitating the use of heavy motor transport. These services are each most useful in their way, but why extend to them privileges, and, probably, through them to the public, in such a manner as to necessitate the persecution of that section of motorists who are not granted similar concessions?

If the taxes are intended to pay for the upkeep of the roads, then let the wearers of the road and whoever they serve pay, and pay according to services rendered. I contend that a motor cycle, for instance, does not wear the road as much as a coal cart, or a trader's van, in spite of the greater distance covered. The proper method would be to divide the estimated taxes required between motorists and other users in their respective classes, and so far as the and oner users in their respective crasses, and so tar as the motorist section is concerned (inclusive of ordinary cyclists, if more convenient), put the tax on the petrol and tyres, so that payment may be made or economise effected according to the use made of the roads. We cannot all afford to be running here and there just for the sake of consuming petrol and wearing out tyres, and therefore many motorists get only a comparatively small mileage out of their machines per annum, yet we are threatneed with a most unfair method. per annum, yet we are threatened with a most unfair method of increased taxation. ROBERT KIRTON.

A Scooter with Folding Seat. A Miniature Designed and Built by the R.A.C. Engineer.

PARTICULARLY ingenious scooter
has lately been constructed by Mr.
Hudlass, engineer to the Royal
tomobile Club, in his private workp. From the constructional point of
wit is a most excellent job, practically
ry part, even the hub, having been
t by its designer.

they is designer, the weight is lb., but Mr. Hudlass hopes to reduce in The frame is light and strong, and anitably trussed, and at the forward tion of it an Auto-wheel engine is ed, though Mr. Hudlass considers that lore powerful unit would be desirable. Fear portion of the frame is connected the main portion by means of flexible

plings consisting of inations of spring steel, le the lower portions of main and rear frames connected by coil springs tension, which are capol of adjustment to suit weight of the rider by simple method of screwup or unscrewing the

Transmission side

scooter

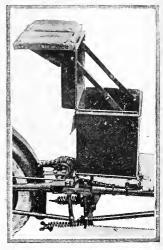
butterlly nuts provided. Long and comfortable footboards are provided, which are capable of being folded up so that the little vehicle will occupy a very small amount of space. The transmission is by a long chain from the engine to a ballbearing countershaft, and thence by short chain to the rear wheel.

Neat Spring Forks.

The design of the front forks is most interesting, and Mr. Hudlass hopes that they may serve equally well on motor bicycles as on scooters. With them side play is quite impossible, while of the four springs the two inner ones are in tension, while the two outer are in compression, and serve to take the rebound. The lower portions of the fork tubes slide into long outer tubes filled with oil. In the scooter the fork tubes or blades are straight, but the designer sees no reason why they should not be curved, as in ordinary motor cycle design.

Not the least ingenious part of the vehicle is the luggage box. When the lid

Not the least ingenious part of the vehicle is the luggage box. When the lid of this is raised, a small cushioned seat is disclosed, which is first placed in position and then laterally extended; consequently the Hudlass scooter will suit equally well the rider who wishes to stand and the rider who prefers to sit.



The Hudlass scooter, showing the springing and seat unfolded.

The band brake on the rear wheel is controlled by a lever on the handle-bars. Despite the small wheels, excellent springing, in conjunction with the large diameter tyres, renders this scooter very comfortable to ride.

Mr. Hudlass is naturally not placing the machine on the market himself, but hopes to have the design taken up by a manufacturer

A New Proprietary Fork.

The "Y" Spring Fork embodying Link Motion and Leaf Springs.

is probably true that last year motor yele manufacturers experienced much aconvenience through the shortage gring forks, which had some influence 1 outputs generally. For this reason e the introduction of a new propriefork is of interest at the present; especially as arrangements are well and for its production on a large scale. Its fork is to be known as the "Y," is the invention of Mr. R. S. Whaley, LLM.E., the designer of the Union stroke engine, who is one of the neers of the Patent Spring Fork Co., 5, Francis Street, Ashted, Birming-The design is based on the theory



The springing system on the Y lork

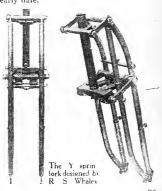
moving motor cycle at angles approximately between 35° to 45°, and that when the front wheel strikes an obstruction the tendency is for the wheel to move backwards, and as it mounts the obstacle to travel upwards.

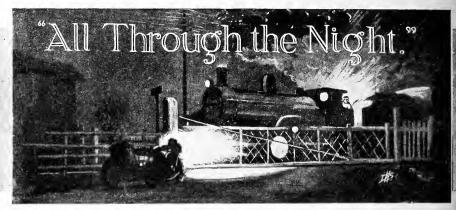
It will be observed that the Y fork embodies two pairs of links of different lengths, and disposed at different angles, which provide a backward and upward movement through an angle of about 45° to the perpendicular.

The construction of the fork should make for quick production. No castings are used, the spring carrier at the foot of the steering stem being a steel pressing, while another pressing is used for the upper link support.

Two leaf springs are used, which are connected by drop shackles to the moving member of the fork.

Arrangements are being made to supply the forks complete with brakework to snit manufacturers' requirements, and we understand that three sizes will be made. The company is now in a position to deliver the lightweight sets, and the heavier types will be available at an early date.





Being an Incident in the Work of a Press Representative, which demonstrates the Utility of the Sidecar Outlit.

MOTOR cyclists, however keen, do not usually attempt long night rides in January for the mere pleasure of compiling a presentable annual mileage, and the writer has no shame in admitting that the run to be described was done perforce.

Word being to hand that a decidedly novel power unit was on the point of production "somewhere in the North," it was urgently required to be reviewed for the benefit of *The Motor Cycle* readers. Railways, unfortunately, do not run to suit the convenience of everyone, and finding it impossible to make a start during the day, a night run by road was necessary.

Preparations for Machine and Rider.

Fortunately, the weather was fine but cold, and as the chains had been recently bathed in grease and a new tyre fitted on the back wheel, no attention was bestowed on the "'bus'' other than filling the oil and petrol tanks and radiator. A complete kit of tools and spare chains was dropped in the sidecar in addition to four gallons of benzole, one quart of oil, and two pounds of carbide. The sidecar also con-

tained a suit case, a heavy photographic outfit, and a set of "sea-dog" oilies. For a run of 140 miles at night the lighting equipment requires preparatory attention. The head light, an F.R.S. Major, is supplied by its own generator, and the sidecar and tail lamp run off another one of P. and H. manufacture. Both of those were scrupulously cleaned and charged with water and carbide, half a pound in each.

For such a ride some regard must also be paid to clothing, and, in addition

to the ordinary attire, an extra pair of socks, a woolle cardigan, a leather vest, two scarves, an old dus coat, and a racing helmet (pace Ixion!) were won The handle-bars are equipped with muffs, and ordinal soft leather gauntlets were used.

Mixed Weather and Rough Roads.

With engine running sweetly and all lamps aligh Coventry was left behind at 9.20 p.m., and whe the outskirts of the town were reached, a gentle rai commenced to fall. The roads were rendered greas thereby, but it was not too unpleasant. Before reaching Leicester it was noticed that the sidecar lamp we out, and a stop was made to relight it. High spee was not attempted, and two hours were spent in covering the first twenty-seven miles. The first six mile out of Leicester (as far as Six Hills on the Fosseway is a nightmare road—huge pot-holes, inches of mud and long stretches of unrolled stones abound, and the powerful beam of the head lamp was appreciated.

Passing into Nottinghamshire, the road improves and mile after mile was reeled off at about 25 m.p.h.

one stop being experience due to a sooted plug result ing from using the hand pump instead of relying entirely on the automatic system. This stop onl lost five minutes, as th writer invariably carries haversack (dear relic!), i which is placed petro squirt, plug spanner, spar plug, the priceless B.S.A spanner which fits almos every nut on the machine and a flash lamp. little equipment, which meets most running require ments, saves both languag and wear and tear of the toolbag fastenings.



A powerful head lamp is appreciated on bad roads. . .

'All Through the Night."-

The run along the Fosseway was delightful, the road being bounded on each side by rolling country, and the head lamp picked out a broad and brilliant path for some distance on the straight road ahead. Thanks to the extra clothing and a following wind, no discomfort was felt from the cold, and the heavens were alternately starlit and cloudy.

A Nocturne.

"The o'ercast, bright stars are gleaming All through the night."

The tranquillity expressed in the words of the old

Velsh song was im-ressive. To scurry cross the face of he silent country in little blaze of ight which accentutes the darkness is realise one's isolaion in the immenity of night; the ven monotone of ne two-stroke twin id not shatter the uietness of things. At Newark the decar lamp was gain lighted, but ie precaution was



One of the worst roads in England-the Fosseway, near Leicester. "Daylight showed the potholes, which are not seen at night.

anecessary, for the town was wrapt in sleep. Passig the level crossing, I noticed a slight drag on the eering, and suspected the cause. Inspection veried that one of the spring fork bushes which had been securely replaced, after removal for a packing of ease, had become loose. Its fitting entailed removing e front wheel and a brake shoe, and the whole job as done in ten minutes with the B.S.A. spanner. xcellent running was made up the Great North Road, ith no stops (other than a wait at a level crossing hilst a goods train lumbered by) until Doncaster was ached. The sidecar lamp was again out, and it may re be said that it is of a nameless and barbarous sign, being an egg-shaped aluminium casting having ur air-holes below and five above. When standing e lamp becomes filled with the products of comistion, and the flame expires in a ghostly glimmer. hen on the move it is promptly blown out if windy, dies out after a short distance. The said lamp s disturbed my recording angel.

The Gleam of Furnaces.

After leaving the main road, Pontefract was passed 4.15 a.m. (the pavé here was reminiscent of D.R.

Some miles of an evil tram track were traversed, until the distant gleam of steel works and furnaces told us to branch off still deeper into the heart of West Yorkshire. A little further on the tank went

dry, and a brief calculation while re-filling proved the consumption to be 65 m.p.g.

Without further incident the end of the 140 mile run was reached at 5.20 a.m. (171 m.p.h. average). generators, which had not been recharged, were still supplying gas, and neither head nor tail lights had given any trouble.

The Day's Work.

After a two-hour sleep the work in hand was commenced, and a busy day was spent noting, sketching,

and photographing the object of the journey. The evening was devoted to developing plates and "writing-up" a lengthy and detailed report. After that a welcome rest was sought.

The Road in Daylight.

I had intended to start at 10 a.m. next day, but after refilling with oil and petrol I again noticed that the front fork bush was out of place, and this was remedied. The actual start was made at 10.35. Daylight showed the pot-holes which are not seen at night, and despite a head wind all the way, the return run was made in exactly six hours, Coventry being reached at 4.35 p.m. with the one stop for refilling the tank (average 23.3 m.p.h.). The wind and increased speed lowered the consumption to 50 m.p.g., and the consumption over the double journey equals 57.5 m:p.g. The average speed over the double journey equals 20.4 m.p.h.

. In proof of the negligible effect of vibration, even on a machine fitted with a rigid frame, it was possible immediately on arrival to commence work on a set of mechanical detail drawings with a perfectly steady hand.

MECHANICAL ENGINE STARTERS.

O far very few inventors have turned their attention to devices of a mechanical nature to take the place of the "kick starter." The conntional pedal starter is certainly efficient, but its is hardly more graceful than the winding of a t engine by its starting handle. No modern car is garded as complete unless it is fitted with an electrical rter, but on a motor cycle perhaps electricity is t likely to be considered in this direction for some ne to come if only on the score of added weight

and expense. Nevertheless, it would be interesting to know why the electrical starter was dropped by the Hendee Co., who, it may be remembered, fitted such a device on one of their electrical models a few years ago. Very few machines have been equipped with mechanical starters other than the type of present-day kick starter, and undoubtedly the problem is not a very easy one to solve, but if inventors would turn their attention to devices such as starters, there is undoubtedly great scope for their ingenuity.



International Competition.

In which the Desirability of Supporting Overseas Events is Advocated.

OW that the world is once more settling down to peaceful pursuits, the time is perhaps propidious to refer to international competitions. In the past British sportsmen have never been loth to enter into competition with the sportsmen of other countries on the latter's own ground; but, except for a British representative entry in Continental reliability trials, the motor cyclist of this country is unknown

The Tourist Trophy Race, which is an international event, generally attracts a few entries from America and the Continent, despite the fact that the types of machines developed by the races are typically British. In other words, America, for instance, has to design and build special machines of a type with which they are comparatively unfamiliar, though little is done on this side of the Atlantic to support American events, which cater for an altogether larger machine.

A strong effort is being made in the U.S.A. to create an interest in the 1920 T.T., with the sole idea that in return British riders may be tempted to compete in the American international two hundred miles race in September: an event which approximates in importance to the T.T. races.

The Sporting Spirit.

In the days when pedal cycle racing was in greater vogue, British speedmen were to be seen on all the important tracks of the world; yet, excepting the Grand Prix of France, British motor cycle racers have rarely been in evidence. This is unfortunate if we are to maintain our reputation as an enterprising nation, and we have no doubt that a British team at the American event would receive a splendid reception, especially this year, when international competitions will be

headed by the America Cup contest—the blue riban of the yachting world—which will be held about th same time.

At the present time the only intercourse between th two great English-speaking races is connected wit commerce. Cannot British motor cyclists do some thing to assist in cementing present relations by mean which do not take into account the influence of finance

A Team for America.

In the past Britain's international representation has generally been left to the individual. The America Cup provides an example of the difference between British and American methods in this connection. This great international event will be between Sir Thomas Lipton's Shamrock and a yacht built be a syndicate of New York yachtsmen. Would it not be possible for British motor cyclists to create a function finance a team of motor cyclists to represent the "old" country in the "new" world.

THE TOOL BAG.

Considering the condition of present-day roads and that also of the tools after a few miles in a panner bay on the carrier, it is surprising that the majority of manufacturers continue to fit these bags on a poin of the machine which suffers vibration more than any other. This practice is probably due to preceden and convenience, but there is no reason why a toolbay or box should not be fitted on the top of the tank as on several machines, or in the diamond of the frame, as on the new Raleigh flat twin, in which positions they are less liable to be damaged through vibration.

The Coventry Premier in Scotland.

SERIES of demonstrations the as to capabilities of the Coventry Premier Runabout were recently given in Glasgow, subsequent to the motor show, by Mr. R. P. Monk, who is associated with the manufac-This little three-wheeler, it will be remembered, is fitted with an 8-10 h.p. V twin watercooled engine, shaft drive to gear box which gives three

speeds and reverse,

and final drive by chain in quickly detachable case.

Our Scottish representative enjoyed a short trip round Glasgow, and was impressed by the manner in



The 8 h.p. Coventry Premier climbing one of Glasgow's many test hills

which the hills encountered were climbed without effort.

Among others, Balmano Brae, the steepest gradient in the town, was tackled on the bottom gear of 11 to 1, and an ascent made without effort. The points which were especially noticeable included absence of vibration, quick acceleration. ample power, and extreme handiness in traffic. The machine was driven up from Coventry, Mr. Monk

experiencing no trouble during the whole journey, and after spending a few days in Glasgow he left for the south by road.



FRICTION CLUTCHES FOR MOTOR CYCLES.

By R. WARING-BROWN, AMIA.E.

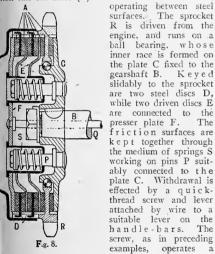
Part II.—Some Remarks on Clutch Design and Descriptions of the Best Known Types.

The first part of this article (published on February 12th, pages 175-7) treated of the general design of motor cycle elutches, and contained detailed descriptions of several popular models. In the following pages will be found some account of dry plate clutches, together with some remarks on the coefficients of friction between various surfaces and notes on clutch position.

Dry Plate Clutches.

HIS type of clutch is rapidly coming into favour, and is undoubtedly the most satisfactory type obtainable, since it is sweet in action, capable of considerable amount of slipping without overheating, it is durable in use. Clutches of the dry plate type like either cork inserts or fabric as the friction

In fig. 8 is illustrated the Sturmey-Archer clutch, hich has six discs (A) of Ferodo friction material,



1 Q through the centre of the gearshaft, which pushed against the pressure plate. This clutch is unutedly one of the best of its species, and has been opted by many of the large manufacturers. The lef point calling for criticism is the fact that wear the friction surfaces would tend to move the position of the chain sprocket, thereby causing the drive on the engine to the gear to be out of alignment.

Ball bearings in clutches are always a weak feature, ing to the fact that the heat generated in slipping events adequate lubrication. In practice also, oil is through the gear box to the clutch, in consequence which the first friction ring seems to suffer, and ariably wears out infinitely quicker than the others. is interesting to note that the American Harley-widson machine, equipped with a clutch of very illar design, does not use a ball bearing for the tocket wheel, but a bush of phosphor bronze, of

ample proportions. Also, only one clutch spring is used, and more provision is made to prevent an excess of oil in the clutch.

A dry plate clutch having cork inserts as a friction medium is shown at fig. 9, that of the well-known American machine, the Indian. In this device the engine drives by a chain on to the loose sprocket O, fitted with the cork inserts, which is clutched between the two discs M and N keyed to the mainshaft X; but while N is firmly fixed by the key, M is free to slide on it. The spring S supplies the required pressure. The clutch is released by a central rod worked by a quick-thread screw, as in preceding examples. This arrangement of clutch is very compact, but it suffers from exposure to dust. Cork inserts form a good friction surface, but are liable to disintegrate in course of time, and consequently act inefficiently.

Friction Surfaces.

The writer considers the question of friction surfaces of the very greatest importance, because where the requirements of a successful clutch can be complied with in their entirety by the combination of certain friction materials, the reduction of weight, and complicity of construction, are bound to follow. In the table below are shown friction coefficients, taken from actual tests of various materials when dry.

Materials.		-Co	efficient	of	Friction U.
					Allowable.
Cast iron on cast iron	• • • •		.170		
			.220		.146
	•••		.180		.120
	•••		.270		
	•••		.340		.230
	•••		.210		
	•••		.250		.166
			.240		.160
			.120		.080
Ferodo on any material			.550		.310

All these tests are shown on absolutely dry surfaces. Where lubricant is present, the coefficients generally depreciate considerably. Consequently, it might be argued that the best clutch would be that which would run dry while satisfying the other necessary conditions. It is, of course, possible to construct clutches having purely metal surfaces, excellent results having been obtained with alternate plates of mild steel and phosphor bronze, lubricated with graphite. However, even with greatest care, attention and favourable conditions, liability to scoring, seizing up, and distortion of the surfaces remains; consequently, attention has turned to the use of non-abrasive materials.

Cork, which is more in evidence in clutches of American origin, has a very good coefficient of friction, particularly, when absolutely dry. The cork used for this purpose is generally prepared as follows: Small

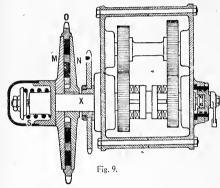


Friction Clutches for Motor Cycles .-

pieces of cork are compressed into sheets or blocks under great pressure and under enough heat to cause the natural gums of the cork to exude and act as a binder. The cork, of course, is even then compressible to a certain degree.

The Three-plate Clutch,

It is customary to make the cork plugs of such size that they project about \$\frac{1}{16}\$ in, above the surface of the plate in which they are fitted. Hence, when the discs are forced together, the contact is at first between metal and cork only, and owing to the compressibility of the cork, the engagement is very smooth. This is the unique and valuable feature of this material. However, when the full pressure of the clutch spring is applied to the friction surfaces, the corks are compressed flush with the plate, and one of the surfaces is then part metal and part cork. This, of course, will reduce the effective friction coefficient considerably, depending upon the relative area of the corks and the metal. As a rule, the cork covers from twenty to fifty per cent, of the total area of the discs.



The majority of clutches of this type are of the three-plate variety, the middle plate containing the corks. The corks are boiled, and thereby softened, before pressing them into the plates; the part of the cork protruding swells: consequently a good fixing is obtained. Under high temperatures cork is liable to char quickly. This is partially prevented by lubrication, but, of course, this is detrimental to the friction.

From the foregoing, attention is naturally focussed on to the question of fabric friction surfaces. The chief property of such material should be its high friction coefficient. It should also be impervious, insoluble, and durable. It should resist the destructive action of slipping, require no attention, and be easily attached to the necessary surfaces.

Clutch Position.

From a survey of current design it will be noted that the clutch is fitted either in the engine-shaft, gear shaft, or rear axle.

In the latest designs of motor cycle, where a speed gear is fitted, it is practically standard practice to fi the clutch on a gear countershaft running at hal engine speed. Obviously, this is quite incorrect, as if two clutches of similar design are considered, on being run at engine speed, and the other at halengine speed, the former could be half the effective diameter of the other and yet transmit the same power provided the spring pressure be unaltered. Alterna tively, it might be of the same diameter, using halof the spring pressure, thus making for easy contro and long life of the clutch. Evidently, therefore, no advantage whatever can be gained by running the clutch at half engine speed instead of at engine speed as a dry plate clutch could be designed considerable lighter, with a lighter spring pressure, and with fa greater durability and simplicity than any countershaf clutch now known. Actually, of course, the clutch should be run at the highest possible speed, and it i absolutely essential that it be placed between th engine and the gear.

In arranging a clutch in the engine flywheel, ther are, of course, difficulties to contend with in engine having internal flywheels, but they can be overcome while where outside flywheel is used, the position i considerably simplified.

Conclusion.

In drawing conclusions from current practice, th writer believes the following offers the basis for good clutch:

Position .- In engine flywheel.

Type.—Dry plate, single disc.

Friction Surfaces.—Ferodo on cast iron or steel Spring Pressure.—Should be balanced whe clutch is in or out of action.

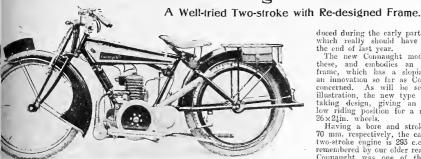
Further, it is suggested that the modern machin requires considerable alterations. Belts as a final drivare undoubtedly being displaced by chains. Chain require lubrication and periodical attention, and the writer believes they will be ultimately replaced by the adoption of shaft drive, similar to the F.N. Thengine would be turned round, with flywheel facing the rear wheel, allowing, in consequence, the fitting of a clutch of ample dimensions. The fitting of such a drive can give at least ninety per cent. efficiency which is quite as much as can be obtained with an other drive on a motor cycle of conventional design

AN ACCUMULATOR WRINKLE,

Many sidecar outfits are now fitted with electric lamps which are supplied with current from a set of accumulators housed in the body of the sidecar. A member of our staff had the unpleasant expérience of discovering, late at night, that both accumulators fitted to his machine had, apparently, run completely down, the filaments of the bulbs not even reddening

when the current was switched on. A dimly remen bered wrinkle was put into execution, and the accumulators immersed nearly to the top in water—just be enough to bear the hand in comfortably. Five minute of this treatment had the desired effect, and a furthet two hours of satisfactory light obtained with no furthet trouble.

The New Connaught Model.



e 1920 model Connaught, it will be observed, has a newly-designed frame. The engine c.c. is 293 mm.

IITE a large number of motor cycle manufacturers were so busy during 1919 they were unable to commence stions upon their 1920 models until

the moulders' strike made matters so difficult that they could not be got ready for the Olympia Show. For this reason there may be several new models introduced during the early part of this year, which really should have appeared at the end of last year.

The new Connaught model is one of these, and embodies an entirely new frame, which has a sloping top tube, an innovation so far as Connaughts are concerned. As will be seen from the illustration, the new type is of quite a taking design, giving an exceptionally low riding position for a machine with 26×24in. wheels.

Having a bore and stroke of 73 and 70 mm, respectively, the capacity of the two-stroke engine is 293 c.c. It will be remembered by our older readers that the Connaught was one of the firms who pioneered the air-cooled two-stroke for weter capacity and the cooled two-stroke for motor cycles, and also that it enjoys a splendid reputation for its economical

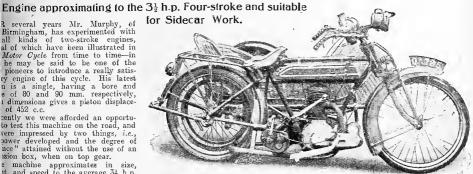
Brampton forks, Dunlop tyres, Sturmey-Archer three-speed gear, and well designed mudguards are included in the equipment.

A 452 c.c. Two-stroke.

several years Mr. Murphy, of Birmingham, has experimented with all kinds of two-stroke engines, al of which have been illustrated in Motor Cycle from time to time—in he may be said to be one of the pioneers to introduce a really satisry engine of this cycle. His latest e of 80 and 90 mm. respectively,
dimensions gives a piston displaceof 452 c.c.

cently we were afforded an opportuto test this machine on the road, and vere impressed by two things, i.e., power developed and the degree of nce" attained without the use of an usion box, when on top gear.

e machine approximates in size, it, and speed to the average $3\frac{1}{2}$ h.p. it, and speed to the average 52 h.p. stroke, while, as regards power, there id no doubt that it would propel a er load than the 500 c.c. four-stroke. machine illustrated is the experial model which has been doing duty works tender for several months, and



An experimental model two-stroke of 452 c.c. designed by a Birmingham engineer.

we understand it is Mr. Murphy's intention to market the machine when several important contracts which now occupy his plant are completed. The whole machine is pleasing in appearance, and of ample strength for sidecar work.

THE DUNELT BIG TWO-STROKE.

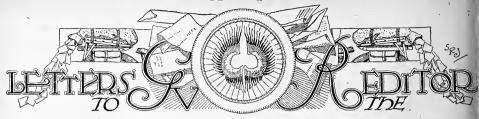
SITORS to Olympia last November will no doubt remember the Dunelt big single two-stroke machine exhi-by Messrs. Dunford and Elliott field), Ltd. No orders were accepted is machine, as the company did not

desire to enter the market until the machine had been subjected to an exhaustive test, and an adequate manufacturing and sales organisation had been got together. The machines are now on the road, and are behaving in a very promising manner, but some time must elapse before they can be marketed.

Last week we witnessed a demonstration of the engine's capabilities on "the bench," and, despite long running on full throttle, the engine did not overheat.

SPRING NUMBER AND BUYERS' GUIDE.

MARCH 25th has been fixed as the date of the Annual Spring Number of The Motor Cycle. Special articles are in course of preparation, and a feature of the issue will be an illustrated Buyers' Guide.



The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Covenity, and must be accompanied by the writer's name and address.

Sir,-In order to create competition in motor fuel, I venture to suggest that the right course would be to control the price of raw benzole, so as to give distillers a chance of putting on the market a competitive fuel, and that purchasers should be rationed. This might prevent the wholesale purchase of raw benzole by petrol magnates to freeze out competition.

LOVELL ELLIS.

SIDECAR COUPÉS.

Sir,—The enquiries, as a result of my letter re above in your issue of January 29th, having been too numerous for me to deal with, I should be glad if you would allow me to acknowledge them in a general way in your valuable paper, and to say that the device is not yet on the market, but that I am having some printed matter got out on the subject, and in the meantime crave the indulgence of all those of your readers who sent along enquiries.

W. H. BURLEIGH.

THE SPORTING SINGLE SPEEDER.

Sir,-I notice in your issue of February 5th a letter from "C.E.T.," in which he affirms that, with the exception of the Zenith, Rudge, and Triumph, the solo rider who wants a light, powerful and sporty mount, is not catered for in machines over 2\(\frac{1}{2}\) h.p. This is, of course, quite erroneous, as the Norton \(\frac{1}{2}\) o. has for the past twenty years marketed single-geared belt-driven mounts, and there are now four single-geared Nortons (in addition to chain-driven models), viz., 3½ h.p. Brooklands Special, 3½ h.p. Brooklands Road Special, 3½ h.p. Tourist Trophy, and the Big Four Direct the last three being comfortable and flexible road machines, with speed when required, and undoubtedly the simplest machines of their power made.

JAS, L. NORTON.

Norton Motors, Ltd.

PRICE OF PETROL.

Sir,-The increase of 8d. per gallon on the price of petrol is causing those of us who belong to the A.A. and kindred bodies to realise that the time has come for united action. Doubtless you are receiving scores of letters expressing similar opinion, for members realise that in union lies strength. It is, however, easy to clamour and difficult to offer suggestions of practical value. Might I propose, however, that continued pressure from constituents upon members of Parliament should be brought to bear, in order that discussions and questions in the House of Commons should stimulate the dilatory Committee of Investigation into petrol profits, and also that the Excise obstacles in the way of power alcohol production may be removed? I am perfectly willing, personally, to do all I can locally in the way of organising demonstrations, obtaining lists of signatures, etc., etc. Anyway, it is up to the A.A., etc., to play the game, and get busy on behalf of the motoring public. There are vast numbers on behalf of the motoring public. There are vast numbers of people waiting to fall in behind any attempt at organised resistance against the absurdly high prices now obtaining. J. F. BLYTH, JUN.

Sir,-The statement issued by the Shell Marketing Co. in justification of the recent advance in the price of petrol to 3s. 81d. per gallon is curious. The 3s. 81d. is arrived at by two processes-one of taking various items such as cost f.o.b. New York, etc., and winding up with duty 6d., garage profit 42d., making a total of 3s. 62d. They then go on to state that they take 5% of this 3s. 62d., namely 2d., which is added on to that figure, making a total of 3s. 81d.

As a member of the Profiteering Committee enquiring in the whole question, and which has as yet issued no repor I feel precluded from criticising any of the figures given a to cost, freight, etc., but I think that the public is entitle to enquire why the Shell Marketing Co. arrogate to them selves the right of making a 5% profit on the duty paid the Government and the remuneration allocated to the

Assuming for the moment that the other figures, exclud

Assuming for the moment that the other figures, excluding duty and garage profit, are correct, these total 2s. 8d. and taking the Shell Marketing Co.'s own figure of 5%, is obvious that the figure of 2d. should be reduced to 14d. When it is remembered that our imports of petrol las year total something like 200,000,000 gallons, and that on probable consumption in 1920 will be nearer 250,000,00 gallons, the item of \(\frac{1}{2} d. \) slipped in in this way represents sum of approximately half a million stepling taken from the sum of approximately half a million sterling taken from the public's pocket.

ROBERT H. MONTGOMERY. public's-pocket.

SHAFT DRIVE.

Sir,-I am an F.N. enthusiast, so have been intereste lately in the correspondence regarding it, and I thin I can add a convincing testimony to the merits of the machine—the only machine on the market with perfect transmission.

Mr. Smith asks about wear. At present I have a 7 h, 1914 model, which has certainly had as good a gruelling with sidecar, as any machine could have in the time. On examination, I find the bevels, stub shaft bearing and universal joints practically free from wear, and I ma

say here that should any wear take place in the bevels, etc.

Before having this machine I had a 2½ h.p. F.N. light weight, in constant use summer and winter, in every conceivable sort of weather, for over five years, and for three summers I had the cheek to hitch a coach-built Watsonia sidecar alongside, and during that time my transmission troubles were nil, and the only replacements were one se of bushes (about 5s.).

Now, as regards efficiency. I have yet to see the belt o chain-driven 2½ h.p. which will do what my old 1910 on lung F.N. did, and I may add that the bevels, etc., we practically as good as new when I parted with it. Consumption was 90 m.p.g. sidecar and 120-140 m.p.g. solo. The reason manufacturers do not consider the shaft-driv

more is surely obvious when one compares the cost of pro ducing the different systems.

In conclusion, I would say that I cannot imagine any thing on two or three wheels more ideal than the 7 h.p. F.N., with its beautifully made engine, forced lubrication large wearing surfaces, its very efficient multi disc clutch three-speed box, with foolproof spring change, and the drive—yes, the real drive—which will take you through anything where the tyres can find the bottom, with no more attention than a bit of suitable grease occasionally.

The man who has never ridden a four-cylinder with shaft drive has not tasted motor cycling at its best.

J. S. KNIGHT,

Correspondents are urged to express themselves as concisely as possible, especially in view of the fact that only a small percentage of letters received can possibly be published. Many interesting letters are unavoidably omitted in consequence of their abnormal length.

STON RINGS.

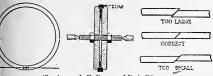
Sir,—The following notes may be acceptable to suppleant the article on piston rings in your issue of January

To manufacture a ring which will exert uniform pressure the cylinder walls throughout its circumference is imssible with any practical variation of section, if the cast-

gis finish turned before cutting the gap.

Perfect results may, however, be obtained as follows:

ore the ring to the size required when expanded. Then agh turn the outside somewhat larger (say .020 per inch diameter) than the finish size required when expanded, d concentric with the bore. Part off to width. Cut the p so that the ring lits into a tube which is as much larger in the cylinder bore as the outside has been turned larger in the finish size. Now to ensure theoretically perfect upe the ends of the ring should be drawn together by ans of a clamp so applied that the opposing forces F tangential to the mean cylindric surface. See sketch, is is difficult in such small rings as are used in petrol tors, so the tube mentioned above may be used, and gives y good results. Now fit a mandrel as shown, remove the aining tube and finish turn the outside diameter to the e of the cylinder if for a new job, or a few thousandths ove size if for replacement in a worn cylinder. Several



(See letter, J. C. Bennett Mitchell.)

gs may be mounted and turned together.

The finish of the rings will be improved if they are now ped in a dummy cylinder of the correct size. A plug represent the piston may be grooved to take a number

When fitting new rings to an old cylinder it should be ne in mind that the bore will be worn slightly larger in meter where the rings work than at the mouth. Thereas the rings, mounted on the piston, must pass the th first, it will be impossible to get a sloping cut ring the really closely at the ends when in position. On the reland, if the new rings pass the mouth, however thand, if the lease off when in place. Step cut rings better for gas-tightness, but more difficult to shape and e fragile.

stated above, replacement rings should be finished htly larger than nominal size. When fitting try them he mouth of the cylinder—without the piston—and trim ends with a fine file to the correct fit. When the ends pressed together as shown, a step of a thousandth of nch is perceptible to the touch, with care.

arrow rings are desirable, but the approximately square ion is less liable to breakage in fitting. Readers who to acquaint themselves with the theory of this subshould turn up Unwin's "Machine Design," Part II., 248-256, and Perry's "Applied Mechanics," p. 404.

J. C. BENNETT MITCHELL.

WINTED-A LUXURIOUS SIDECAR.

-t,—I have been following the correspondence on stain-steel and "Motor cycles de luxe" with some interest, as 1 still hoping (against hope?) that some British manu-arer will shed his brass-bound conservatism and at h put on the market a combination 7-10 h.p. that will a gentleman to get astride it without being immedi-transformed into a bounder. May I here state that not a youthful idiot, with Crœsus for a father, but ly one of a large class who can afford a car, but prefer tor cycle provided one can keep clean on it, and not shamed to ask a lady—not a giggling flapper—to enter idecar.

this end some would go to £300 with pleasure, and i expect decent enamel, real mudguarding, with underis and side shields, silver-plated handle-bars, and bright and last, but not least, the magnificent and safe ican twist grips, and not the dangerous taps so

beloved of the B.P. Mr. M. Reilly is far from the mark when he asserts that the "powerful combination must finally give way to the cycle car."

At the risk of being considered a parrenu, 1 will say that the man in a cycle car resembles a vannan delivering parcels for his shop, and, moreover, a cycle car has "I-can't-quite-afford-a-car" stamped all over it.

I know that the motor cycle is the poor man's car, but there are a multitude of reasonably priced makes for him to choose from. Cannot those for whom price is no object have just one handsome heavy motor cycle de luxe built for them? To would-be scoffers I say (in anticipation), "We want to keep ourselves clean, and our turn-out from looking like the impossible grids one sometimes sees on the roads."

XENOS. Kensington.

WELDING MOTOR CYCLE FRAMES.

Sir,-With reference to the tendency in modern motor cycle and sidecar frames to weld the joints, I should like to draw attention to one point which, hitherto, does not appear to have been appreciated, that is, the effect of the high temperature of welding on the steel tubes used.

Steel tube used in motor cycle and sidecar frames is usually cold-drawn, which cold drawing imparts certain useful physical qualities to it. If this material is heated to, say, 450° C. to 500° C., the effect of the cold drawing is removed without change in the structure, and, as a result, that portion of the frame is slightly weaker.

When welding, however, the metal at the weld is raised to fusion point, and the structure is completely altered.

Assuming the weld to be perfect, i.e., that there is no slag, etc., in it, there is still a section of the tube which has been grossly, though unavoidably, overheated owing to the welding

This overheated portion, which may extend to an inch or an inch and a half away from the actual weld, is very brittle, especially under shock and vibration.

One can, therefore, readily understand that a welded frame is very likely to fail in use, particularly at high speeds on modern "roads."

This brittleness can be removed by heat-treating, or "Normalising," the whole frame after welding, the treatment consisting of heating the frame uniformly to a temperature varying from 730° C. to 850° C. (depending on the carbon content of the steel), allowing it to soak till the temperature is uniform throughout, and then cooling it in

The grain of the metal is then very fine, and the strength, generally, is increased, but it will not be as strong as the original cold-drawn tube, and there is also the risk of distortion.

Again, this reduced strength involves increasing the weight of the frame to compensate, the resultant weight being about the same as a brazed frame with lugs. is thus no advantage in the welded frame over the brazed or even the sweated and pinned types. And if one is unfortunate enough to get a broken tube, it cannot be replaced as easily, or as well, as if the joints had been brazed -in fact, it would most likely be cheaper and more satisfactory in the long run to get a new frame.

I therefore suggest to those who are contemplating welded steel tube frames that it does not pay to heat-treat cold-drawn steel tubes, as a certain loss in strength is inevitable. EO 795. Ipswich.

BOOKS AND MAPS FOR MOTOR CYCLISTS, Issued in conjunction wi.h The Motor Cycle,

"HINT3 AND TIP3 FOR MOTOR CYCLISTS."
Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Sixth Edition. (Second Reprint.) Price net. post. 21-2/3

TRACING MOFOR CYCLE TROUBLES:
A reliable system for tracing motor cycle faults and
of remedying any trouble when found. Fourth

Edition.

"THE MOTOR CYCLE" ROAD MAPS
En land and Wales, Scotland, London (showing roads into and out of London and avoiding London). Monnted on linen. Set of three, complete in case.

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd 20, Tudor Street, London, E.C.1, or of leading Booksellers and Railway Bookstalls.





Times to Light Lamps.

	GRE	EENWICH	T12	IE.	-	
eb.	19th			5.47	p.m.	
,	21st			5.51	٠,,	
,	23rd			5.55	,,	
,	25th			5.58	>	

Preparations for the T.T.

A. R. Fenn, of the Sopwith Co. (A.B.C.), has already been to the I.O.M., and O'Donovan (Norton) is expected in the Island some time this month.

Petrol in Italy.

Owing to the railway strike in Italy, the supply of petrol to all motorists, even the holders of ration cards, is_completely suspended.

I.O.M. Local Government Regulations.

The attention of T.T. entrants is directed to the Light Locomotives (Use and Regulation) Order. 1913, Local Government Board, Isle of Man. Copies of this Order will be issued to all entrants, and may be obtained from Messrs. Brown and Sons, Ltd.. printers, Times Buildings, Athol Street, Douglas.

Second-hand Prices.

It is an indisputable fact that the prices asked for second-hand machines show no tendency to diminish; on the contrary, an increase is noticeable in several instances. This maintenance of price is undoubtedly caused by the brisk demand for machines no longer new, while the continued demand may be attributed to the extremely low output of the new models. A reduction in the prices is not likely in the immediate future, as many prospective purchasers of new machines are deciding not to wait indefinite periods for delivery, and are acquiring second-hand machines in place of 1920 models, the production of which has been delayed by the moulders' strike.

Maximum and Minimum Prices.

A.J.S., 1914, 6 h.p., sidecar	111
" 1916 and later	£110-£182
Ariel, 6-7 h.p., sidecar	£155-£160
Allon, 2-stroke, 2-speed	£58-£72
Bradbury, 4 b.p., single-speed, solo	£35
" 4 h.p., sidecar	£,60
B.S.A., 44 h.p., 3-speed, sidecar	
	£90-£145
Calthorpe-Jap, 27 b:p., 2-speed	£37-£55
Ciyno, 2-stroke, 2-speed	£38
" 5-6 h.p., 3-speed, sidecar	£95-£120
Douglas, 27 h.p., W.D.	£42-£78
,, 4 h.p., 3-speed, sidecar £10	
Enfield, 21 h.p., 2-stroke	£48-£64
" 1919, 3 h.p. twin, 2-speed	
6 h.p., sidecar	£90-£180
Harley-Davidson, 3-speed, sidecar Humber, 3½ h.p., 2-speed, sidecar	£95-£185
3½ h.p. fiat twin, 1919	£35
Indian, 1914, 7-9 h.p., 2-speed, sidecar	£90
	£75-£115
lanies, 1919, 5-6 h.p., sidecar	£125-£135
Levis, 24 h.p., single-speed	£135-£165 £40-£47
2 h.p., 2-speed	1.48-1.62
Matchless, M.A.G. and Victory Models, with	£40-£02
sidecar	£125-£160
New Hudson, 21 h.p., 2-stroke, 2-: pecd	£40-£42
New Imperial, 24 h.p., 2-speed	1.48-1.70
Norton, 32 h.p., T.T.	£78
4 h.p., 3-speed, sidecar	£160
P. & M., 1919, 3! h.p., solo	£100
" 1919, 3½ h.p., sidecar	frio-1720
Rover, 1918-19, 35 h.p. T.T.	£85
1914, 3h.p. 3-speed hub, and s/car	. £65-£77
, 1918, 34 h.p., 3-sp. c/shait, and s/car	£135
Rudge-Multi, 31 h.p.	£45-£100
5.6 h.p., and sidecar	£140-£145
Scott, solo, 1919	£115-£125
	£100-£118
, 3½ h.p. and sidecar	£120-£175
iriumph, 3! h.p., single-speed	£27-£55
, 33 h.p., 3-speed hub	€60
, 4 h.p., 3 peed countershaft, solo	£68-£119
4 h.p., 3-speed countershaft, side-	
car	£85-£150
" 2½ h.p., 2-stroke	£70
Zenith, 6 h.p., solo	£72-£105
" 6 b.p., countershaft, and sidecar	£100-£125

Special Features.

PARIS-NICE TRIAL.
"ALL THROUGH THE NIGHT."
NEW MODELS.

Reunion of D.R.'s.

An effort is being made to hold a reunion dinner of those D.R.-s who served with, or were at any time attached to, Army Headquarters, Salonika Forces. This will probably take place in Birmingham in the early spring, and those interested should communicate with Mr. J. S. Gardner, 40, Coniston Road, Earlsdon, Coventry.

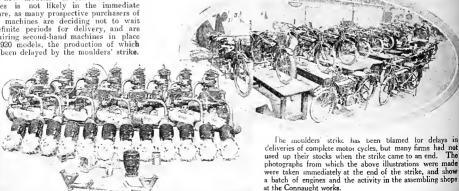
Imports and Exports.

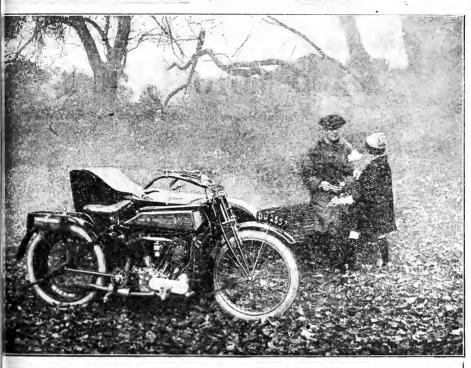
The value of motor cycle imports for January was slightly under December figures, being £35,265, as against £42,360, this amount including tyres, parts, and accessories.

EXPORT FIGURES.

The export of motor cycles is slightly on the upward grade, Jannary figures showing an increase of £8,008 as against the previous month. Compared with the exports of January, 1913, the figures are fairly satisfactory, the number of machines exported almost reaching 1913 figures, their value, of course, being nearly doubled.

EXPORTS DURING JANUARY, 1913. 1919. 19





OFF THE BEATEN TRACK,



as on every highway, one meets motor cyclists displaying "THE BADGE." The practical value of the Auto-Cycle Union's famous token is enthusiastically testified wherever motor cyclists congregate, and in the most out-ofthe-way spots one invariably finds a fellow A.-C.U. Member with whom it is a pleasure to enjoy A.-C.U. advantages.

The A.-C.U. Badge entitles you, among other benefits, to FREE services of the "Get-you-Home" scheme, FREE legal advice and defence, FREE touring and technical assistance, FREE services of the R.A.C. Road Guides, FREE use of a Reading Room at the R.A.C. Headquarters, and SPECIAL INSURANCE FACILITIES.

JOIN TO-DAY and SAFEGUARD ALL YOUR INTERESTS.

Subscription 10/- a Year. From the date of joining at any time.

S	formation Coupon
	The Sccretary AUTO-CYCLE UNION \$3 PALL MALL, LONDON, S.W.1
	Please send me further particulars regarding the advantages of becoming a member of the A.C.U logether with Application Form for membership.
	Name

"The Motor Cycle," 19 /2 /20.

10/= SUBSCRIPTION A.C.U.

Brings you the following FREE Benefits:

FREE "GET-YOU-HOME" SCHEME, whereby in case of accident or breakdown on the road practical assistance is afforded you, FREE Legal Advice and Defence on all technical motor cyclint: matters, FREE Assistance of the R.A.C. Road Guides, FREE Use of a Reading Room at the R.A.C. Head-quarters, FREE Assistance in Touring and Foreign Travel, SPECIAL INSURANCE FACILITIES, etc., etc.



AUTOMOBILE ASSOCIATION AND MOTOR UNION.

Fanum House, Whitcomb Street, London, W.C.2.

February, 1920.

To the British Public.

THE PRICE OF PETROL.

WHAT IT MEANS TO YOU!!

1896 - 9d. 1906 - 1/4. 1916 - 2/2. 1920 - $3/8\frac{1}{2}$ NEXT YEAR

The exorbitant price exacted from the British public by the petrol interests directly increasing your cost of living, and bids fair to strangle road transport and the motor industry. To live, it is essential that you should be fed, clothed, and housed, all of which are bound up with the road transport question. It is also necessary for you to travel by road by some form of motor traction or another.

Do you realise that the oil magnates are practically deciding how much yo shall pay for the privilege of living in your own country and travelling over it roads?

This is the direct result of being dependent upon imported motor spirit, shipped here by combines, over whom our Government can exercise no control. Every year many millions of money pass from the pockets of the British public into those of the oil kings. All this can be prevented, and those millions can be kept in our own country.

Our common interests in this vital matter can only be attained by bringin home forcibly to the Government that immediate action is necessary.

YOU can help by signing this petition, and then obtaining the signatures of a

your friends; both motorists and non-motorists.

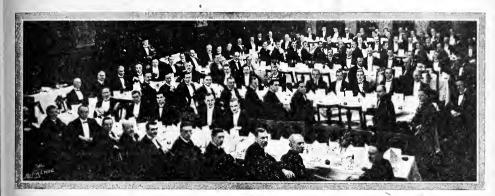
When all the signatures have been obtained, please return the form to:

The Fuels Department, The Automobile Association,

Fanum House, Whitcomb Street, London, W.C.2

Further copies of the Petition can be obtained upon application to th Automobile Association.

Stenson Cocke, Secreta y.



The first annual dinner of the Glasgow Western M.C.C., held on the 7th inst. Details of the 1920 programme of the club were given in last week's issue on page 185.

Memorial to Sir John Alcock

The highest offer up to date for the light car presented by Messrs. Douglas Motors, Ltd., as a subscription to the Sir John Alcock memorial is £625. We referred to this memorial last week,

Police Activity in the Metropolis.

We learn that a police trap is in existence between Elgin Avenue and Suther-land Avenue, West London, which works alternately both ways.

We have also heard that the police are very active in the matter of rear lights in the neighbourhood of Cricklewood.

One of the First Dozen.

Cecil Burney-one of the two wellknown Burney brothers who were associated with the introduction of the blackburne engine—has joined the G.N. company. Burney, with his brother, was me of the first dozen despatch riders to leave England for the seat of war, and tose to the rank of captain.

Benevolent Fund Concert.

The forthcoming concert of the Birming-nam centre of the Cycle and Motor Trades Senevolent Fund which has been arranged take place on Friday the 27th, promises be a success. An excellent programme ias been arranged, and the Temperance tall, Birmingham, makes an ideal concert oom. Tickets are obtainable from Mr. A. C. Huckstepp, 10a, Temple Road, Birmingham.

t'orthcoming Motor Cycle Events.

The fixture list of motor cycle events or 1920, drawn up by the Auto-Cycle Jnion, is now available, and copies may Judy, is now available, and copies may e obtained by writing to the secretary, uto-Cycle Union, 85, Pall Mall, S.W.1. his fixture list will be issued free to be holders of competition licences, the rice to other interested motor cyclists. eing 1s. per copy, post free. This little cooklet contains, in addition to the otor cycle fixtures for 1920, the adresses of all affiliated clubs, a calendar, nd a lighting-up table, and should prove f great interest and assistance to motor yelists who intend participating in cometitions during the year.

Daylight Saving,

The alteration from Greenwich to summer time will this year, in all pro-bability, take place on the last Sunday in March, and continue until the last Sunday in September or the first in October. No special Act is required this year, as some suppose.

Driving Licences by Examination.

Suggestions arise from time to time that driving licences should not be issued without regard to the applicants' qualifications, and the most recent suggestion is that the eyesight of all prospective drivers should be tested under various conditions.

Such a plan would at any rate eliminate the present anomalous state of affairs wherein anyone above a certain age can obtain a licence by complying with the regulation which demands the fee of five shillings as the sole qualification.

IMPORTANT DATES.

Mon., Feb. 23rd, to Sat.. March 6th—
British Industries Exhibition, Eirmingham Sat., Feb. 28th-

Sutton Coldfield A.C. Trial for Colmore Cup Mon , March 1st, to Tues , March 16th-Lyons Fair.

ri., April 2nd— Inter-club Meet at Richmond, Yorks.

Sun., May 30th— Motocycle Club de France Grand Prix Race

ri., May 21st— M.C.C. London Edinburgh Run.

Tues.. June 15th— Junior T.T. Race, Isle of Man.

Thurs., June 17th— Senior T.T., Race, Is'e of Man. Mon., June 28th, to Sat., July 3rd-Scottish Six Days Trial.

Wed, and Thurs., July 7th and 8th-Arbuthnot Trophy Triat.

Arbuthnot frophy Iria.
Wed, July 7th—
Union Motocyclist de France et Automobile Club de l'Ouest, Grand Prix Race for Motor Cycles and Cycle Cars.

Mon., July 12th, and Tues, July 13th-Irish End-to-end Trial,

Snn., July 25th, to Aug. 1st -International Six Days Trial in France, Sno., Aug. 1st, to Wed., Aug. 4th— Anglo-Dutch Trial,

Mon., Aug. 23rd, to Sat., Aug. 28th-A.C.U. Six Days Trial.

Inventor's Machine Stolen.

The New Imperial, fitted with Mr. Hawley Morgan's forced draught cooling device, described recently, has been stolen from the artist-inventor's garage.

No Zenith Entry for T.T.

Zenith Motors, Ltd., write that they fully endorse the views expressed by the Triumph Co. anent this year's T.T., and have decided not to build any special machines for this race, nor will they participate in the event.

Mexican Oil.

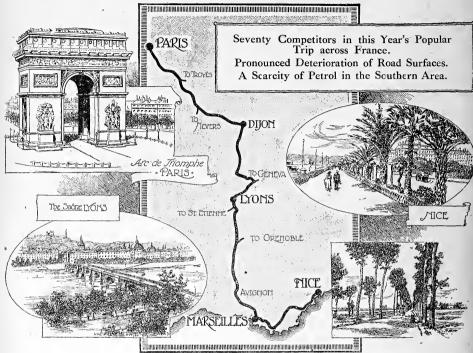
It was recently stated at a meeting of shareholders of the Scottish-American Oil Transport Co. that oil is present in practically unlimited quantities in Mexico, there being over 300 producing wells in the country, with a potential production of 2,000,000 barrels per day. Only about one-fifth of this is being brought above ground on account of the lack of transportation facilities. It is estimated that there are only about 650 oil tankers affoat, and it would require fully 1,500 ships of the average size to carry Mexican oil alone.

Swiss Statistics.

According to the statistics published at Basle, Switzerland, this country ap-pears to have practically relinquished the manufacture of motor cycles during 1919, as imports of these machines are about as imports of these machines are about twelve times greater than exports, the total figures of the former being 640,000 fcs., and the exportations only 53,000 fcs. Switzerland imported from Germany motor cycles to the value of 297,000 fcs., and from this country to the total value of 153,000 fcs.; her exportations to Germany and to this country were nil, and her biggest customer, France, took 33.000 fcs. worth. Whether these figures include engines is not clear from the figures published.

Swiss exports in the first nine months of 1914 amounted to 575.000 fcs., and during the same period of 1913, 587,000 fcs. Her exports have, therefore, come down to nine-tenths of the pre-war figure, while the imports have practically doubled.

THE PARIS-NICE TRIAL.



ONCE again the Paris-Nice trial is largely a competition for British private owners of motor cycles and manufacturers of British machines. It is a matter of sore disappointment to the organiser, Mr. Gaston Sweerts, editor of Motocyclisme, that French manufacturers have taken such a lukewarm interest in the event; but that fact is understandable perhaps when difficulties of production due to lack of raw materials and

duction due to lack of raw materials and

Wayside adjustments to an American Excelsior early in the trial.

differences with labour are taken into account. And let it be repeated here that France has suffered more—much more—

* THE PARIS-NICE TRIAL. (Feb. 13th-19th.)

1st day . Paris-Dijon . . miteage 193 2nd day . Dijon-Lyons . . , 124 3rd day . Lyons-Marseilles . , 193 4th day . Marseilles-Nice . , 140

Total 650

5th day.. At Nice (starting from cold lest and examination of

machines).
6th day . Competitors free
to tour Riviera.

7th day. Nice - La Turbie hill-climb). 113 entrants. 70 starters.

than any other country in the war. That fact is plainly evident from the moment one touches French soil. Road neglect, dilapidated cars and lorries due to inevitable overwork without periodic attention, and dwellings crumbling and rotting are evident on all sides. Every route across the Channel was patron-

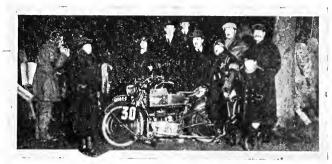
ised by the British competitors. Most of the solo riders, including Rutherford and Newman (with their Sunbeams) Milner (Diamond), and Brunell (two-stroke Triumph) journeyed to Paris by train vio Boulogne; but H. Petty and V. Horsmar crossed on Monday night via Southamptor and Havre, with their Norton sidecars The same boat—the Hautonia, pilote by a keen motor cyclist, Capt. Holt O.B.E., who has recently purchased a 4



M. C. Moriss (8 h.p. Matchless sidecar) successfully makes a temporary repair

The Paris-Nice Trial .--

h.p. Douglas sidecar outfit-carried The Motor Cycle representatives, and it should be stated that everything possible was done for the comfort of the passengers. The Customs official at Hayre, however, was exceptionally keen, oceasional passengers being requested to empty their pockets for cigars, cigarettes, and matches; At Bolougue equal thoroughness prevailed, Rex Mundy, who had brought over a few spares for his Rover, endeavoured to get them through with the mystic words 'spare parts," which very nearly had the lesired result, but the official changed his and, called him back, and he was clieved of many francs in duty. Dr. Low brought his audiometer-to Paris by train, ncked in a mysterious looking box like miniature coffin. Could anyone imagine ny such box going through unquestioned? hi arrival at Paris the officials were coninced that he had some infernal machine -indeed the train attendants were eviently more than suspicious, for Dr. ow avers that the lid had been removed. lowever, the whole contents had to be emoved, and then the Customs officers



Before the dawn last Friday: one of the new Bleriot vertical twins at the start

(5 litres) for petrol, i.e., about 3s. 12d, per gallon, as compared with 3s. 10d, paid the previous day in England. Whether petrol is scarce in the South, the com-

the custom in French villages) the various brands for which garage, grocer, or general store is agent. We lost all trace of Petty and Horsman, who had



From left to right the riders are: T. Gillies, F. Rutherford, J. A. Newman, W. L. Guy, C. P. Wood, and H. O. Wood.

re not too readily convinced. After yment of eight-three francs, however, mystery box and its contents were rewed to a taxi, whose driver again eyed as well as the owner with suspicion!

Execrable Roads near the Ports.

Our journey to Paris from Havre is likely to be forgotten. Pot-holes in undance were encountered practically whole way, save for thirty kilotres, from a point ten miles north of ntes nearly to Paris, which stretch of red surfaced road formed a pleasing thrast to the sadly neglected macadam hways for which France was once ous. We had paid 7f. 50c. per bidon

petitors will know by the time these lines are in print, but so far as the North is concerned, no shortage was experienced, almost every village en route displaying on the footpath (as is

started ahead of us, and followed the river road to Rouen. They reported the going "terrible" on arrival in Paris the same evening at seven o'clock, and at a council of war, which took place after



(Right) A team which will be followed with interest. They are mounted on vertical twin (Left) The only British lightweight

dinner, decided to abandon their sidecars for the competition proper, and use their

Tuesday, Wednesday, and Thursday mornings were given up to the weighing and sealing operations at the laboratory of the Automobile Club de France, in the



An Italian team-F Delaunay, Isoldi, and G. Delaunay-with their Stucchi machines

Boulevard Bourdon, just outside the city lgates. Here the British riders, in parti-cular, had many interesting experiences to relate of their troubles at the Custom's octroi, or garages, where, apparently, motor cyclists are not particularly popular. One, Geoffrey Hill, who is riding the same Triumph on which he won the Scott Trial, was refused petrol at a garage simply because they did not cater for motor cyclists, and he went out. found a gendarme, and returned to de-mand a supply of petrol, which was at once forthcoming. Hill, fortunately, once forthcoming. Hill, fortunately, speaks French fluently, and, moreover, has just completed five weeks touring in Brittany, so he knows the poor state of the road surfaces as well as anybody. Beyond removing the cylinder to scrape away the carbon, and fitting an R.B magneto—a French production—his production-his machine is as it always was. He uses a scoop of thick cloth to collect warm air from the cylinder to the carburetter, and claims an improvement of five to eight There was a perfect battery of cameras awaiting the competitors at the sealing operations. Spare parts, as well 'as cylinder, frame, carburetter, and wheels, were sealed. It was amusing but significant that the Sunbeam trio produced two chain spring clips and a valve spring as their sum total of spares! One Sunbeam sidecar is chain and belt-driven; the remainder have all-enclosed chain drive.

Reception by the "Petit Journal."

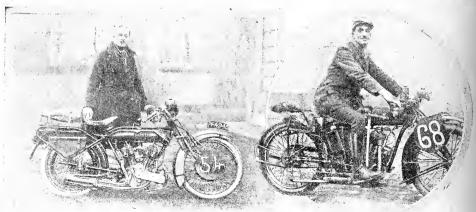
In the evening (Wednesday) all the competitors assembled in the Salle des Fêtes of the Petit Journal, and were officially welcomed by the managing director of the paper, a courteous old gentleman of the Old School, who welcomed the British competitors in a charming speech in English. He told us that he regarded the trial as a continuation of the splendid alliance which existed between the two great nations, and he mentioned how years ago, when at school, he and others had organised games be



The control at Fontainebleau

miles per gallon by the use of this simple fitting.

tween French and English pupils, and in this way sporting interests, up to that



Riders of high-powered solo mounts. Kave Don (6 h.p. Zenith) Bernard (7-9 h.p. Indian).

MOTOR CYCLE

The Paris-Nice Trial .-

time non-existent in France, had been encouraged.

M. Sweerts then asked the British competitors if they had any questions to ask about the rules. Several then replied that they had not received them. Thereupen a separate meeting was arranged at the end of the lunge room, presided over by Mr. E. M. P. Boilean (The Motor Cycle), who read the most important rules to the assembly, and made all necessary explanations.

explanations The following afternoon the competitors moved away from Paris to Montgeron—the official starting point.

The Start.

On Thursday evening the competitors slid (literally and metaphorically) out of Paris, the execrable road surface early disheartening the solo riders. The Hotel de la Chasse at Montgeron, the official hotel, was crowded, bedroons being occupied by four and five people. By 4 a.m. officials and competitors were astir, and loward 6 a.m. moved out of the village in



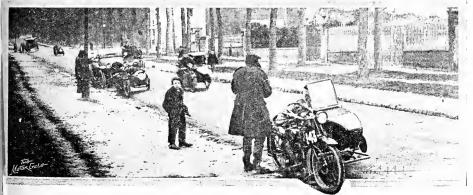
All along the route the public interest was most marked.



A Morgan and a Rover in the control at Fontainebleau.

e darkness for the official start. A odly crowd had collected to give the mpetitors a cheer, everyone seemingly ing in high spirits. On account of the early starting, efficient lighting sets are a necessity, and in the early hours those who have electric sets appreciate their convenience. List of Starters.

1. Dupent (Motoselo)
2. Dupest (Motoselo)
3. W. J. Brunell (Triumph)
10. Horton (New Imperial)
11. A. Milner (Diamenel)
11. A. Milner (Diamenel)
11. A. Milner (Diamenel)
12. Laupter (Exomo (Connaught)
13. Laupter (Exomo (Lonaught)
14. Gordon Uren (Edmund)
15. Rigal (New Imperial)
16. Gisaut (New Imperial)
16. Gisaut (New Imperial)
17. Gabriel (A.B.C.)
18. J. Laupter (Laupter)
18. J. Laupter (Laupter)
18. J. Laupter (Laupter)
18. J. Accomman (Sumbeam)
18. J. Accomman (Beriot)
18. J. Accomman (Beriot)
18. J. Accomman (Beriot)
18. Gallié (Triumph)
18. Gellié (Triumph)
18. Debander (Succhi)
18. J. Accomman (Succhi)
18. J. L. Clark (May (Socti))
18. W. M. Guy (Socti)
18. W. M. Guy (Socti)
18. J. Lesse Baker (Socti)
18. Kaye Don (Zeotih)
18. Kaye Don (Zeotih)
18. Russell King (Socti)
18. Bernard (Indiae)



A Matchless outfit near a control Note the Rover "cab."

The Paris-Nice Trial .--

- ne Paris-Nice Trial.—

 100. L. Psalty (Rover)
 103. Guignet (G.L.).
 103. P. W. White (Sunbism)
 104. F. W. White (Sunbism)
 105. P. W. White (Sunbism)
 106. Per Mundy (Rever)
 110. Delabre (Rover)
 111. Gompettz (G.L.).
 112. Moret (G.L.).
 113. Moret (G.L.).
 114. G. Fery (Douglas)
 15. Douglas Hawkes (A.J.S.)
 16. H. Petty (Norton)
 17. Y. E. Hereman (Notton)
 18. W. E. Hereman (Notton)
 19. Stanley Parker (Notton)
 19. Find Dover (Triumph)
 19. F. Delaunry (Stacchien)
 19. P. L. Boisserie (Harley-Davidson)
 19. Olin (Roval Erfield)
 19. Bonand (Harley-Davidson)
 19. Moreau (Harley-Davidson)
 19. J. Mullman (Harley-Davidson)
 19. Petsier (Harley-Davidson)
 19. Petsier (Harley-Davidson)
 19. Petsier (Harley-Davidson)
 19. Petsier (Harley-Davidson)
 19. Delaund (Matchless)
 19. Etwe (Indian)
 19. Appoint (Matchless)
 19. Marchan (Matchless Delauné (Matchless)
 Etive (Iudian)
 D'Argollo (American Excelsior)
 M. C. Moriss (Matchless)
 Maj. R. C. Empson (A.V.)
 Honel (Morgan)
 P. Chapman (Morgan)
 Mithoux (—)

In contrast to the twenty-two kilometres after leaving Paris, the going proved excellent, though occasional patches of deep pot-holes were encountered. At the



Two of the Rover sidecars were equipped with Easting screens. A third took the form of a cab,

cross roads car owners and many soldiers were assembled to see the "racers" and to give them a cheer. The dawn brokesoon after the competitors had traversed a few miles from the start, with not too much promise, since "a red sky in the

much promise, since "a red sky in the morning is a shepherd's warning."

Just before entering Fontainebleau we overtook M. C. Moriss (Matchless sidecar) with a broken frame, the down tube having snapped just below the head. This, was repaired with straps, and the

machine was driven under its own power into Fontainebleau, a distance of five miles. Moriss retired.

At the first control in Fontainebleau

the townspeople turned out in force. The Scotts greatly impressed the crowd. The French and the one Italian, as well as the British teams, travelled excellently throughout the run to Auxerres, but continuous jolting is bound to tell its tale before the finish.

Graeme Fenton is putting up a fine performance. His A.B.C. machine left the factory thirty minutes before he was due to leave for the start, and his confrères were even later.

Fred Dover, whose chain-driven Triumph sidecar is one of the benzole test machines, has developed a tiny squeak in the front fork or sidecar (no one can decide which), and this seems to worry the veteran motor cyclist.

The Blériot is a machine which promises to do well. In the early stages riders of these machines were well up to time.

Kaye Don (Zenith), though going well, complained of the pavé.



Four of the Harley-Davidson sidecar entrants.

A Novel Taxation Suggestion.

A Tax on "Motor Spirit" to all Users, with Rebates to Producers according to Profit

HE suggestion put forward by the Minister of Transport's Legislation Committee has aroused a storm of

An alternative suggestion has been propounded by Capt. E. de Normanville, the motoring correspondent of *The Daily Express*. To put the matter very shortly. Express. To put the matter very snortly. Capt. de Normanville recommends the abolition of all taxes on cars and of the existing motor spirit duty. Instead, he contends there should be imposed a flat tax of 1s, per gallon on all motor spirit, whether imported or manufactured in this The tax would be levied on the manufacturer or the importer.

So far, there is nothing of startling originality in the scheme, but Capt. de Normanville combines with the flat tax a system of rebates, payable not to users of certain types of vehicles, but to the manufacturers or importers. The object of the rebates would be to encourage the sale of motor spirit at figures representing fair profits only. The less the profit the greater the rebate.

To take a concrete example, if a company were to trade on such terms that the total dividend that could be paid would not exceed 15% such company would have the value of a 60% rebate on the tax. If the profits were 20%, the

rebate would be reduced to 40% A 25% profit would mean a 20% rebate, and a 70% profit a rebate of 10%.



Two French machines, a Bleriot and a G.L., in the Paris-Nice trial.

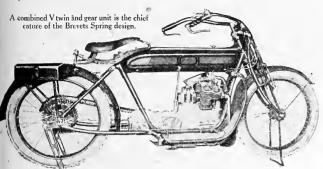
Captain de Normanville thinks-and we are inclined to agree with him-that such a system of taxation would be an encouragement to the manufacturers of home produced fuels, and particularly to those who are prepared to sell their products at a reasonable figure. The profiteer manufacturer would suffer losing the whole, or the greater part, of the possible rebate, and, since the market price for his fael would almost necessarily be considerably higher than that of the manufacturer prepared to trade on, say, a 10% basis of profit, the demand for the product of the former would decline, while the popularity of the latter's production would increase.

There is one considerable objection that may be raised to Captain de Nor-manville's proposal, and this is that if paraffin were excluded from the flat tax, a good deal of revenue would be lost; on the other hand, if paraffin were included, it would be difficult to differentiate between paraffin used for lighting and heating and that used as fuel.

We are inclined to think that, since the scheme still leaves open the defini-tion of "motor spirit," the Board of tion of "motor spirit," the Board of Customs and Excise and the Govern-ment chemists may do everything in their power to prevent its acceptance.

THE BRUSSELS SHOW.

British Machines Predominate. Interesting Belgian Designs.



BELGIUM seems to be preparing for great motor cycle developments, to judge from the exhibition just at Brussels, and from information at Brussels, and from information rathered in different parks of the country. The show, which is the first motor exhi-tion in Belgium since the war, was thrown pen to the public, in the historic and artistic Palais d'Egmont, on February 7th,

and remained open until the 16th. So little is known in England as to what appened in industrial Belgium during the four years of German occupation, that he importance of this exhibition, coming mly a little more than a year after the Armistice, will not be fully appreciated. Although in the greater portion of Belgium here are few external signs of the destruciveness of war, the factories were, without a single exception, stripped absolutely are of both machinery and supplies. Chus, before it was possible to produce, eve tools and machinery had to be sought and brought in from the outside, and the ingineering shops had to wait until the teel plants were in production before they ould do any real work,

The Rate of Exchange.

On this account, it is not surprising at the Brussels motor cycle show should e dominated by English makers, with a prinkling of Americans and Italians.
With the exception of Douglas, the

ritish firms at the Brussels Show were as present, and the firm was also repre-ented by Mr. Davis, of Paris. Despite teir numerical superiority and the highass of goods they showed, the agents r English machines were not altogether uppy. The rate of exchange is so dislvantageous that the dealers did not are quote prices in francs. Thus, when sitors asked the price of a machine-and ey appear to be most keen buyers-the ice was always given in pounds sterling, divery in England.

Notwithstanding this very tuation, orders are being booked and diveries are being made, for there is a al demand among Belgians for good otor cycles.

Although the F.N. did not exhibit at is show, it is understood that the firm almost ready to make deliveries, and pects to produce 15,000 machines during the present year. These will be the well-known single and the four-cylinder types, with a number of detail improve-ments. The next most important Belgian firm is Sarolea, which exhibited a 31 h.p. single with chain-cum-belt drive, and a sporting type sidecar.

The Gillet.

There were two new firms, Gillet and Brevets Spring. The former exhibited two types of machines : a single cylinder two-stroke and a twin-cylinder fourstroke. It was admitted that the latter was not ready for delivery, and not very much information was available regarding it. The two-stroke contains a number of very interesting features, and is a fine piece of work throughout.

· This machine is equipped with twospeeds, contained within the engine base chamber. In all there are five pinions, including those for the magneto gear, and a countershaft is placed ahead of the cylinder, thus increasing the length of model the belt. On the twin-cylinder the same general principle of unit con-struction engine and change speed mechanism is adopted. The engine has mechanism is adopted. The right hand an external flywheel on the right hand side, with the clutch within it, and the drive is taken from a big diameter pulley, by means of a helt, to the rear

The motor cycle, built to the designs of M. Spring, attracted an unusual amount of attention and a great deal of praise. This machine is quite a distinct departure from generally accepted motor cycle practice, and is, undoubtedly, a cycle practice, and is, undoubtedly, a design which will be examined with the greatest interest. As can be judged from the illustration, a cradle frame is used, and in this is mounted a twincylinder unit power plant, clutch, and gear box, on the same general lines as a car engine and gear set.

Great Accessibility.

There is no doubt that any nimblefingered mechanic could take a cylinder off in less than five minutes, for of the four holding-down bolts, three are perfeetly accessible, and the fourth can be reached with a curved box spanner. To get at the timing gear four bolts have to be removed. The valves are side by side, but, of course, facing forwards. Adjustment of the exhaust valve tappet is child's play; the inlet valve tappet is not quite so easy to reach, but it cannot be considered inaccessible. There is a silencer with exhaust cut-out under each of the aluminium running boards.

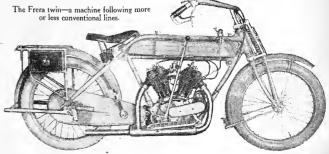
Saddle springing is obtained by means of double, semi-elliptic springs, consisting of a large number of thin leaves. Another interesting feature is the single piece steel stamping rear mudguard with tool boxes. This is strong and light; being a single unit, it cannot rattle, and it can be detached in a few seconds by

and be detached in a few seconds by undoing three winged nuts.

The drive is by chain, having a simple guard above it. Provision has been made for electric lighting. The electric generator will be mounted on the top of the gear box, behind and just below the magneto. On the gear box cover being magneto. On the gear box cover being removed, the electric generator will come away with it without any connections being broken.

Runabouts.

Only two cycle cars were shown, one of these being the well-known G.N., and the other the French S.I.C.A.M. This latter has a two-cylinder vertical aircooled two-stroke engine carried under a bonnet, and final drive by belts and expanding pulleys. A Belgian cycle car, known as the Flaid, is announced to appear shortly.





Gloucester M.C.C.

It has been decided to revive the activities of the club, and at a meeting beld on the 26th ult. the officers for the coming season were elected. All motor cyclists interested should communicate with the hon. secretary, Mr. G. Brooking, 24, Alexandra Road, Gloncester.

Plymouth and District M.C. and L.C.C.

Arrangements have been made for the following events. First Monday in every month, meeting at Mikado Café, Old Town Street, at 7 p.m. First Sunday meeting at the Rock, Yelverton, at 3 p.m. On the second Wednesday and third Saturday in every month, commenc-ing in April, a run will be held. In addition, a reliability trial to Penzance and back has been arranged for April 2nd.

Ilkeston and District M.C.C.

The first annual_dinner was held at the Rutland Hotel on the 10th inst., Captain C. P. Maltby, J.P., presiding. The balance sheet for the past year, showing a satisfactory total in hand, was presented by the chairman, Mr. W. B. Myhill, for confirmation, and approved. Mr. P. Ormiston (captain) gave his report on the club events held last year, which showed the winner to be Mr. W. D. Thornley, who was then presented with a cup and medal by the chairman. An excellent musical programme, which followed, was much appreciated by all present.

Nuneaton and District M.C.C.

The first reliability trial was held on the 12th inst, over a course of about 301 miles, which included several severe hills and a watersplash. Two gold medals and a watersplash. Two gold medals and two silver medals were offered as prizes. Results: Solo.—1, J. A. Watson-Bonne (4 Blackburne); 2, J. Spencer (24 Triumph). Sidecar.—1, C. J. Curren (6 New Imperial); 2, T. R. Alkin (6 A.J.S.). The trial was followed by a most enjoy. able dinner at the Peacock Hotel, at which the medals were presented by the Rev. J. M. Philpott.

Bolton and District M.C.

The activities of the club during 1919 proved a failure, but the coming year promises to be a great success. interesting programme is in course of preparation, and the annual meeting would in ordinary circumstances have been held last week. Owing, however, to the fact that certain members were competing in the Paris-Nice trial, it was decided to postpone the event. Members will be advised by post of the date and place of meeting, which information will also appear in the local press. An urgent appear is extended to all owners of motor cycles and cars in the district to attend and assist with their united support. The hon, sec. is Mr. J. E. Whittaker, 205, St. George's Road, Bolton.

Derby M.C.C.

A meeting will be held in the Unity Hall, Derby, to morrow, the 20th inst., at 7.45 p.m., with the object of reviving the Derby Motor Cycle Club. All motor cyclists in the district who are interested are invited to attend.

Woolwich, Plumstead and District M.C.C.

An enjoyable evening was spent on the occasion of the tenth annual dinner and prize distribution, held recently at the Shakespeare Hotel, Mr. T. W. Longhborough officiating as chairman. Among those present were Mr. H. H. Collier, Major S. Axford, and many old members who had been absent during the war period.

York and District M.C.

It is desired to make the inter-club meet of all the Yorkshire and Northern clubs, which will be held at Richmond on April 2nd, a great success. object the club has been asked-to convene a meeting at York, as being the most central city, of all delegates from the clubs concerned, in order to arrange details. This meeting will therefore be held on the 21st inst. at the Windmill Hotel, Blossom Street, at 5 p.m., when it is earnestly requested that all notified will be present.

Dorchester M.C. and L.C.C.

Officers for the coming season were elected at a meeting held on the 3rd inst., at the King's Arms Hotel. It was decided that the club be affiliated to the A.C.U., that the membership be extended to light car owners, and that the title of the club be changed accordingly. An opening run to Bournemouth has been arranged for March 18th, when it is hoped that all actual and intending members will attend. The joint hon-secretaries are: Mr. A. G. Stone, Lloyds Bank House, and Mr. P. W. Braybrooke, 26, High East Street, Dor-

N.M.C.F.U.

The annual general meeting of the N.M.C.F.U. will be held in the Imperial Hotel, Temple Street, Birmingham, at 7 p.m. on the 26th inst.

The executive meeting will be held during the afternoon of the same day at 4 p.m., also at the Imperial Hotel.

N.M.C.F.U. (Rotherham).

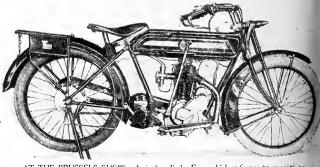
On the 13th inst. a well attended meeting was held at the Y.M.C.A., and a large number of enjoyable runs arranged for the coming year. Intending members can obtain list of benefits and all information from the hon. sec., Mr. H. information from the inon. sec., and it. C. Tarbit Bullows, 34, Frederick Street, Rotherham. The next meeting will be held at P. W. Musson's rooms, Howard Street, at 7.30 p.m., on the 27th inst.

Edinburgh and District M.C.

On the 13th inst. the annual dinner of the above club took place at the Cale-donian Hotel, when the awards for last year's events were presented. A comprehensive and attractive programme has been fixed for this season, including the Scottish Six Days Trial, which will be held June 28th to July 3rd. The evening was a great success, largely owing to the excellent musical programme provided.

Leeds and District M.C.

An enjoyable smoking concert was held on the 6th inst. at the Griffin Hotel, over 130 being present. The list of over 130 being present. officials is now complete, and includes Colonel Sir E. A. Brotherton, Bart., M.P., as president, and Messrs. A. I.
Greenwood, Owen Brooks, Rowland
Winn, H. A. Crawford, and F. O. Winit, H. A. Crawford, and F. C. Langton, as vice-presidents. The hon-secretary is Mr. W. E. Asquith, 11, Moorland Street, Hyde Park, Leeds. A comprehensive list of fixtures has been arranged for the coming season, and social runs, picnics, etc., will take place each month.



AT THE BRUSSELS SHOW. A single-cylinder Frera which at first sight appears to be a composite of two well-known British designs.

lub News .--

Newport and District M.C.C.

A new club for Newport and district as recently been formed, and is being me recently need formed, and is being mithusinstically supported. The secre-say, Mr. A. B. Adams, Clevedon Road, Newport, would be glad to hear from my prospective members.

Cambridge University M.C.C.

A well attended hill-climb was held A well attended hill-climb was held in the 7th inst. at Croyden Hill, there being four classes. The winners were: Juder 350 c.c., S. J. Bassett (23 h.p. bouglas), 37s.; under 600 c.c., B. A. 1all (4 h.p. Trimph), 30s.; open solo, J. H. Rollason (Harley-Davidson), 27s.; assenger machines (including cars), G. A. enkin (Harley-Davidson), 40s.

Middlesex M.C.C.

This club is now reviving its activities, nd will open the season with a dinner, be held at the Holborn Restaurant on be held at the Hollorn Restaurant on adurday, March 6th. An interesting neert to follow has been specially rranged by Mr. W. Rouse, and it is oped that all actual and prospective embers will attend. Application for ckets should be made to Mr. W. Luther moth, 14. Glebc Avenue, Enfield. The cretary is Mr. S. A. McCarthy, 2, ightingale Road, Lower Clapton, Lonon, E.5.

North London M.C.C.

The first general meeting of the inchley and District M.C.C. was held the 6th inst. at the headquarters, ange Tree Hotel, Friern Barnet, when was decided to alter the title of the der that its activities might embrace a der area. Over forty members are now rolled, and all motor cyclists interested ould communicate with Mr. Bernard aley, Burnage, Victoria Avenue, Finchobtained. It has been decided that the ib shall become affiliated to the A.C.U. e opening run will take place on the h inst. to the club's country head-arters at Great Missenden.

MOTOR (YCLE

Future Club Events.

Future Club Events.

Feb. 8c. Derby M.C.C. Inaugural Meeting, Unity Hall, 7.45 p.m.

Feb. 11.—Ealing and District M.C.C. Hall-day Realing and District M.C.C. Hall-day Realing and District M.C.C. Hall-day Hilledium but Crymant.

Feb. 12.—Forth and District M.C. Meeting of Dilegates of Northern Clubs. Mr. Mitchell's Feb. 22.—Levels and District M.C. Mr. Mitchell's Feb. 25.—Burg and West Suffolk M.C.C. Annual General Meeting, 7.39 p.m.

Feb. 25.—Fork and District M.C. Annual Disnure General Meeting, 7.39 p.m.

Feb. 25.—Vork and District M.C. Annual Disnure District M.C. Mitchell's Feb. 25.—Suk and District M.C. Annual Disnure District M.C. Mitchell's General Meeting, Vindual Hostan University, 7.39 p.m.

Feb. 25.—Sutton. Coldifield and N. Birmingham According to Mitchell Meeting, 130 p.m.

Feb. 26.—New College of M.C. G. Opining Run in Great Missenden.

Mar. 3.—Balling and District M.C.C. Annual Disnur. Stating and District M.C.C. Annual Mar. 4.—N.M.C.F.U. (Leeds). Smoking Concert.

Dinner, Clarendon Restaurant, Hammer Mars, M.M. C.F.U. (Leeds.). Smoking Concert. Wictory Hotel.

Mar. 6.—Clasgaw Western M.C.C. Open Relimate. G. Middlesex the Holborn Restaurant.

Mar. 7.—Leeds and District M.C.M.r. Watermans Hun. Meet Dynacley.

Mar. 8.—Birmingham M.C.C. Pentomine Night. Mar. Structure Collebell, and N. Birmingham Mar. S.—Cheltenham M.C. and L.C.C. Meeting. Birt Vine. 23. Mar. Mar. M. M. C. C. Meeting. Birt Vine. 23. M. C. C. Opening Mar. S.—Dorchester M.C. and L.C.C. Opening Mar. S.—Dorchester M.C. and L.C.C. Opening Mar. 29.—Home Cauntice Clubs' Reliability Trial

Incidents at the

recent Cambridge University M.C.C.

Bury and District M.C.

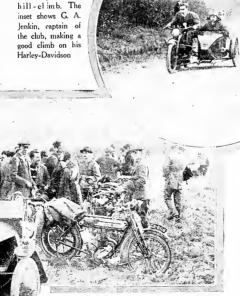
A meeting of the Bury and District M.C. will be held at the Derby Hotel, Bury, to-night, at eight o'clock, with the object of reviving the club. All motorists in the district who are interested are invited to attend.

Lincolnshire M.C.C.

The annual general meeting of the above club was held at the Crown and Anchor Hotel, Lincoln, recently. The secretary's report showed the club to be in a very flourishing condition, while the prospects for the coming season are in every way satisfactory, and the pro-gramme of events is well in hand. The season commences with a hill-climb at Thonock, near Gainsborough, on Easter Monday, April 5th. Mr. F. W. Richard-son, "Hill Crest," Yarborough Road, Lincoln, is again the honorary secretary.

Birmingham M.C.C.

An attractive programme for the next three months has been arranged, which includes many interesting events. A sideboard value £25, two prizes value £10 10s., and five others valued at £5 5s. each, will be put up for competition, in addition to the Victory, Duke, Midland, Sangster, Lycett trophy, and Austin cups.



CAMBRIDGE UNIVERSITY HILL-CLIMB.

courage the amateur ider to take part in all club events, and to this end have reserved several of the above prizes for the amateur, Final arrangements for the pantomime night at the Alexandra Theatre on March 8th have been made. Early application for seats (5s. each) should be made to Mr. C. Browne, Para Rubber Co., John

Street, Birmingham.

various and bronze

mittee desire to en-

The com-

and

silver.

medals.

Four-wheelers at the Price of Motor Cycles.

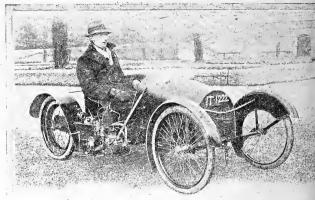
The Black Prince Runabouts with Two-stroke Engines.

E VEN before the war the £100 cycle car was regarded almost as an impossible proposition, and to-day the same ideals are attempted at a figure nearly 100% in excess of that amount. Black Prince Motors, Ltd., however, are introducing two light four-wheelers, which it is proposed to market at the remarkably low prices of 68 guineas and £100, figures which the majority may regard as impossible.

Simple Designs.

It is obvious that at these figures the prospective purchaser will not expect all the refinements of machines at double their price, but when the Black Prince specifications are taken into consideration, one must admit that remarkable value is being offered. Value, of course, depends entirely on the efficiency of a machine to perform the functions for which it has been designed, and when this point has been demonstrated to the satisfaction of the public, then it will only remain for the company to concentrate upon output, for there appears no doubt that at the prices mentioned they will make a very wide appeal.

The first of these little vehicles is the Black Prince Buckboard, which is sprung at the front by means of a single volute spring. The rear part of the "chassis" is not sprung, comfort for the driver and passenger being provided by mounting the



A four-wheeler at the price of a lightweight motor cycle-68 guineas,

two aeroplane bucket seats on large coil

springs.

A 23 h.p. Union two-stroke engine A 23 h.p. Union two-stroke engine provides the power, and drives a countershaft two-speed gear embodying a clutch and kick-starter, the final drive being by

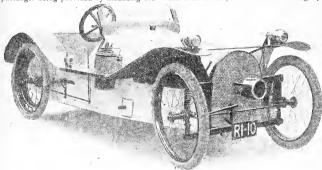
belt. Both engine and gear units are placed on the side of the vehicle after the fashion of the old Chater-Lea rnnabout, a practice which has been followed by several designers both in this and other countries.

The wheels fitted are 26×2in., and the track and wheelbase are 3ft. and 6ft. respectively. It is claimed that petrol consumption is in the neighbourhood of 100 m.p.g. Included in the price of 68 guineas is a set of acetylene lamps with generator.

Mr. Archie J. Cocks, the well-known pre-war competition rider, who is the new sales manager for Black Prince Motors, Ltd., advises us that he recently made the trip from Barnard Castle to Glasgow, on which the little machine proved itself a good hill-climber and capable of 30 m.p.h. on the open road

with two persons aboard.

We described the £100 Black Prince runabout in our issue for December 11th. It suffices now to repeat that its power is provided by two Union two-stroke engines coupled together, and embodies a two-speed epicyclic gear and final belt drive. We look forward to trying these drive. We look forward to trying the interesting machines in the near future.



The Black Prince runabout, a four-wheeler which the makers hope to market at £100

OF INTEREST TO THE T.T. ENTRANTS.

N last week's issue we gave the main conditions and regulations which will govern this year's Tourist Trophy reaces. Below we supplement these regulations by extracts from others which are of interest to the prospective com-

"Each motor cycle will be required to bear three number plates, one of which must be secured in front of the head and one on each side of the back wheel. The numbers on the back wheel must be fixed to the motor cycle before its arrival in the Isle of Man, and must be retained as fixed until after the race. These plates will be of stiff metal, 12in. in diameter, painted with the competitor's number in bold white figures on a black

"Both during practising in the Island and the races each competitor must wear a helmet of an approved type. A list of makes of approved types will be furnished by the A.C.U. on application. A competitor will not be allowed to practise or start in the race if wearing metal-studded

One replenishment depot only will be established at one point on the conrse. Only one attendant may assist in replenishing. No spare parts—as distinct from tyres, fuel, and lubricating oil—other than

those actually on the motor cycle at the start and carried during the race, shall be acquired or used, under penalty of disqualification.

"Any machine which is stopped must immediately be placed on the left-hand side of the road. A competitor is ex-pressly forbidden to drive or wheel.his motor cycle in a direction opposite to that

"The order of starting will be decided by ballot, provided that those com-petitors whose entries shall not have been accepted at ordinary fees shall be started after those whose entries have been so accepted."





A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed anvelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Building a Lightweight.

For some time I have been contemplating building a two-stroke motor cycle from component parts, buying them either new or second-hand. I should be pleased if you would give me your prinon on the project.—W.A.C.

firm from whom you buy the engine uld no doubt supply all the necessary ings for assembling a lightweight tor cycle. At the same time, unless have fairly good workshop facilities, should not recommend that you empt this yourself.

Increased Consumption of Speed

Supposing two points, say, twenty miles apart, and a motor cyclist rides the distance slowly. Afterwards he does the same distance, using the same machine, ar ratio, etc., as before, but at a eater speed. Why should his petrol nsumption be greater in the second se? Is it due to more air or wind sistance, thereby causing more power be expended to overcome it? His neels do the same number of revolu-ns, therefore his engine does the me revolutions as when he rode wly.-W.P.

vering the same distance at a greater I it follows that the petrol consumpwill be higher. All other conditions ; equal the increased wind resistance would account for this being so.

Timing Wheels.

Will you enlighten me on the timing of my 23 h.p. 1910 twin Enfield? I bought it with the mainshaft timing pinion missing, and I got one made, and had teeth cut off the forty-tooth wheel, I when it came back it had seventeen h on, but I may say the teeth mesh fectly. When I time the inlet ve to open on the downstroke of piston and the exhaust to open on upward stroke, it will work all it for a revolution or two, but if urn the engine, say, three or four lutions, the exhaust will open on the nward stroke and the inlet on the ard stroke of the piston. Is this ed by having seventeen teeth on half-time wheel instead of sixteen 1? I may say that all four valves off the one camshaft, and the thaft is one piece, so the cams on shaft cannot move. Should I get her wheel with sixteen teeth instead eventeen ?-A.B.

ming trouble with your engine is, se, due to the fact that you have

seventeen teeth on the driving pinion. If the cam wheel has forty teeth, it is obvious that you should have twenty teeth, seeing that the cam wheel must make one revolution to two of the mainshaft wheel. If the cam wheel has thirty-two teeth, you need sixteen teeth on the small pinion.

A Spares Difficulty.

Could you tell me who makes the Alcyon motor cycle? I have got one with several parts missing.—J.B.

The Alcyon machines were made at 30, Avenue de Noailles, Lyon, and they have not been imported into England for many years. We do not think you will be able to get original parts, and if you require any spares you will have to have them made specially.

Removing a Ball Race.



I want to remove the ball bearing in the pulley side of the crank case of my 1914 23 h.p. twin, in order to renew the felt washer which, I see, is between

the ball race and the outer wall of the crank case. I should be much obliged if you would let me know how to remove the ball race.—J.D.C.

Removing ball races from an aluminium crank case is somewhat difficult. The usual method is to warm the crank case slightly and drop it on a level surface, such as the top of a bench. In most cases the ball race will fall out, owing to the expansion of the aluminium. If you cannot remove the ball race by this method, we should recommend that you place it in the hands of a motor mechanic.

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

Lighting from Magneto.

I have an 8 h.p. twin pas-senger machine, which is fitted with accumulator electric light-ing. I have been several times caused annoyance during a long night run through the battery running down, and I should he obliged if you would tell me if there is a device on the market for converting alternating into direct current. If so, what is the name and address of the makers, and the approximate price?—G.B.R.
It is not possible to charge accumulators

directly from primary circuit of a high tension magneto, and there is no device on the market for converting an alternating current into direct current.

Still Running!

Will you kindly advise me as to what you consider the best modern make of carburetter to

fit to an old pattern a.i. valve single-cylinder 2½ h.p. air-cooled engine, fitted in the back wheel of a 1905 Singer tricycle? It was formerly fitted with a Singer carbinetter of surface type. This I replaced by an Amac, with throttle control by Bowden wire, but with the amount of air controlled by a slide. The machine works far steadier than with the Singer works far steader than with the Singer carburetter, but is very poor on hill climbing and difficult to start. The consumption is only 50 to 60 m.p.g., this being, if anything, more than with the former carburetter. The engine the former carburetter. The constant and valves are in good order; also, apparent misfiring. Magthere is no apparent misfiring. Mag-neto is a low tension, rocker, Simmsneto is a low tension, rocker, Simma-Bosch. Of course, the whole engine being built in a Singer wheel makes it difficult to fit a carburetter, the Bowden control passing through the hub to the handle-bar. I have tried several Amac jets, and use the one on which the machine was steadiest. My great difficulty is with starting as this must be done by hard pedalling when the engine is cold. The whole machine is in such splendid condition

machine is in such splendid condition that I am disinclined to scrap it, especially at present.—H.E.B.

In all probability the starting trouble with your machine is due to the inefficiency of the low-tension ignition system. The carburetter you have at present certainly does not appear to be very economical, but as the gear is probably very low, you may not be able to obtain a much better result with any other carburetter. Difficulty in starting is often largely caused by air leaks in the is often largely caused by air leaks in the induction system, and you should eliminate any possible source of these.

READER'S REPLY.

Blow-back.

I notice in a recent issue of The Motor Cycle that the question of curing blow-back was raised by one of your correspondents. This may, of course, be caused by the inlet valve closing late, if the timing is wrong, but is often caused by the exhaust valve closing early through wear of cam and tappet. through wear of cam and tappet. In bad cases this can be cured by retarding the exhaust valve cam one tooth, which may give a little overlap, but is better than having the valve close before the piston reaches the top of its stroke, so causing the inlet valve to open under pressure. Just recently I came across an old engine that would hardly across an old engine that would hardly run, and spat violently out of its car-buretter. The gear wheels were all cor-rectly in mesh with the makers' mark-ings, but retarding the exhaut valve, as I have suggested, made it pull quite well again, and instantly cured the blow-back.—E.M.L. (Colombo).

RECOMMENDED ROUTE

LUTON TO YARMCUTH.—H.H.A.
Luton, Hitchin, Baldock, Royston,
Whittlesford, Newmarket. Bury St.
Edmunds, Ixworth, Scole, Harleston,
Bungay, St. Olaves, Yarmouth. Approximately 122 miles.

CLEVEDON (VIA DORCHESTER) TO BOURNEмоитн.-- F.O. М.

Clevedon, Congresbury, Stock Lane, Churchill, Wells, Glastonbury, Ilchester, Yeovil, Dorchester, Wareham, Lytchett Minster, Poole, Bournemouth.

READING TO GRAVESEND.—E.P.B. Reading, Wokingham, Bracknell, Sun-ninghill, Chertsey, Cobham, Leatherhead, Dorking, Reigate, Redhill, Oxted, Wes-terham, Riverhead, Wrotham, Meopham. Gravesend. Approximately 85 miles. .

TARLAND TO MAUCHLINE, -W.L.H.

Tarland, Ballater, Balmoral, Braemar, Spittal of Glenshee, Blairgowrie, Perth, Kinross, Forth Bridge, by ferry to Queens-ferry, Mid-Calder, West Calder, Lanark, Hyndford Bridge, Douglas, Muirkirk, Mauchline.

MAUCHLINE TO BUXTON .- W.L.H.

Mauchline, Cumnock, New Cumnock, Sanquhar, Thornhill, Dumfries, Annan, Gretna Green, Carlisle, Penrith, Shap, Kendal, Lancaster, Garstang, Preston, Wigan, Warrington, Knutsford, Chelford, Macclesfield, Buxton.

Barrow, Kendal, Kirkhy, Lonsdale, Settle, Skipton, Ilkley, Otley, Harewood, Collingham, Aberford, Ferrybridge, Doncaster, Worksop, Mansfield, Nottingham, Leicester, Daventry, Banbury, Bloxham, Leicester, Larbury, Witney; approximately 230 miles. Alternative return route: Witney, Burford, Cheltenham, Tewkesbury, Worcester, Kidderminster, Bridgnorth, Whitchurch, Chester, Birken-Charlbury, Witney; approxi-30 miles. Alternative return head (ferry), Liverpool, Ormskirk, Preston, Lancaster, Carnforth, Burton, Milnthorpe, Lindale, Newby Bridgs, Green-odd, Ulverston, Barrow.





Motor-propelled Chairs.

A correspondent informs us that the "Raybeck" hand-propelled invalid "Raybeck" hand-properted my and chair, with motor attachment, may be obtained from the manufacturer, whose address is George Street, Blackpool.

The S.A.B. Spark Tester.

When reviewing this device in our issue of the 29th ult., we inadvertently stated that it was handled by the S.A.B. Spark Tester Co., of Cricklewood. We are-asked by Messys. Leo Ripault and Co., of 64a, Poland Street, London, W.1, to state that this accessory is now handled entirely by them.

Messrs. F.N. (England), Ltd.

Mr. A. E. Gelder, who before the war held the position of general manager of Messrs. F.N. (England), Ltd., Kimberley Road, Willesden Lane, N.W.6, has again resumed the position after five years' service with the R.N.V.R. He says that great progress has been made in reconstructing the Belgian factory, and he is most optimistic about the future developments of the company.

Dunhill's Sidecars.

We have received a catalogue of sidecars in which Messrs. Dunhills, Ltd., 359-361, Euston Road, London, N.W.1, are specialising. All the models sold by Messrs. Dunhill are priced and described in this catalogue, while for motor cycle clothing and accessories a special catalogue containing much useful information is issued.

Unwise Motorists.

Quite a considerable proportion of motor cyclists neglect to insure against third party risks, damage, and theft. During the last few days the assistance of the R.A.C. Legal Department has been sought in resisting a large number of claims by third parties in respect of damage done by members to persons or property, and on taking the matter up the Club has found that these risks have not been insured against. It is certainly difficult to imagine any wise motorist neglecting to take the elementary precaution of fully covering himself, his passengers and his machine.

A Two-stroke Honoured.

The Secretary of the Board of Educa-tion has applied to Messrs. F. E. Baker, of King's Norton, Birmingham, for the loan of a Beardmore Precision motor cycle, which will be exhibited at the Science Museum, South Kensington. The Beardmore Precision was described in our columns recently, and marks a striking departure from the conventional. This is the second occasion on which Messrs. F. E. Baker have been honoured with a request of this description: a Precision overhead-valve "V" twin engine already forms a part of the per-manent exhibition at South Kensington. Reward.

Mr. L. R. Reeve, 169, Grange Hill Road, Eltham, S.E.9, is offering 10s. reward to the finder of a special A.J.S. square box spanner and two sparking plugs, in case, dropped from a sidecar on Shooters Hill on January 24th.

Magneto Spares for Scotland.

We hear that Simms Motor Units, Ltd., have opened a branch depot for Scotland at 1,195 Argyll Street, Glasgow, where a full range of magneto spare parts and the company's motor accessories will be kept in stock. There will also be a repair department on the premises.

Sidecar Production.

The Stevens Engineering Co., 184-186, Pentonville Road, London, N.I, informus that they have been able to increase greatly their production of sidecars, which are now known as the Whitworth-Stevens. They are now in a position to give immediate delivery of 1920 models.

M-L Magnetos.

Interesting figures have reached us from the makers of the M-L magnetos regarding their 1919 output, which was considerably in excess of the total produced during 1918, or any previous year, although serious reconstruction and labour difficulties had to be overcome.

Popular Instruments.

The three aeroplanes which are attempting the London-Cairo-Cape flight are fitted with instruments manufactured by Messrs. S. Smith and Sons (M.A.), Ltd. An especially clever fitment is the Smith recording air speed indicator, which automatically records the air speed on special charts.

Messrs. Alldays and Onions' "Slogan".

Messrs. Alldays and Onions, Ltd., recently offered a prize to the members of their staff who suggested the most suitable phrase for use as a "slogan" in connection with Alldays cycles and motor-cycles. The phrase that, has been selected is "Built by Engineers." This phrase is certainly very apt, for Messrs. Alldays and Onions have been in the engineering business for very many years -long before the first bicycle was made.

Catalogues Received.

A list of excellent fittings, such as the Clayrite horn, the rigid locking adjustable handle-bar mirror, and a variety of mechanical horns and other useful novelties suitable for motor cycles and light cars, has just been issued by Clayton Wright, Ltd., Great Hampton Street, Birmingham, and traders are invited to apply for copies. Norton Motors, Ltd., Aston, Birming-

ham. A catalogue of the famous Norton, describing the engine and machine clearly, and dealing with the various models turned out by the firm. It concludes with a page of testimonials and an imposing list of successes won during 1919,

and list of successes won during 1919.

An interesting illustration appears on the cover of the Quadrant folder, depicting an African native on a 1903 Quadrant, photographed by Mr. T. Silver during his visit to that country at that date. The list also shows the 1920 4½ h.p. models, which are priced at £95 and £122 10s, for solo and sidecar machines respectively.

MISCELLANEOUS ADVERTISEMENTS.

ADVERTISEMENTS in these columns -First 12 words 3/-, and 3d. for every aditional word. Paragraphs of under 8 words re charged double rate. Each Name and

aragraph is charged separately. Name and ddress must be counted. Series discounts, onditions, and special terms to regular trade ivertisers will be quoted on application.

Postal Orders and Cheques sent in payment for lvertisements should be made payable & Co. easury Notes, being untraceable if lost in ansit, should not be sent as remittances.

All advertisements in this section should be companied with remittance, and be addressed the offices of "The Motor Cycle," 20, Tudor reet. London, E.C.4. or 19. Hertford Street, wentry. To ensure insertion letters should posted in time to reach the offices of "The otor Cycle." by the first post on Friday orning previous to the day of issue.

All letters relating to advertisements should be the number which is printed at the end of th advertisement, and the date of the issue which it appeared.

The proprietors are not responsible for clerical printers' errors, although every care is taken woid mistakes.

NUMBERED ADDRESSES.

r the convenience of advertisers, letters may be essel to numbers at "The Motor Cycle" Office at this is desired, the sum of 6d. to defray the cost of n this is desired, the sum of tol. to defray the cost of tration and to over postage on replies must be added he advertisement charge, which must include the IsBox ooo, c/o "The Motor Cycle." Only the number appear in the advertisement. All replies should be eased No. ooo, c/o "Motor Cycle." 20, Tudof Street, Replies to Box Number advertisements containing funces should be sent by registered post, but in all such it is advisable to make use of the Deposit System. It is advisable to make use of the Deposit System, the case of motor cycles offered for sale under a box or, as it is unusual for these to be sold without first inspected by the intending purchaser, advertisers will take business by embodying in their advertisements mention of the district in which the machine d may be seen and tried.

may be seen and tried.

Sons who hesitate to send money to unknown persons teal in perfect safety by availing themselves of our at System. If the money be deposited with "The Cycle," both parties are advised of this receipt. I time allowed for a decision after receipt of the is three days, and if a sale is effected we remit the it to the seller, but, if not, we return the amount depositor, and case harry to the transaction pays if the office of it is charged; on transactions over from older (5.0, the fee is 2/6; over 5/50 and under (7.5, 5/-; 7/5 and under f.100, 7/6; and on all transactions 100, ½ %. All deposit matters are dealt with at doe Street, London, E.C., and cheques and money should be made payable to lilife & Sons Limited. letter "D" at the end of an advertisement is an ion that the advertiser is willing to avail bimself of sposit System. Other advertisers may be equally sposit System. Other advertisers may be equally is, but have not advised us to that effect.

SPECIAL NOTE.

SPECIAL NOIE.

aders who reply to advertisements and receive no
to their equiries are requested to regard the
as an indication that the goods advertised have
theen disposed of. Advertisers often receive so
enquiries that it is quite impossible to reply to
to by post.

MOTOR CYCLES FOR SALE.

A.B.C.

C. Combination, ordered early April: £5 deposit paid: what offers for option?—Box 1,431, c/o The Cycle. [3191 VES' Garage, special agents for A.B.C., Broadway, Muswell Hill, N.10, and Woodside Parade, Finchley. [0026]

ESTON.—A.B.C. Skootamota; deliveries have now commenced; 49 gns.—From the Lancashire agents, adshaw, the Motor House. Tel.: 1288. [3496] O. - Book early and prevent disappointment. Specification and full particulars will be sent on ation. - The Spalding Motor Co., Ltd., Spalding, nting agents for Lincolnshire.

TO THE POTENTIAL. MOTOR CYCLIST

"HIS winter has seen a phenomenal demand for motor cycles and sidecar combinations. Never before have so many people attempted to buy these types of motor vehicles. We say "attempted," for certainly many prospective buyers have been sent empty away. That depends on where they have gone for their machine, of course. The house of Wauchope has had unequalled experience in motor dealing, and has always been in an exceptional position to meet the requirements of its clients. By keeping at all times a very large and varied stock of second-hand machines, and by placing well in advance large contracts for all the principal new models, we have been able even in these abnormal times to keep pace to a large extent with the extraordinary demand.

Now that the moulders' strike, which for so long has delayed the production of 1920 models is ended, deliveries of new machines are daily improving, and we hope soon to be able to offer a large range of post war productions.

At present we have, as usual, a large variety of coach-built sidecars on hand, any of which can be fitted in a few hours to any type of motor cycle. The famous 1920 No. 2 B.S.A. sidecar can, for instance, be immediately delivered from stock, as can also every model of Canoelet, Douglas, and a large variety of other first grade sidecars, ranging from £20.

The Autoped Scooter complete, with electrical equipment, can be supplied from stock at £42.

A number of excellent light cars are also on our premises ready for immediate delivery including Singers, Standards, Citroens, and Morgans.

Call, write, or 'phone immediately and make sure of the machine you require.

Wauchope's

9. Shoe Lane, Fleet St., E.C.4 'Phone : Hollorn 5777.

'Grams: Opificer, Fleet, London.

MOTOR CYCLES FOR SALE,

Abingdon. 5 h.p. Twin Abingdon King Dick Combination, coach-built, 3-speed, clutch; trial, flayguth, Settle Vorkshim [3314]

A BINGDON King Dick, 312h.p., 3-speed counter-slatt gear, H.B. clutch, kick start, Bosch, B. and B., good order; £68.-Browning, 32a, New Flyet, Durham.

JACK HEALY, Cork, official A.J.S. agent.-Rotational delivery. No premiums accepted. [5485]

CROW Bros., High St., Guildford, A.J.S. agents since 1912, accept no premiums, [X7943 6 h.p. A.J.S. Combination, fully equipped, condition perfect; £96.-24, Cottago Grove, Surbiton. [3606]

A.J.S. 6h.p. Twin, 3-speed, kick start, clutch; \$29.-

2 3 h.p. A.J.S., 1916, 3-speed, good condition, new 2 4 gears; £65.-Redly, Elmhuist, Four Osas, Buraningham.

A.J.S. Combination, complete, lamps, horas, wheel, first-class condition; price £145.—Mit Rectory Rd., Farnborough.

6 h.p. A.J.S. 5-speed Combination, hood, replanted and overhauled; £145.—Ald ton, Handwicke Rd., Reigate.

A.J.S. 1916 Combination, 4h.p., detachable wheels and spare, wind screen, lamps, good condition; £127.—Central Garage, Southport. [3546] A.J.S. 254h.p., 2-speed, hand clutch, new tank, thoroughly overhauled by makers; nearest ±50.-35, Golden Hillock Rd., Small Heath, Birmingham. (3337)

A J.S.—Exeter Motor Cycle and Light Car Co., Ltd., Bath Rd., Exeter, and 28, Turistock Rd., Ply-mouth. Sole agents. Now booking for earliest de-liveries. (0061

19 1914 Sh.p. A.J.S. Combination, spare wheel, lamps, horn, wind screen, storm apron, splendid condition; £175; owner buying car.—Naylor, Leahaven, Kilderuinster.

A J.S., 2%b.p., Bosch mag., B. and B. carburetter, in good running order; 25 gus.—Stored at B. and B. Motor Works, East Dulwich Station, in name Scott. [351]

A.J.S. 4h.p. 1915 Sporting Combination, brand new gears, chains, mechanically perfect, Middleton sidecar, Palmers as new; 105 gns.—Wayside, Shinfield, Reading. [3254]

A J.S. 6h.p. Combination, 1920, Lucas lamps and horn, spare wheel, screen, and storm apron; £230; seen any time.—43, Grove Rd., Sparkhill. Birmingham. [X4795] £230; see mingham.

mingham.

19 to topedo C.B. sidecar, electric lights, excellent condition: £150, no offers.—Taylor, 51, Westminster (X4779) Rd., Coventry.

19 20 A.J.S. Combination, Olympia Show model, small mileage, Lucas lamps and horn, leg shields; best offer,—Cyril Williams, Chapel Ash Depot, Wolverhampton, Telegamas: Farts. [X4717]

A J.S. 1919 Combination, 6h.p., hood and wind screen, new spare wheel, spring seat-pillar, as new, not dome 1,500 miles: £170, or best offer over.—J. A. Michaux. 33, Sutherland St., Punlico.

A J.S. 6h.n., 1914, 3-speed, lumps, speedometer, with concludint sideon, screen; £115; exceptional condition.—Newhham Motor Co., 223, Hammersmith Rd, W.6. 'Phone: Hammersmith 80. [4137]

19 16 A.J.S. Twin Combination, 3 speeds, clutch, kick starter, Lucas lumps and horn, spare wheel, interchangeable wheels: £130.—Drug Stores, 13, Ptince of Wales Rd., Kentish Town. [4083]

19 19 A.J.S. Combination, complete with spare wheel and tye, lamps, tools, and horn, turnout in excellent condition, tyres unpunctured; price for quick sale, £182—H. Bond Waterloo Av., Leiston, Suffolk

A J.S. 1916 4h.p. C.B. Combination. 3 lamps, mechanical horn, tools, etc., mileage, 2,716, respiries new front cover, new coiks in cluth plate, otherwise reflect condition.—Others, subject to view or i.o.r. to Box 1,507, cjo The M for Cycle.

L ATE 1915 A.J.S. Coochhuilt Combination, 3-speed. enclosed chains, interchangeable wheels, 5 lamis. Klaxon, speedometer, new tyres (700×30), recently overhauled, new condition; £140, or reasonable offer. -68, Bingham Rd., Croydon.

Sh.p. A.J.S. Combination, specially built J.A.P. engine, 3-speed gear, kick start, date 1914, recently overhauled and sidebar repainted, lamps, hood, wind screen, luggage and petrol grid, horn, fully coulpped what offers over £100.—Phone: Lee Green 459, [3732]

A.J.S. Spares: engine and gear box repairs: prompt delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton. T.A.: Parts. [2237

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. BI5

MOTOR CYCLES FOR SALE.

A LECTO 1920 3h.p. 2-stroke, 2-speed; delivery from stock; list on receipt of p.c.-Wardmans, High St., Cheltenham. [1726

Alldays.

ALLON, 1919, 23th.p., 2-speed, clutch model, lamps, born, tools; £70.—Parker's, Bradshawgate, Bolton, [X4714] 19¹⁷ Alldays-Allon, 2-stroke, 2-speed, as new; approval; £65.—John Fletcher, Hetton Downs, [X4789]

A LLDAYS Allon.—First on list, delivery expected daily; £20 deposit paid, what offers?—Box 1,533, c/o 1he alotor Cycle. [4107

JONES' Garage, special agents for Alldays Allon Brondway, Muswell Hill, N.10, and Woodside Parade, North Finchley. [0027]

ALLON, 2%h.p., 2-speed, E.I.C., Senspray, 1 exhaust, overhauled, perfect condition; 24 16, Princes Parade, Finchley, N.3. [3907

A LLON 1917 254h.p., 2-stroke, countershaft, perfect condition: £55: atter 6 p.m., or week-end.—19. Woodhouse Grove, Manor Park, London, E. [3310 A LLON, 234h.p., 1915 (July), very little used during the war, just thoroughly overhanded and two new Dunlop tyres fitted; £40.-54, Whitwell Rd., Southlesa.

A LLON 25th.p., 2-speed, very fast, smart appearance, head lamp, toolbag, new speedoneter, tyres in pertect order; £48, or offer.—262, Blackhorse Lane, Walthamstow.

A LLDAYS Allon, 1919, perfect condition, single speed, run 400 miles; £75.—George Smith's Motor Depot, opposite Arding and Hohhs, Clapham Junction, S.W.11.

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F.O.C.H. have a 1919 Allon, brand new.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752 Hours 9-7, including Saturdays. (2339

Hours 9-7, incining Sections 1.

1919 Alidays Allon, 2 speeds, and clutch, lamps, Klaxon, aliminium discs and tools, very smart, and in perfect condition.—Miranda, 156, Roman Rd., 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-1848, 1848-18

Ariei.

3 h.p. Ariel, in running order; £20.-20, Boston Rd., Hanwell, Middlesex. [2961] CROW Bros., High St., Guildford, Ariel agents, supply at makers' prices. [X7944

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JONES' Garage, special agents for Ariels, Brond-way, Muswell Hill, N.10, and Woodside Parade, North Finchley. [0028]

19²⁰ Ariel, 3½h.p., 3-speed countershaft, haad amor foot clutch, etc., as new; £100.—lvimey, Manor Crescent, E. Molesey. [3476]

A RIEL Combination, 1919¹/₂, hcod, screen, lamps, horn, mileage 100, perfect; £120; Surrey.—Box 1,534, c/o The Motor Cycle. [4108

1,554, clo Inc Motor Cycte.

ArrEL 3/4.p. 1914 Combination, 3-speed, clutch, horn, lamps, good order; 55 gns; week-end-rant, Midnurst, High Rdt, Laindou

ARIEL, 3/4.p. and 6h.p.; early deliveries; all spare parts stocked.—F. Speekman, Ariel Tax-cert, 7. Rochdale Rd., Harpurhey, Manchester, [4020]

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A UTO-WHEEL, perfect running order, new tyre-extra strong attachment hig, registered tunsfer, number plates; 12 gus., offer.—Box 1,423, c/o The Motor Cycle. [3174]

Bat.

BAT-J.A.P.—Sole agent for Cheltenham and Dis-trict, Wardmans, High St., Cheltenham. [1727 31h.p. Bat, a.i.v., B. and B., new belt, back tyre and tube, in good running order; £25.—Houghton High St., Finedon, Northants.

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BAT-J.A.P. 3/h.p. Combination; bargain, £38; deferred payments arranged; closed Sundaya-Bunting's Metor Exchange, Wealdstone. [4058]

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L ANCASHIRE (West) and Cheshire.—Beardmore Precision, the most advanced and practical motor cycle yet designed.—Enquiries invited by J. Blake and Co., 110, Beld St., Liverpool. [6575]

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BLACKBURNE New 1920 Combination in stock-Edwards. 7, Exhibition Rd., South Kensington.

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B LACKBURNE Motor Cycles, delivery 4h.p. model from stock.—Agents, Lankester Engineering Co. 63, Brighton Rd., Surbiton. (2127

Ab.p. Blackburne, late 1919, 3-speed Sturmey-Archet, coachbuilt sidecar, 28in. wheel, tyres and coaltion as new, complete with Miller head lamp, and generator; price 128 gns., no offers.—Box 1,550, 86 Bradbury

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lordon.-4b.p. Bradhury, 1911; £35. [3798

BRADBURY 6h.p. Twin, brand new; £140; immediate delivery.—Birch's Garage, Welverhampton.

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4 h.p. Bradbury, 1912, 2-speed, clutch, Bosch, watt proof, good condition, cheap.—Ricketts, 115, Be lord Rd., Clapham.

BRADBURY 4h.p., 2-speed, clutch, Bosch, lamps, 2 cessories, good condition; ride away; £43, 134 Lucyid Lane, Shadwell, E.

£45.—Bradbury, 1913, 4h.p., 2-speed, just overhauled and re-enamelled, lamps, horn, spare belt; bargus.—Colthurst, Kébie College, Oxford.

BRADBURY 4h.p., Grado gear, T.T. haudle-ba Miller lamp, tank just commelled, powerful; \$4 seen by appointment.—Hutton, Eastcote, Leatbethe

BRADBURY 1915 6h.p. Combination, 5-speed get box, kick starter, lanus, horn, spendid codition; £120.—Slater, Wellington Terrace, Belper, Derbire.

A h.p. Bradhury Combination (ceachbuilt), 2-apt clutch, Bosch (waterpreef), B. and B. has spares. first-class order, trial; £58.—151, King Rd., Teddington.

19 13 31/2h.p. Bradbury, 3-speed Sturmey-Archetion, a bargain; £55-Flower, The Harpenden Garat and Coach Works, Harpenden.

MOTOR CYCLES FOR SALE.

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ADBURY 1920 4h.p., 3-speed countershaft, kick starter, chuin drive, Canoelet siderar, stoini aprou new, at maketa' puice; £147/5.—Wilkins, Simp ad Co., opposite (Dympia, London. 12353

20 6h.p. Bradbury Twin, Griudley patent spring sideear, hood, wind screen, luggage grid, lamps, and tools, Olympia Slow model, new condition; Siddury, 7, Dennington Park Rd., West-sitead, London.

14). Bradhury, Bosch, B. and B., free engine, de-compressor, multi gear, lamps, etc., just over (d, 1919 Royal Leicester siderer, apron, excellent tion, 2 new tyres and tithes; accept 270; triul-nson, 2, Church St., Newark. (3870

ADBURY, 1914, specially built aging long stroke 4h.p. machine, almainiam finish and dase wheels, y handsome machine, in splendid condition, insur-policy; view and trial by appointment; 280, or -Nicholls, Ash Vale Hotel, near Aldershot, 13325

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OUGH 1916, 3-speed, countershaft, kick start, Binks carburetter, all nevessories, guaranteed mically perfect and last; price £75.—Dingdisk, Jaston Rd., Morecambe. [X4651

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OWN 314h.p. and sideout: £27.-4, All Saints Rd., Westbourne Park, W.9. [X4662] ap. Brown, Simms mag., Amae earburetter; £18. bargain.—Tedham, are maid St., Ryc. [3821]

B.S.A.

16 B.S.A. Combination, all accessories, luxurious sidecar: £100.—16, York St., Dover. [3146] sidecar; £100.—16, York St., Dove.

70 T.T. B.S.A., brand new, not used; £89 cash, first deposit secures.—Box 1,491, c/o The Motor [3536]

ES' Garage, special agents for B.S.A., Broad ray, Muswell Bill, N.10, and Woodside Parade. Finchley.

A. 41/h.p., chain-cum-belt, Canoelet sidecar, like new; £115.—Bennett, East View, Chase Court Gar Enfield. [3782]

A. 1914 T.T. (clutch), very fast, and in excellent ondition; £45.—Capt. Langley, The Cottage, St. s Bridge, Salisbury. [3577] also

A. 1917 4½h.p., with nice coach sidecar, a radesman's box corrier, with 4 trays; £130 l. Garage, Southport.

A., 4h.p. T.T., new tyres and belt, all in andition, lamps, horn, speedometer; £55.-m Lane, Streatham.

t., 2-speed and clutch, complete, lamp, new tyres, orn, speedometer, gnaranteed perfect; £68.—Mit-Rectory Rd., Farnborough. [4015

t. 1920 Chain-cum-belt Combination, in stock. Clifford Wilson Mig. Co., 70, Royal Hospital helsea, Tel.: Kens. 7113. [3923 Model H, 1915, lamps, horn, etc., absolutely und: £85.—Newnham Motor Co., 225, Hammer-Rd., W.6. 'Phone: Hammersmith 80. [4128]

to 1919 B.S.A. Combination, Montgomery C.B. lecar, 3-speed, K.S., chain drive, low mileage, offers,-Gresty, Shoothill, Ford, Salop. [X4836]

.. 31/h.p., Bosch, B. and B., clutch engine namel and plating new, lamps, toolbags, tyrest; £55.—Want, The Cottage, Addlestone.

B.S.A. and Canoelet Coachbuilt Sidecar, peedometer, lamps, all usual accessories; £120 offer; any trial.—57, Mount Nod Rd., Stream, 111, S.W.

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Specialists.—All replacements in stock; B.S.A. ecars, screens, hoods, and grids in stock.—The Cycle and Motor Co., Broad St., Birmingham omocyco, Birmingham. [7755]

B.S.A., 1919 Model K, with coachbuilt Mil-1 sidecar, new condition, inspection Henley intment; owner buying car.—Barlow, 15, a Gardens, Kensington. [3855]

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You want a Motor Cycle

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X4778

2 1h.p. Calthorpe-Precision, 2-speed, lamp set, tools, 2-speed, lamp set, tools, 2-speed, lamp set, tools, 2-speed, lamp set, tools, 3-speed, lamp set, and 3-speed, lamp set, tools, 3-speed, lamp set, and 3-speed, la

19 15-16 Calthorpe-Jap 2°4h.p., Enfield 2-speed, Amar-E.I.C. mag., new throughout, hardly used: £46, -63, Solon Rd., Brixtoo. [376]

CALTHORPE-J.A.P., 25,h.p., 1916, 2-speed, lamps, horn, generator, pump, good condition; bargain, 40 gns.-209, Shakespeare Crescent, East Ham. [5502] 2 3b.p. Cathorpe-Jap, 1915, Enfeld 2-speed, lamp, 24 horn, Dunlop tyres almost new, new busbes, rings, gadgeon pin; £39.—H. Deerin, Forrestfield, By Airdrie.

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CAITHORPE 41(h.p., Bosch mag., B. and B., kick start, tree engine, variable gear, perfect rucoling doer, nearly new tyres, tubes, with flowings concubuit collapsible sidecar; no garage required; 255, but guin.—364, 0'4 Kent Rd, 8.E.

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Campion J.A.P. 4h.p. Combination, J.-speed and clutch; £58 for quick sale.-57, Kenbury St., Coldharbour Lane, Camberwell.

Clampion-villiers, new December, Miller, tor-pedo, done 50 miles, and complete suit; 256.— Jones, Somerville, Llanbadarutawr, Aberystwyth. (4006

Jones, Somerrille, Lianomantiana, Activity, A. DVERTISER, unable to take delivery of 8h.p. Campion-Jap combination, delivery early in March, will dispose of his deposit £25 paid October for best offer over £30.—Box 1,537, c/o The Motor [4112]

Cyce. [4112]

ATE 1917 Campion-Precision, 25th.p., 2-speed, tyres as new, machice as new throughout, perfect condition, any trial; 40 gos.—H. Mason, 1vy House, Thomas St., Kings Lyon.

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WAUCHOPE'S, 9, Shoe Lage, Fleet St., London.— 214h.p. Carfield, 1920; £59. [3800 W 214h.p. Carfield, 1920; 259.
CARFIELD, 2-stroke, 2-speed, Villiers engine, oew; 263.—Ball, Hooten Cottage, Boar's Head, Wigan. IX4776

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Clyno.

DAN GUY, Weymouth,—1920 Clyno 2-stroke, 2-speed, clutch, immediate delivery. [4021] 19 20 Clyno Lightweight, 2-speed, clutch; \$70.—\$100k Bros., Burnham, Somerset. [5435]
WAUCHOPE'S, 9. Shoe Lane, Fleet, St., London supply new 1920 2½h.p. Clynos; £70. [3801

19 16-1917 Clyno Combination, excellent condition; any examination; £98.—Matthews, Ockley, Surrey.

CLYNO New 1920 2-stroke Models in stock; £70.— Edwards, 7, Exhibition Rd., South Kensington, 12915. Gh.p. Clyno Combination, W.D. model, spare wheel, lamps, etc., complete; £97.—Cross, Agent, Rother-ham.

PRESTON.—Clyno 2-stroke, clutch model; actually in stock; £70.—E. Bradshaw, the Motor House. [3497]
CLYNO, new 1920 2-stroke, 2-speed, band clutch, it

CLYNO, new 1920 2-stroke, 2-speed, band clutch, it stock; hook now for 1920 8h.p. combination - Moss, Wem. [X4841

Tel.: 1288.

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CLYNO 6h.p. Combination, 2-speed contracts and Williams, Hitchin Hert in stock.—Chardler, Reyre and clutch; 2701 bland now, actually in stock at makers price—Wilkino, Stungen and Co., opposite Opinia, Logistic Clutch, kick start, finished black and gold, Stewart; 100 gns.; good solo part.—75, Knowle Rd., Brixton.

CLYNO Combination, 1916-1917, 6h.p., 3 speeds, clutch, kick start, finished black and gold, Stewart; 100 gns.; good solo part.—75, Knowle Rd., Brixton. Clyno combination craftes looked in the price of the stock of the blooked in the light of the price of the stock of the blooked in the light of the price of the light of the l

1920 Bh.p. Clyno Combination—We can offer de-liveries out of our first batch; approximate date, March.—Julian, 84, Broad St., Reading. Big-gest dealers in the South. Phone: 1024. [0112

All machines quoted below are for immediate delivery. If you want to secure a first-class machine it will be well worth your while giving us a call.

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lamps, as new.
1919 3½ h.p. ARIEL Combination, disc
wheels, hood and screen, lamps.
1919 10 h.p. HENDERSON Combination,
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mileage 300.

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We are the London Agents for the famous Castle three-wheeled runabout, Early deliveries guaranteed. PRICE APPROXIMATELY £250.

We are also London Agents for the famous Henderson Elite Sidecar.—— —We have numerous models in stock for IMMEDIATE DELIVERY.

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16, HAMPSTEAD ROAD, LONDON, N.W. 11.

Phone No.: Muscum 3419.

MOTOR CYCLES FOR SALE.

Clyno.

CLYNO 21/h.p., 2-stroke, Oct. 1919 (engine L1146, done 250 miles, excellent condition, horn; bobigger machine; £65.—Freenan, Wike Cottage, Fham Common, Slough, 'Phone: Farnham Common after 4.

after 4.

Sh.p. Brand New W.O. Clyno, J.A.P. cusine, 2.

Sh.p. Brand New W.O. Clyno, J.A.P. cusine, 2.

Seat-pillar, spring pillion seat, commercial delichassis fitted with steel goods carrier, perfect order, run 200 miles; 130 gns.—Box 151, cl. 7 The Motor Q. Clyno, Special Sh.p., 3-speed, interchangeable spare wheels, discs, 700×80 cnr tyres (2. Lucas lamps, horn, Stewart speedometer, wind scillagane grid, petrol cor cornier, sideor fitted T check springs, Senspray curburetter, does diversed the number of the control of the

Connaught.

CONNAUGHT, 1917, hardly tell from new; 24 Adams, 278, Dudley Rd., Wolverbampton, [X4 CONNAUGHT 27th.p. 2-stroke, 1916, fine co tion; bargain, £35.—Weston, Leggatts, Pot Bar.

NEW Connaught 2-speed Model, with extra l. wheels and tyres, for immediate delivery; .-Busby's Garage, Fairford.

CONNAUGHT 2%h.p., mechanically sound, good to wants enamelling: £29/10; offers.—Seen at Park Rd., Crouch End, N.

CONNATURIT, 1914, 25th.p., T.T., long exheme grips, new tank, lamps, etc., condition cellent: £34/10.—After 7, Barnes, 85c, Trinity Tooting, S.W.17.

Coulson

COULSON B 21/h.p. 2-speed, in stock; list pric East Dartford Garage, Ltd., Dartford. [4

COULSON B 234h.p., 2-speed model, in stoc Malvern Agents, Woodyatt, Ltd., Malvern. [3

O Malvern Agents, woodyatt, Lou, same and COLLSON B.—The ideal spring frame.—Bond the capture of the property of the property

1920 Coulson B., spring frame, 21/5h.p. 2-sp. Blackburne, guaranteed unused, cost 292 ceipt shown; offers.—Bolton, 10, Dean Terrace, Burgh.

19 20 Coulson B, brand new, been 150 miles of 245h.p., Blackburne engine, 2 speeds, sprarame, absolutely new; £25. — Box 1,489, c/o Motor Cycle.

COULSON-B., 4h.p., sporting, spring frame, d 350, fitted Fallolite lump and generator, sponeter, horn, pump, tools, exceptional condition; £2 -48, Doddington Grove, Kennington, S.E.17.

Dayton.

Dayron 2-stroke, fine lightweight; £27/10-cc bargain,—Ashton, Thornhill Edge, Dewsbury,

Dlamond.

Diamond new 1920 2-stroke in stock, 7 handle-bar; £56/10.—Moss, Wem. [X48

DIAMOND, 25th.p. Jao-Enfield, in stock, 1920 monew; 275.—James Garages, Church Stretton. [25]

CYRIL WILLIAMS, for early delivery of all-mo Diamonds.—t haper Ash, Wolverhampton. [X86]

Jack Healy, Cork, official Diamond agent-tational delivery. No premiums accepted, [69] 19 20 Diamond, both models; list price; in stock Youngs, Heath Garage, Newmarket. Phon

DIAMOND, 1920, single speed, brand new; £56/1 immediate delivery.—Birch's Garage, Wolverhat

R. D. VARTY, Thundersley, Essex, agent Diamonds; 2-strokes in stock; early delivery J.A.P. models; exchanges.

19 19 Diamond-Jup, 25% p., Jones speedometer, lambers, beavy Dunlop tyres, all spares, excellenging in the spares, excellenging, 5.E.1.

1917 25th.p. Diamond, Villiers 2-stroke, 2 spendid of P. and H. lamps, etc., long exhaust, disc, is studded cover back wheel; £55; splendid condition Cole, Elms, Minety, Malmesbury.

DOT.J.A.P. 6h.p. Twin Combination, underst conclubuitt sidecar, Bosch mag., B.B. carburd speedometer, Jardine countershaft gear box, längs, tyres, all-chain drive; £80, or hearest offer; that duy arter 3 c'elock.—Apply, A. Walker, 33, Cas 8t., East Ardsley, uear Wakefield, Yorkshire. [3]

BIS All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE. Dandlas.

IVIAN HARDIE and Lane, Ltd., Douglas Special

p. Combination, 1920 madel: £155.

3h.p. Solo, 3-speed Model W.: 190.

3h.p. Solo, 1920 model, clutch and kick starter; £95.

7E Stock Everything you require for your Douglas.

4. Woodstock St. (off Oxford St.), Bond St., W.1 Phose: Mayinir 6559. OUGLAS 25 h.p., 2-speed, fast; £35.-16, St. Mary Abbott's Terrace, Kensington. [3436]

9 20 Douglas (new), 3-speed, clutch, kick starter £ 20.-88, Park Rd., Dulwich, [3904

t Sale, 1914 4h.p. Donglas gear and clutch parts. -Goldroot, 2, Washington St., Cork. [3522] 19 4h.p. Douglas Combination; £112.-2, Tamworth Villas, Mitcham Common. [3886]

BERRY'S.-1915 2-speed Douglas, grand order; £47.-125, Canal Rd., Mile End, E. [5638 319 4h.p. Doughs and Siderat; £125.—James and Co., Idd., 263, Ecclesul 11d., Sheffield. [3201

OUGLAS 23th.p., 1912-13, 2-speed, running order; first £37-32, Lonsdale Rd., Millom, [3552] OUGLAS, 25th.p., 1915, being dismantled; stamp.— St. Oswald, Matham Rd., Hampton Court. [3485] OUGLAS 254h.p., 2 speeds, overhanded, lamps, horn, bags; £50.—Marks, 121, Acton Lane, Chiswick. [3985]

OUGLAS, 234h.p., 1916, in perfect running throughout; £60.-B., 29, Green Street, Camb

19 Douglas, 254h.p., W.D., new September, fine condition; £80.-Cross, Agent, Rotherham. X799 CGLAS, 254h.p., 1916, in first-class condition; £55.-1, Cheval Place, Brompton Rd., S.W.

UGLAS 254h.p., W.D. model, practically new; £55.—Mattock Motor Co., Mattock Lane, Ealing,

h.p. Donglas, 2 speeds, Bosch, Amac, perfect running order; £36. - J. Taylor, Pertenball, St.

s. (5043) ρ. Douglas, new sidecar, electric lamps, mechanical hora; 105 gns.—15, Enmore Rd., S. Norwood, [4052] **CGLAS 4h.p. C.B. Combination, recently ov hauled, splended order; £100.-129, Brock recently over-

UGLAS, 4h.p., 1917, coachbuilt sidecar, Dunlops, discs, all accessories, as new; £115.—Dowell, it, Surrey.

UGLAS 1916 23/h.p., 2-speed, absolutely as aew, any trial; 75 gns.-7, Hampton St., Wal-S.E.

V 4h.p. Donglas Combination, done 50 miles; Bristol district; what offers?—Box 1,543, c/o lotor Cycle. (4118 JGLAS 254h.p., 2-speed, en smart; £55.—Hulifax Motor uth, Halifax. 26144.

Exchange, Union [3426

GLAS 4h.p. Combination, looks new; £110, or chtweight and cash.—C.S., 14, Swaton Rd., Bow, fel.: E.3155.

JGLAS.—Large assortment of 234h.p. second-hand nodels in stock, all fully guaranteed.—Ross, 86 kd., Lee, S.E [554] GLAS 25(h.p., 2-speed, 1917 model; £60.—Newnam Motor Co., 223, Hammersmith Rd., W.6, ersmith 80.

Douglas, complete with lamps, splendid condi-tion; ride away; £60.-G.W., 19, Springfield, Heath, Herts. [3153

[3153 4h.p. Douglas Combination, brand new, delivered; offers over £162/10.—Douglas, St., Trowbridge. brand new, just

GLAS, 254h.p., 2 speeds, perfect order, res. and good condition; £50, bargain o The Motor Cycle. order, good

o The More Ogele (1988) burgaint—Box Dungias 2-3, 12 speeds, clintch, lamps, horn, look, etc., fast markine, very good puller, 15-26, LAS 4sh.p. Combination, everhanded, commelled plated, new tyres, condition as new; 2105.—Combeed, Radstock. (2013) LAS Latest Moiel 22(h.p. 2-speed, complete th lomps, little nsed and as aew; 295.—Brook burnham, Somerest. (2137) 22(h.p. Dougles, September, guaranteed pertections of the complete with \$415 worth accessories; only stage; 30 gas.—Ballance, 42, Lee Rd., Black. (2862)

Douglas 25(h.p., full T.T. bars, new carburter, undguard, saddle, black disc wheels, fast, 256, without discs £54.—50, Riggindale Rid, n, S.W.16.



The "FLASH" al volt Battery, Size

Ent Flectric Lightin; 11 indlams ete. Price

HAH Rearlamp-howsRed light, lights No. plate. Complete with switch bulb, wire. clip, etc., bulb, wire. cli Price 9/6 each.

HAH Fortable Elec-tric Handlamp com-plete with "Flash" 4½ volt Battery as illustrated. Price 25/- cach.

THANKS

are extended to all customers for the consideration and indulgence extended during the difficult period of removal from LONDON to New Offices, Warehouse, and Works, at CROYDON.

Conditions are already very much improved and as soon as the Works are in full swing it is hoped that Stocks will be increased to such an extent that deliveries can always be made immediately on receipt of

order.

Many new lines are in course of production, and customers should therefore ask for their name to be added to the mailing list for new Catalogues as issued.

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A. H. HUNT. H.A.H. WORKS. TUNSTALL ROAD. CROYDON. ENG.

Telephones: 2225 & 2226. relegrams:
"KEYAGE."
CROYDON.

MOTOR CYCLES FOR SALE,

Douglas.

JAMES MOFFAT, Douglas Agent, Yeovil. -25 db.p. model, clutch, £95, less clutch £90; 4h.p. combination, £155.—Thone: 50.

pontion, 1155.—Thone: 50. [1103]
DOUGLASES.—Call it Smith's for your steel that Chalk Fain Tube Station. [10,10]
DOUGLAS. [10,15], 25th.p.; 250; [10,1] been ever handled, disc wheels, lating, pump, etc., [2,394]
DIERREN No. (10,10).

D handed, disc wheels, famps, pump, etc.—246, Cpper Tooting Rd., Tooting, [3941]
NEARLY New Bonglas, very late model, 2-speed, 25, lap., all mecessomes 275, 374, bp., all mecessomes 275, 374, bp. pair proment.—165, Brighton Rd., South Chyden. [Ad55]
DOUGGAS 234, bp., 1915, 2-speed, new back type Belt, thoroughly overhanded and sound; 455,—Perce Kitching, Notion, Muldin, Yorks.
DOUGGAS 254, bp., single speed, just overhanded at cost price 210, ampune thred; 225,—Red House, Adedande Rd., Ashroid, Middlesex, 225,—Red House, Adedande Rd., Ashroid, Middlesex, 255,—Red For Douglas, 1920, 234, bp., with K.S., 3-speed, content of the cost price 210, ampune thred; 255, modern 257, and 1916. Douglas, 214, bp., W.D., 2-speed, perfect mechanical condition, humps, horn; 255, no offer, after 7,—35, Whittingstall Rd., Fulban. [270]

NEW 25th.p. Douglas, 2-speed, exhibition condition. lamps, hoin, bag, speedometer (Cowey); £80, no offers.—Mark, 121, Acton Lane, Chiswick. [4101

DOUGLAS 2-speed, 1915, good condition; £55.—
George Smith's Motor Depot, opposite Arding and Hobbs, Clapham Junction, S.W.11. [4079] DOUGLAS 23,h.p. 2-speed, uncrated last October, absolutely perfect, well-equipped, exceptionally smart; £65.-60, Wallingford Av., N. Keasington. [3957]

DOGLAS, 1917, 23_dh.p., 2-spred engine, I condition, fast, belt, tyres, good; £50, or offer.—Whitlock, 11, Crescent Rd., Begoor.

DOUGLAS, 23th.p., 2-speed, Bosch, Amac, Klaxon, tool bags, splendid condition; Webh, 447, Rotherhithe New Rd., S.E.16. [3197

DOUGLAS 25[h.p., 2-speed, uncrated July, 1919, equipped, perfect and unscratched; £52.—Dentist, 216, Portobello Rd., North Keasiagton, W. [X3356]

1920 Douglases.—By one who knows: delay dangerous.—Order yours now from the Pougls Specialist, Gibb, Gloncester, 'Phone: 852, [634] SMITH'S for Second-hand 1916 25th.p. Doughts overhauled, from 50 gns.—Smith's, 10-16, Har stock Hill, opposite Chalk Faim Tube Station. (00

DOUGLAS 4h.p., 1917, clutch, 3-speed, K.S., lamps, horn, in new condition, 78.—Chaney, 122, London Rd., Kingston-on-Thames. 'Phone: 1156. [3699] DOUGLAS 254h.p., 2-speed, new tyres, lamps, 2-generators, horn, long exhaust, fast, perfect order, £60.—Broomfield, 322, Whitehorse Rd., Croydon. [3311

19¹⁶ Donglas, 2⁵(h.p. engine, new coadition, complete, mag., carbmetter and controls; what offers:—Riddell, 53, Thomas St., Wellingborough, [X4784

1914 Donglas, 25th.p., 2-speed, good condition, fully equipped, tyres and tubes in good condition; owner huying a car; £55.—Breese, Chemist, Newtown,

DOUGLAS, 1915, 255; another, practically indis-tinguishable from new, 465.—5, Eglon Mews, Berkley Rd., Primrose Hill (near Chalk Farm Tube)

DOUGLAS, 4h.p., late 1915, electric lamps, recondition throughout, new lumlops, guarant perfect; first cheque £85.-49, Well St., Hackney, 1

1 9 19 4h.p. Douglas Combination, delivered December 1 10 19 100 miles only, Lucas launs, mechanical horn, etc.; £165.—Appleyard, 1, Rainchiffe St., Selby, Yoks, 1747.6 etc.; £165.—Appreyana, 1, Assaulta, [X4716] $\mathbf{D}^{\mathrm{OUGLAS}}$ Coachinit Combination, October, 1919, $\mathbf{D}^{\mathrm{OUGLAS}}$ Coachinity, tools, only ridden 500 nulce, as new.—Cpl. Weller, Hut 109, R.A.F., Craawei, 15237

3 3h.p. W.D. Douglas, 1916, uncrated July, 1919 4 under 1,000 miles, long exhaust pipes and fully equipped; £68.—H. Rhodes, 595, Halliwell Rd., Bolton. (3930)

DOUGLAS, 1916-17, 27th.p., 2-speed, splendid condition, enamel and plating practically like new, hom. pump, spares; £68.-67, Little Heath, Chalton, S.E.

DOUGLAS 4h.p. Combination, war finish, no accessions, hought 1919, done 1,500 miles, Bintagill2.—Write, Harpham, 24, Coleherne Rd., Finitaging, Scott, S.W.

DOUGLAS, 25th.p., 2-speed, perfect running odds, as new, accessories, lamps, Klaxon, spares, new tyres; £55, or nearest offer.—Fox, 14, Rye Lane, 19ekham, S.E.15.

DOUGLAS 4h.p. Combination, late 1916, excellent condition throughout, complete, lamps, tools, mechanical horn; £100; trial by appointment.—40, Boundard, Ed. Bullon. danes Rd., Balham.

ON "KEYAGE" 2226. CROYDON. born and sparse, just enamelled and overhauled, sew tyres and belt; £110,—J. Brown, c, o Pelmer, Market House, Downham.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. BIG

MOTOR CYCLES FOR SALE. Douglas

19 19 4h.p. Douglas Combination, lamps, Easting, officer; any trial by appointment; no dealers.—80, Mercers Rd., Tufnell Park, N.19.

19 15 Douglas, £55; also 1916 Wolf 2%hp. 2-speed countershart, hand clutch, kick-start, £45; hoth excellent appearance, condition guaranteed.—Rippingale 20, Canterbury Rd., Croydon.

LATE 1916 25th, Douglas, lamps, etc., tyres and belt as new, lovely condition: bargain, £62.—Apply atter 6 p.m., Bryntyrion, Thicket Rd., Sutton, Surrey, or 'Phone: Richmond 651, [3372]

4 hp. Donglas Combination, 1917-18, 3-speed, clutch, kick start, hood, screen, luggage grid, lamps, born, in excellent condition throughout: £105-33, Hoveden Rd., Keyes Rd., Chicklewood, N.W.2. [3852]

D OUGLAS. 2-speed, good condition, ride away, 18 map, £37; M.L. magneto. 2-stroke, nearly new. £4, or exchange twin, 45°, clockwise; after 6.—H. Jennings, 6, Coverton Rd., Tooting. [3901]

DOUGLAS, 25/h.p., 1914, W.D. model, tyres new Dunlop, 2-speed, Bosch mag., Miller's lamp, Klaxon, bulb horns, perfect condition; ride away: £55.—Holle, Silcroft, Yateley, near Camberley. [3414

19 4h.p. W.D. Douglas Combination, delivered July, 1919, 3 lamps, 2 generators, mechanical horn, tyres perfect, various spares, engine overhauled, tast and powerful; £110.—Hosking, Parkhill, Bagshet.

that and powering; 2410-250.

MAUGHOPE'S, 9, Shoe Lane, Fleet St., London, supply new 1920 bouglas machines from stock, solo and sidecar combinations; also 4h.p. Douglas and sidecar, £112; 4h.p. Douglas and sidecar, £120.

T Appears Ridiculous to Advertise when you have to stock, but we me giving deliveries to the entry bids. Place your order at once if you want delivery.—Eli Clark, Douglas Agent, 196, Cheltenham Rd.

19 2 24h.p. 1916 Model Douglas, as new lamps, horn, tools, and footboards, well looked after and little used tyres perfect; reason for selling, bought combination; £85.—Amis, Holmesdale, London Rd., Ryarsh, Kent.

P.O.C.H. have a 1914 Douglas, 2³,h.p., 2-speed, inlly equipped, good order and fast.—Fair Offer Car Homse, 5, Heath St., Hampstead arms Station). Phone: Hampstead 3752. Hours 9.7, including Saturdays.

DOUGLAS 23/b.p., 2-speed, practically new, every-thing tip-ton condition, perfect engine, start walking by side, fastest on the road, any trial, ride 30 miles; bargain, £65.—W. Penning, 3, Addison Place, Brixton Rd., SW.9.

1918 Douglas sh.p. Combination, kick start, 3 speeds, complete lamps, horn, tools, Otto hood and wind seeen, lugage carrier, belt and tyre new, others excellent condition; \$110, no offers,—Captain Yonge, clo Beart and Blackill, Couldedon.

1915 234h.p. Donglas, date gnaranteed, overhauled, re-enamelled, new tank, footboards, Millers lamp set, kneegrips, punn, black discs, 2 horus, tod roll, excep-tionally fast, do over 30 m.jh., and as new; offers.ov. 270.—Spencer, Duke St., Trowbridge.

DOUGLAS Motor Cycle, 1919, 2°4.h.p. 2-speed, extra large saddle, foctboards, Lucas King of Road head lamps, raised handle, mechanical horn, mudshield, mileage 100; price £85; immediate dr. livery.—Tree House, Burley, Brockenhunt. (4075

19 Douglas Combination, W.D. model, mileage under 600, absolutely genuine sale and machine perfect, owner (private) buying higher nower machine, accessories; heat ofter over £155; Paddington district.—Box 1,548, c/o The Motor Cycle. [4125]

DOUGLASES, 1920 models.—The noted house in the South for early deliveries. We are specialists and stockies for Douglas machines only for over 11 years.—Sole District Agents, Thompson and Co. 408, Commercial Rd., Portsmouth. Phone: 7105.

DOTGLAS 23 hp., Aug. 1914 2-speed, entertuly new front 3 years, fully enumed and absolutely as for controlled Trimuph, R.S.A., or Norton enquires invited—H. Waltere, 50, Colden St., Kiddeminster, Worrestor.

23.hp. Dondar.—A number of thoroughly seemal metals of the SWD, 1916; below it with us to 220 worth new parts per machine. Many appear is new, Every merchated purchaser allowed 2 days' approval. On view Bristot, Bournemouth, Sainsbury, and Yeovil.—W. Stard, Middad Bank Chambets.

1919 December) Bonelas Combination, not done to the property of the property o

1913 1914, for model of the following the fo



Sole London and District Agents for A.J.S. and British Excelsior Motor Cycles, also Watsonian Sidecars. tracting Agents for Triumphs. B.S.A., Clyno, Enfields, Cal-Allons, A.B.C.'s, thorpes, Matchiess, Rudge, Harley-Davidsons, etc.

WATSONIAN SIDECARS.

Immediate delivery can be given of several of the most popular models. In every instance the makers' fixed price is charged, for NO PROFITEERING exists at Taylors.

Watsonian Model N. Tourist, complete with coverall storm apron, £24 16 8 Watsonian Model R₃₄, complete with apron, £30 0 0 Watsonian Monarch, complete with apron, £31 5 8

Millford Skiff, complete with apron and ma. £25 6 0

,Carriage from works extra).



CAMEO WINDSCREENS.
Just the thing for winter riding \$2 15
or with valance £3 0

COWEY SPEEDOMETER ?. To fit 26in. wheels £5 10 0

OVERBOOT LEGGINGS

Separate legs (3 sizes) 23 /- pr. Special seatless type 27 /- pr.

(Postage 6d. extra).

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GLOVES.
Tan leather Gauntlet one finger mitts, a really excellent glove, 21/- pr. Excellent glove, 21;- pr.
Tan plain one finger
mitts . . . 9/6 pr.
Reindeer hide gloves with
woollen wrists 12 6 pr.
(Postage on gloves 3d.
extra).

REPAIR OUTFITS. Special offer, motor cycle size 1 /- ea. (Post 3d.)

ROBI HAND MUFFS
Keep your hands cosy but leave your fingers free. Green waterproof fleece lined (post 6d.) Pr

Price 12 /6 pr. Black waterproof Teddy lined (post 6d.) Price 21 - pr

Easy to fix and very effective
(Postage 4d, extra) . Price 8 /- pr.

H. TAYLOR & CO., LTD. Showrooms: 21a, STORE ST., W.C. Wholesale: 38, ALFRED PLACE W.C.1.

Garage-Tottenham Court Road. Phone-Museum, 1340. relegrams - "Dynametro, Westcent London.

MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 25/h.p.—We have several recent m completely renovated, re-enamelled, and p tanks in makers' colours, new belts, tooblags, an standard fittings, and guaranteed mechanically feet. Now is your chance to get a reliable ms for Easfer. All our machines are guaranteed mouths from date of purchase.—Hubst Turner Co., 4-5, Crawford Passage, Ray St., Farringdon E.C.1. "Phone: City 723-

Duzmo

DUZMO 314h.p. Single and 8h.p. Twin. Orde strict rotation. Deliveries commence Februa All Lancastire and Cheshire enquiries to Leach Seed, 16, John Dalton St., Manchester.

Edmund.

23h.p. Edmund, spring frame, 3 models.—Lists from Gourlay's, Fallowfield. EDMUND-J.A.P., new 1920 254h.n., 2 frame model in stock.—Moss, Wem.

1919 (September) Edmund, 2%np. J.A.P., m.p.g., 2-speed and clutch, all chain with aboutour, rear suspension by long with aboutour, rear suspension by long black and gold all-weather finish, fully equipped accessories, efficient mudshelds, full insurance pany trial; owner buying sidecar machine; £79-bar, 18, St. John's Rd, Cambridge.

Enfield

19¹⁹ 21/4h.p. Enfield, fully equipped; bargain, 55, Ballspond Rd., Dalston.

NEW 6h.p. Enfield, with dynamo lighting, just livered; offers.—Read Bros., Tunbridge Wei ENFIELD 234h.p. Twin, 2-speed, lamps, etc.: £
-Wallington Motor Co., Stafford Rd., Wa

ROYAL ENFIELD 3h.p., chain drive, Bosch, overhauled; £55.—Robertson and North, borough.

6 h.p. Enfield Combination, perfect condition; examination; £100.—Baker, Beot Manufact Fishguard.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lond Enfield Combinations, 1916, 1917, 1918, from £120.

JONES' Garage, special agents for Enfields, Way, Muswell Hill, N.10, and Woodside P. North Finchley.

19 renfield 2½h.p., 2-stroke, new tyres, 2-gnaranteed perfect; £50.—Mitchell, Rectory

ENFIELD 3h.p., 1915, 2-speed clutch, lamps, good condition; £55.—Seen at 26, Queen's Queen's Rd., W.

Enfield 3b.p., 2-speed, K.S., just rebushed, back cover, good condition; £50.—Webb. Queen's Rd., Watford.

ENFIELD 234h.p., countershaft drive, in exceeding the condition, very fast; £35.—Church, 44, Stra Rd., Summertown, Oxford.

ENFIELD Combination, 1917, 6h.p., excellent dition; 125 gns.—Longman Bros., 17, Bond Ealing. 'Phone: Ealing 689.

6 h.p. Enfield Combination, late 1914, new Dm apron and wind screen, perfectly sound; any -Haygarth, Settle, Yorkshire.

E NFIELD 1920 6h.p. Combination, 2-seater purchased this week, not ridden; offers.-Leonard's St., Bromley-by-Bow.

19 18 Enfield Combination, 7-8h.p., twin, tional condition; £140.—Youngs, Heath age, Newmarket. 5Phone: 214.

1916 Enfield 6h.p. Combination, little used, screen, speedometer, 3 lamps; £130.—Spur 8, Courthope Rd., Hampstead, N.W.

ENFIELD, 3h.p., 1916, engine perfect, lamps, spare chain, tyres, good gennine machine; 267, 190, High St., Stoke Newington, N.16.

ENFIELD 1920 Magdyno 6h.p. Combination stock.—Clifford Wilson Mig. Ce., 70, Royal pital Rd., Chelsea. Tel.: Kens. 7113.

pital RG., Unessea. Tel.: Rens. 1115.

EXFIELD Combination, late 1915, perfect eead the food, screen, born, lamps; £135.—Griffiths, tatu, White Hart St., High Wycoube.

1914-15 6hp. Endeld Combination, stored 3. lamps, tools, spure chains, etc., mp trial—A. Goodwin, 8, Westminster Rd., Liscard.

Sh.p. Enfield, single-speed, perfect, less magneto, unknown; £20 secures, railed; stamp for —McGuire, 9, Plantation St., Blackhill, Co. Duh

19 (August) 3h.p. Royal Enfield, eogin G3465, perfect condition throughout, tyre punctured; £80.—Bex 132, c/o The Motor C

ENFIELD Combination, Sh.p., perfect conditions and Holbs, Clapham Junction, S. Proposite Arding and Holbs, Clapham Junction, S. Proposi

MOTOR CYCLES FOR SALE.

FIELD 6h.p. Twin Combination, as new, wind screen, electric lights, disc wheels, speedometer, e chain; price £180.—Hedgson, 6, Union Place.

SFIELD 1915 3h.p., mileage 1,500, condition excellent, enamel unscratched; £50, no offers; owner that combination.—Hurst, Market Place, Bedword, atton.

WFIELD 25th.p. Twin, just overhauled, splendid condition, nearly new Dunlops, fast, lamps, acces-et, £40; appointment,—Hunt, 51, Arthur Rd. anton. [3885]

ustron.

SPIELD 5h.p. twin, 2-speed, kick starter, magnificent condition; £60; deferred payments are closed Sundays,—Bunting's Meter Exchange, idstone.

FIELD 1919 6h.p. Combination, the finest out-fit for the family man, in the top order; any f. £165,—Rogers, 106, Fulham Palace Rd., Ham-mith, W.6.

119 Enfield Combination, 6h.p., delivered August, tyres all unpunctured, speedometer, absolutely class; any trial and examination; 2155.—Alexander , Haugerford, Berks.

19 Enfeld Combination, P.H. lamps, Easting windscreen, Binks carluretter, spare valves, percondition inside and out; £180, or near offer.—[X4700]

16 Enfield Combination, 6h.p., just overhauled by makers, mechanically perfect, electric light-hood, Klaxon, any trial; £140; after 7 p.m.— ams. 169, Adelaude Rd., N.W.5.

14 6b.p. Royal Enfield Combination, complete with tools, lamps, Cower speedometer, spares, perfecting order, good condition; £100, or accress offer x 1,430, clo The Motor Cycle. (b)

8 I, 1905, 610 Inc. Matter Cytes. (27)
18 Sil.p. Enfield Cornbination, Lucas electric, speedometer, screen, numerous spares; any trial; & 3U, rears; best ofter over £135; Newwastle, numberland.—Box 1,541, cto The Motor Cyte. (10)

13-14 Enfield Combination, 6h.p., splend(4116) dition, having been recently thoroughly overd at cost of £26/12, lamps, hern, tools, apron, any trial given; £90 lowest.—15, Summerhill Dartford, Kent.

Lp. Overhead Valve Twin Royal Enfield, 2-speed, handle start, chain drive, arcessories, tT.T. bars, teeding y fast machine, in new condition; £60, at offer; call after 6 p.m.—A., Daisylands, Avontal, Palmers Green, X.15.

Tield, 1919, 3h.p., October 28th, 2-speed, Jutch, kick starter, latest Cower speedometer, at, P. and H. and Lucas lighting sets, in fault-ondition; 85 gns; without accessories, 75 gns.—rboune Terrace, Worcester.

Twin Enfelt, practically new, 2-speed, K.S., lutch, Klaxon, Miller lamps, speedometer, new all-claim tirve, complete set tools, spares, spare 5 charu; best offer over £72.—4. Vincent Avenue, on cum-Hardys, Mauchester.

Of CIDE-HARDES ADDRESSED AND COMPLETE BY ADDRESSED AND COMPLETE WITH LOTA, Tools, etc., tyres as new appearance exjust been thoroughly overhauled, trial and extion; £67/19.—Douglas, Bispham Hall, Billinge,
[5316]

TELD Combination, 1916-17, 6h.p. J.A.P. Lucas dynamo lighting, electric horr, 2 wind s : Easting, 2 luggage grids, speedometer, back and tube unused, spare cover and tube, acces-insurance; 150 gns.—Moore, 9, Cambridge Rd., Heath, Birmingham. [X4618]

9 (July) Enfield Combination, 8h.p. J.A.P., in perfect running order, condition as new. 3 acetylene lamps Enfield hood and screen, Eastind screen, Tan-Sad, luggace grid, spare tubes, valves; £165.—The Bungalow, Pittdown, Uck-Sussex. [3820]

2 8h.p. Eofield Combination, fitted regardless of cost, Lucas head lamps and horn, electric side ill, watch, speedometer, aluminium dier wheels, udshields, hood, stiern, and covers for same, \$300; price £200.—Wutson, Foreston's Arms, ady St., Whitechapel.

Excelsion.

p. Excelsior: 2-stroke, 2 speeds, complete lamps, orn, etc.; £47.—Cross, Agent, Rotherbam, 18TON.—Excelsior (American); actually in stock makers; list price.—E. Bradshaw, the Motor Tel.: 1288.

American Excelsior, sidecar, 3-speed, in to condition; nearest offer to £115.—Palm House, Llausantfraid, Mont.

CASHIRE, Cheshire, North Wales, Isle of Man dy.—American Excelsior; enquiries.—J. Blake , Official Dealers, Liverpool-Manchester. [6586

New 1920 American Excelsior represents the st value for money on the market. Book now for elivery. Fitted with Swan de Luxe sidecar.— a and Parry, 4, Bleuheim St., Bond St., Mar-16.

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WAUCHOPE'S, 9, Shee Lane, Fleet St., London.—7.9h.p. American Excelsion and sidear, 1914, £125; also 7.9h.p. American Excelsior, 1916, £95. A MERICAN Excelsior, 7-9h.p., T.T. sports model,
Mark 1945-17, Sasped, chitch, kick start, been recountry, mineral sports, meign medit sideout, smart
litroout; owner buying lority; quick side £125.—Frinterer,
7-, Horney Ries, London, N.

3 th.p. Fafnir, Bosch, Senspray, low, good h

3 1h.p. Fainir, mag., B. and B. carburetter, loot-boards, disc wheels, good tyres, appearance as new, splendid condition throughout; £40; will ride 50 miles to purchaset.—Box 1,555, c/o The Motor Cycle. F.N.

F.N. 215h.p., shaft, 2-speed; £18,-24a, Breer Wandsworth Bridge Rd.

F.N., 4-cyl., 2 spreds, 5-6h.p., a real sound bargain, £35,-53, Russell tel., South Toftenham. [3585 F.N., 5-6h.p., The Bridge Rd., Putter Rd., Putter Bridge Rd., Putter Rd., P

OW Bres., Guildford, F.N. agents for the 7h 4-cyl. and 25th.p. lightweight. Book your machi now

F.N. 5-6h.p., 4-cyl., clutch model, overhauled, re-enanged, edited, splendid condition; £40.—Stevens, Crockernwell, Devon. [3226]

FOR Sale, F.N. 4-cyl. mater cycle, in good condition; £55, or nearest.—Apply, J. C. Gregor, Vulcan Works, Forres.

4-CYL. F.N., Bo-ch, B. and B., new Dunlop, recently overhauled, last, fully equipped; £35; exchange, -42, Pårk Rd., Dartford. [3871]

F.N., 4-cyl., with all accessories, in excellent condi-tion; can be seen any week-end by appointment. Spencer, 134, Lambton Rd., Wimbledon. [3883] -Spencer, 134, Lambton Rd., Whomeson H., new 1920 model, 25(h.p., shaft drive, 2-speed P. lightweight: 285; one available for immediate delivery.-Frank Whitwerth, Ltd., 139, New St., Bir. (X4818)

mingaam.

5 h.p. F.N. 2-speed, plugs in cylinder sides, variable 5 handraften, Bosch, drip bulbreatton, resently use 5 handraften, bulbreatton, resently use 6 handraften, bulbreatton, bulbreatton, with the company of the company of

Harley-Davidson.

7-9 Harley-Davidson, good order throughout; £90 for quick sale.—42, Perran Rd., Tulse Hill. [3108 19²⁰ Harley-Davidsons; immediate delivery of all models.—Kemp's Garage, Louth, Lines. [X4806

JACK HEALY, Cork, official Harley agent, tational delivery. No premiums accepted. BROOK Bros., Bornham ou Sea, can give immediate delivery of Harleys. Send for cutalogue to-day.

HARLEY-DAVIDSON 1916 7-9h.p., new Montgomery sidecar, lamps, tools: £160.—Jones, Garage, Droit, 23443

BEFORE placing your order for new Hurleys, write Brook Bros., Burnham, Somerset. Immediat. deliveries immediate de-

HARLEY-DAVIDSON, all models, immediat hvery.—Maudes! Motor Mart, 100, Paris Exeter. HARLEY-DAVIDSON.—Book now for early delivery.

Only — Official Agents, The Motor Cycle Mart, Stafford St., Walsall.

HARLEY-DAVIDSON, 1915, and coach sidecar; £125,—Halilax Motor Exchange, Union St. South, Halifax. [3422

HARLEY-DAVIDSON, 7-9h.p., 2-speed, spindle, otherwise perfect; £68.—Butless Broomfield, Chelmsford. broken

HARLEY-DAVIDSON, 1916-17, 7-9h.p. combination, Bradshawgate, Bolton. (X4713)

HARLEY-DAVIDSON Flat Twin, superbly equipped, as new.—Secretan and Mallett, Ltd., 149, Lowther Parade, Barnes, 8.W.15.

19¹⁵ Harley-Devidson in-ured Combination, litted new siderar body, piston rings, chains, etc.; £115.—'Phone: 1427 Sydenham.

HARLEY-DAVIDSON, 1918, 3-speeds, electric light-H in A1 condition, excepting tyres; 2.15.-A.
Bennett 28, Clipton St., Wolverhampton. [3366]

Bennett. 28, Chipton St., Worvernammon.

HARLEY-DAVIDSON 5-6h.p. Single. 1915, 2-speed.
lovely Sunbeam sidecar, all lamps, Klaxon, Tan-Sad; sacrifice, £107.—355, King St., Hammersmith.
[3942]

MOTOR CYCLES FOR SALE, Harley-Davidson

HARLEY-DAVIDSON, 1916, and M.M. sidecar, in good condition, mag. model, all on, and spares, £120; trial by appointment.—260, Havelock Ed., Hastings.

HARLEY-DAVIDSON 1917 Combination, just repainted and overhauled; £155.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4,—7-9h.p. Harley-Davidson combination, 1919, £185; 7-9h.p. Harley-Davidson combination, [3804]

HARLEY-DAVIDSON Combination, 1915, 3-speed, ledetric equipment, very sound, perfect cutfit; 130 gns.—Longman Bros., 17, Bond St., Ealing, Phone: Ealing 689.

HARLEY-DAVIDSON 1916 7-9h.p. Combination, electric lighting and horn, in perfect order and good condition, little used until 1919; £140.—Nicholls, Ranmoor Vicarage, Sheffield.

1917 Harley-Davidson 7-9h.p. Combination, mag. model, electric lights, fully equipped; £175; exchanges.—Smith's, 10-16, Haversteck Hill, opposite Chalk Farm Tube Station.

HARLEY-DAVIDSON Late 1915 7-9h.p. Combination, 5 speeds, mileage 4,000, engine and tyres as new, 3 lamps, Klaxon; any trial; £125.—Matthews, 21, Little Ealing Lane, Ealing. [3503

HARLEY-DAVIDSON 7-9h.p., 1918, 3 speeds, clutch, kick statter, mag., disc wheels, very little used. verelett condition; any final, examination; £150.—198, King St., Hammersmith.

FOR Sale, Harley-Davidson, 7-8h.p., foot and handle clutch, variable gear, very powerful; best cash offer over #80, or lower power in part payment—Tegg, Camille, Pangbourne, Berks. [3461]

19 15 Harley-Davidson Combination, 7-9h.p., 3 speeds, hand and foot clutch, 3 lamps, tyres as new, spate tyre and tube, Binks carburctter; seen Saturdays after 1; £135.—Hunt, Hensting, near Eastleigh, Hants. [3970]

HARLEY-DAVIDSON Combination. 1916, electric model, little used, recently overhanded, latest liarley colour, mistaken for new, tyres perfect; any trial; £155.—Box 124, c/o The Motor Cycle. {X4816}

HARLEY-DAVIDSON, 7-9h.p., C.B. combination, just been completely overhanded and enamelled new colours, the outfit is in perfect condition, equal to new; £150.—Ashby House, York Avenne, Hunstanton.

HARLEY-DAVIDSON 1920 7-9h.p., electric model, and Hailey de luxe sidecar, lamp, most magnificent outfit, only used for a few miles; £235.—Elce and Co., 15-16, Bishopsgate Av., Camomlie St., EC.3.

Band Co., 15-16, Bishopsesson, 1919, electric lighting, very percial C.R. sideon, disc wheels, hood, screen, exp powerful, 2210.—Newsham Moto Co., 223, Hammersmith Rd., W.6. Phone: Hammersmith 80 [4134]

19 20 Flat Twin Harley, special sporting torpedo sidecar to match, lamps, horn, run in hy expert, coadition and appearance perfect, full A.A. insurance; would cost £180 to replace, accept £170—Harley, Claremont, Orleans Ed., N.19.

HARLEY DAVIDSON Late 1915 Combination 3 speed, chtch, KS, mag. model, in excellent running order, with roomy coachbuilt sidecar, two acetylene generators, head and tail lamps, horn, etc., any trial; price 90 gps. for quick sale,—8, Malcolm St, Camindige.

19 6 Hange-Davidson, 5-speed combination, 16-centry overhanded, owe cylinders, chains, and speckets, throughout, winds-reed, hood, lamps, tyres, pearly new, perfect condition, seen any time, ower buying car; £150.—Ward, Wyon Rd., Tankeiton, near Whitshale, Kent.

F.O.C.H. have two brand new 1920 Harley-Davidson maker cycles, Model P in stock, Indio equipped by the company of the company of the company of the cycles o

HARLEY-DAVIDSON, 1915 frew August 1916); HARLEY-DAVIDSON, 1915 frew August 1916); specific model, stored 3 years, 80 mp.h. Watton specific model, Elascowette, observations of the second scat, mill tool kit, new Dunlop from, owe Firestone back, splendid condition; £115; bought car.—Balhan, 19, Sydenhum 1101, S.E.26.

Sydenham Hill, S.P.26.

HARLEY DAYIDSON 1820 4h.p. Flat Twin, čoze less than 200 miles, delivered this mouth, mechanical horn, lamps, epecdometer frear drivel, finest machine on the road, 80-100 miles per gallon, absolutely perfect, £160, no offers; ower buying cristiaturday afternoon or write.—Moorlands, Bickley, Kent. [5329.1]

HARLEY-DAVIDSON Genuine 1919 Combination, 7-9h.p., electric equipment, large luxurious sidecar with dickey seat in bulbous back, hood, triple wind screen, apron, 4 spare inner tubes, extra mechanical horn, electric inspection lamp and cable, new spare cover, tools, etc., hardly used; 200 gns, 29, High St., Worthing.

Hazlewood

5-6h.p. Hazlewood, 1919, kick start; £98.-39, Essex Rd., Islington, N. (4047)

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Klaxon Horns. D. A. Cylinders.

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Deeds, not words.

Dear Sir.—I feel I must write to thank you for being so prompt in sending me th' flywheel nut which is the tight size. I was surprised when I received it this morning, Friday. In the flutter I shill know were to send to for sware parts, and know that I shall hay a trompt return. T. anking you aga'n.
Yours s nerely, (Sinned E.G.

Yours faithfully, A. J. L.

To Vivian Hardie & Lane, London. Dear Sirs,—Very many thanks for the promptness in sending the sidecar rear spring. It is a pleasure to deal with your firm. Herewith cheque

Yours faithfully, (Signed) H. C.

Bournemouth, January 20th, 1920. Dess'in —I am or the Bournemouth, January 20th, 1929.
A hp. Cambination number of the 1920 Donglas 4 hp. Cambination number of the 1920 Donglas for your generous offer for my 21 hp. 1919 Solo.
A great friend of min's has taken such a libring for my Donglas 4 hp. Combination that he wishes to have one from you. Your satisfully, A. J. L.

24, Woodstock St. (off Oxford St.) BOND ST., LONDON, W.1.

1 elephone—Maylair 6559. Telegrams—IVHARDILAN, WESDO, LONDON

MOTOR CYCLES FOR SALE. Hazlewood.

19²⁰ Hazlewood Combination, 5-6h.p. J.A.P. engin 5 speeds, just de'ivered; £186; no premium. Lightstrung Co., Ltd., Rushden. [X481

Lightstrung Co., Ltd., Rusnaen.

H AZLEWOOD, new 1920 model, 6h.p., sidecar c
bination; one available for immediate deliver
Frank Whitworth, Ltd., 132, New St., Birmingh

3 14h.p. 1919 Hazlewood-Jap, 871, 3 speeds, cound 2 shart, elutin, kick starter, Watton speedouse large oversize Palmer tyre, very fast and reliable, unlied 2,000, take sideon acywhere, pertect machine; 285, ward, 7, Crossley St. Wetherby, Yorks.

Hendon.

HENDON 31/2h.p. 2-speed Countershaft, kick-sta
mag., spring forks, excellent condition; £32
Graham, 27, Wandle Rd., Wandsworth Common, S.W.

Henderson.

1914, 4-cyl. Henderson Combination, 2-speed, clute must sell; nearest £90.—129, Grove Green R Leytonstone, E.11.

L ANCASHIRE, Cheshire, North Wales, and Isle Man.—Enquiries for Heoderson 4-cyl. wanted J. Blake and Co., Official Dealers. Liverpool-M. chester. Hobart.

HOBART 21/h.p., uew last May; £50.—Pain, Ho stead, Wandle Rd., Mitcham. [3] 19 20 Hobart, 2-stroke 2½h.p. Villiers engine, Alb 2-speed, just delivered; £65, no premiun Lightstrung Co., Ltd., Rushdee.

1016 254h.p. Hobart-Villiers, 2-speed countersh lamps, boro; any trial, approval; £39.—Gil 58, Ashdown Rd., Worthing.

HOBART 23, h.p., 4-stroke, fine condition; £ deferred payments arranged; closed Sunday Bunting's Mctor Exchange, Wealdstone.

19 20 Hobort-Jap, brand oew, 24h.p., Sturmey-Ar 2-speed, kick-starter model; hist price, immel delivery.—Charke and Co., Queen St., Louth. Ph. 64.

HOBARTS for Brighton and Hove. The Villiers is gined 25 hp. 2-speed model now available to livery within 2 weeks; 267/10. Limited number of The Goldstone Motor Cycle Depot, 32, Goldstone Hove.

Humber.

HUMBEL Motor Cycle; £5.—Day, Broomf

HUMBER Lightweight, good condition, ride aw 5, Horn Lane, Acton, W.3.

1914 2h.p. Humber, suit lady, 3-speed, clutch, fect.—129, Grove Green Rd., Leytonstone, 13 WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lor E.C.4.-6h.p. Humber combination, twin, 1

HUMBER Combination, 4h.p., C.B., 2-speed, 55 grs.-27, Bennerly Rd., Wandsworth mon, S.W.

1908 31/h.p. Humber, chain drive, new tyre, forks, accumulator; £9.—Hammond, Qu. Rd., Wivenhoe.

21h.p. Humber Lightweight, perfect order, tically new; first £35 secures; stamp ret Mac, 13, Victoria Rd., Upper Norwood.

HUMBER 31/2h p. Flat Twin, 3-speed, counters chain drive; this machine is brand new; 21 G, J, Arm, Hillside, Admastou, Shropshire.

HUMBER and Millford Coachbuit Sidecar, 39, 3-speed, clutch, kick starter, wind screen, la £80.—Letters, F., 17, Dorset Rd., Ealing, W.6.

HUMBER 35/h.p., 2-speeds, handle start, minor adjustments, kumps, Jones speedometer also wicker sidecar; £40 or near offer.—118, Whipper Rd., Watford.

HUMBER Combination, 6h.p., W.C., fully equipled in the epleudid running order, good tyres, plent spares; £160; Muswell Hill, Loudon.—Box 106 The Motor Cycle.

2 1h.p. Humber, new coachbuilt sidecar, Bosch, 2 lamp set, 2-speed, handle start, new tyre tubes, all round new condition; £68.—76, Western Southall, Middlesex.

2 1h.p. Humber, 2 speeds, F.E., B.B., 1919 pil.
2 T.T. burs, new Clincher back, 2 lamps, 2 b
mechanical horu, accessories; ride away; first ove
secures.—23 Grace St., Horwich, Lancashire.

H CMBER twin-opposed Combination, a countershaft, drip feed, new tyres and cengine and whole outful thoroughly overhuled chanical horn, suart turcout; £125.—236, Star Rd., Forest Hill, S.E.25.

Indian.

INDIAN 7-9h.p. Solo and Sidecar, in stock-

19 Indian Combination, £125; also 1914, M888, c/o Deacon's, Leadenhall St., E.C.

822 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the Issue.

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Indian.

N 1916 Combination, good condition; £120.-rticulars, write 5, Station Rd., Aldershot,

rticulars, write 5, Station Rd., Aldershot. [3399]
Indians: prompt deliveries.—E. Brown. Indian Specialist 3 and 7a. Parker Lane, Burnley [X0334] Powerplus Indian Combination, not done 2,000, like new; £125; all accessories.-16, York St.,

Indian, clutch, sound condition, do 60 m.p.h.; 5.-Mr. Metcalie, 1, Rectory Terrace, Farnham Backs. [3250

Indian Combination, 5-6h.p., clutch, 3 speeds drk start, splendid condition; £65.-138, Mil mbridge.

AN 7-9h.p. Cane Combination, 2 speeds, kick after, new tyres; £77,10.-21, Barmonth Rd., orth, S.W.

N Combination (1919), dynamo lighting, specieter, ampuncter, nearly new; best over £180 (bw Walk, S.E. [33]

DIATE Delivery 1920 Powerplus Indian, und, preminm wanted, private carner.-32, Shel-idmoutou. [3822]

Indian Sporting Combination, speeds, essories, spares; 98 gus.—Maderia H

N, 1915, 2-speed, kick start, less mag, and tyres, its as embling; bargain, ±40,-152, Camberwell Jamberwell, London. [3572

imberwell, London. 1930 7-9h.p. X.E. Indibination, electrically equipped, early de-publication, electrically equipped, early de-[219:10, at works. [4022] N. 5-6h.p.; 2445; new heavy Dunlors, perture er cunnel and plating good,—16, St. Mary Jertines, Keneinston. [345]

N 5-6h.p.; 245; new heavy Dunious, reason, emand and plating good.—16, 8t. Mary Terrace, Kensington. [343]
Indian Combination, 7-9h.p., 2-seater C.B. desur, electric hielding; any test; £110.—Apply. N 5-6h.p., 3-greed, hams, etc., very fart 1215. [swithout Motor Co., 223, Hammersmith 213, 1900e; Hammersmith 80, 1900e;

N 7-9h.p. 1913 Combination, 2 speeds, clutch, starter, lamp, speedometer, all in good order; Bailey, 7, London Rd., Redhill. [3388

RPLUS Indian, fully equipped, 5 speeds, K.S., 'ect throughout: 95 gns., no offers.-21, Ast-ws, S.W. (min. Gloncester Rd. Statron). [3975 § 5-6h.p. Combination, 1916, stored 3 years, peed, clutch, kick starter, new condition; £125, 1, 2, King Edward Parade, Norbury, S.W. [3697 7 1916 Powerplus Spring Frame Combination, hauled; £130.—Clifford Wilson Mig. Co., 70, 55pital Rd., Chelsea. Tel. Kens. 7113. [3929

7-9h.p., 1915, clutch model, disc wheels, ex-lent condition, very fast; owner disabled; W. Newton, Broadmead Rd., Torquay. [3243 9h.p. Clutch Model Indian and sporting side-

, 2 new tyres, very good condition; price dealers.—Ye Rooste, Lockmend, Maidenher 1, 7-9h.p., Swan sporting sidecar, discs, C.A.V. mo lighting, khaki finish, luxuriously fitted; se offer.—135, De Beauvoir Rd., N.I. Dalston [3632]

f. T.T., 7-9h.p., 2-speed, clutch, very fast, inst bauled, new tyre; owner going abroad; £85; seque secures.—Lieut. Guild, The Lodge, North

7.9h.p., 1915, 3-speed, spring frame, electric ing and horn, 2 accumulators, with 1919 Swan decar, fast, just overhanded; £110.—Imper. xford.

Powerplus Combination, 1916, electrically ped, outfit in fine condition, engine perfect, t. sprung luggage grid; £125.—Bennett, 134a. dd., Brighton. [X4669]

Combination 5-6h.p., Swan sidecar, perfect ing order, 1916; £120.—George Smith's rele Depot, opposite Arding and Hohbs, Junction, S.W.11.

HOPE'S, 9, Shoe Lane, Fleet St., London.—h.p. Indian combination, 1914, £87/10; dian and sidecar, 1914, £80; 7-9h.p. Indian on, 1914, disc wheels, £105.

25, 1914. disc wheels, £105. [5817]

1914. dynamo lighting, starting, mileage
1, Swan sporting side-ear, gear box, overhauled,
1, Swan sporting side-ear, gear box, overhauled,
1, Swan souther to put gear box back, immediate
5.—Mary's Lodge, Grove Rd., Woodford.
1, 3779

5, 7-9h.p., 3-speed chutch, kick starter, £7810ch
1, 2-speed chutch, kick starter, £655 both
1, 2-

ndian 5-5h.p. Coachbuilt Combination, 5ed, kick start and clutch, electric lighting,
il horn, stored for 3 years, in perfect couy trial; best offer over £130.—Carter, Glenkeyn Bay.



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ALLDAYS "ALLONS," 2-speed, kick-starter. ALECTO, 2-speed, kick-starter. CALTHORPE, 2-stroke, 2-speed. CALTHORPE Precision, 2-specd. COULSDON "B." 2-speed. L.M.C., 41 h p , 3-speed, kick-starter. L.M.C., 6 h.p. twin, 3-speed, kick-starter, SPARKBROOK, 2-speed.

ROVER, 5-6 h p , Combination 1920 model, 3-speed, kick-starter, chain drive, WOLF, 2-speed, kick-starter. WILKINS, 2-speed, kick-starter.

QUADRANT, 41 h.p., Combination, 3-speed, kick-starter. HENDERSON Sidecars, Model "A" & "B1."

Cars

MORGAN, 10 h.p., 1919, Precision Special 4-speed model. Winner of medal—Lix Days Trial.

ORGAN, 10 h.p., 1919, W.C. electric head lamp, acetylene side and rear, fully equipped, nice condition.

L.M.C.

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Sole Agents London and Home Counties.

"Simplex" Motor Unit. Converts your Cycle into a Motor Cycle at small cost. Authorised London Agents.

Henderson Sidecars.

Authorised London Agents. All models on view.

Advance orders being accepted for all leading makes of Motor Cycles.

154-6, Gt. Portland St., LONDON, W.1.

MOTOR CYCLES FOR SALE.

Indian

INDIAN, 1916, 5-6h.p., 3-perd, clutch, kick start, complete with coscibinit side are, most exceptional readition throughout, been stored, nileage under 2,000; £115; Ibughas part exchange. R. D. Vaity, Thinder-ley, Essex.

F.O.C.H. have a 1913-14 Indian 7-9h.p., 2-speed and clatch, T.T. bars, excellent order, Fair Offic Car Hoss, 5, Heath St., Hampstead (near Hampstead The Station), Phone: Hampstead 3752, Hours 9-7, including Saturdays.

INDIAN 1914 7-Sh.p. Concluding Combination, 2-streed and clutch, Dandop extra heavy tyres, horn, Gorban-Brown speedboneter, clutch, repuires shift requires often over £65, by letter only, to Lieutenant Griffiths, H.M. Amirala, Greeneck, 1)

19 14 7-9hp. Indian, 2-speed, clutch, semi-T.T. bars, Bosed mag, new Dunlop tyres and lighting set, uncelanical horn and tools, excellent appearance and condition: £70.—Nicholson, 24, Ashiled Terrace East, Elsawar R.A. Newcastle-on-Tyne, [3226]

19 20 Powerplus Indian Combination, dynamo light-ing, head, t.al, sidecar, and inspection lamps; very efficient extra mul shields pained to much ma-chine, ratchet hand brake; only done 500 miles, better thum aere; £195 cach; any trial_Shepport, 12, Maple

7 3hr. Indian and Mills-Fulford Sulceur, 1916, 3-Stella K.S. electric and acceptance lightning sets, horn treatment of the set of the set of the set of the 1920, guaranteed perfect: 10t quick disposal; owner soing abrand; first cheque over 100 gns. secures.—41, Alexandra Kd., Oxfool. Ivy

TVY 2-speed 2-stroke. Orders booked for early de-livery.—Rothwell and Milbourne, Cowleigh Garage, Walvern. [6186]

H. G. HENLY and Co. are London and District agents for the lvy motor cycle.—Full particulars, 91, Gt. Portland St., W.1. Maylair 4084. [0022]

TYZ 2stroke, 2-speed, 1919 (late December), P.II. lamp set, Westwood rear with P.H. generator, large Lucas Cyclorn, tools, and extras, mileage 400, perfect, unscratched, fast and powerful; 65.—9, Hawkins Rd., Bedford.

I'VX, 2-stroke, 1915, single speed, engine and magneto just overhauled by respective makers, receipt shown, footboards, tyres, and belt excellent, silencer, exhaust, and tail pipes mew recently, Pedley grips; £35.—Wool-ston, 48, New St., Kennington.

IXION. 212h.p. Villiers 2-stroke, perfect condition, Dunlops, Millers and all best accessories; £40.— Mitchell, Orthopædic, Netley Hospital. [3416

James.

JAMES, 1920 model, 5-6h.p. twin combination: £155: exchanges.-H. Rock, Cradley, Staffs. [X4710

JAMES S-6h., Combination, 1918, W.D. model, first-class condition, with lamp and horn-Edwards, Garage, Carmarthea.

1014 James C.B. Combination, 3 speeds, K.S., tyres with some conditions of the condition of the combination of the combinatio

Speed, clutter, ames 4:5h,p. Combination, only ridden 1,000 miles, rully equipped, condition as nev: 1210.—72, Longridge Rd, Earl's Court. [3691]

19 (Aug.) James 5-6h,p. Combination, machine in new condition, all accessories: £145, or nearest offer.—Box 1,485, clo The Motor Cycle. [3531]

19¹⁹ 414n.p. James Combination, Easting screen, lamps, etc.; seen by appointment; £125.—H. Wright, 180, Brearley St., Birmingham. [X4472]

R. D. VARTY, Thundersley, Essex, sole agent for the famous James motor cycle in Southend-on-Sea and district; early delivery; book now; exchanges, [1786] JAMES 2-stroke, 2 speeds, 1919 model, perfect condition, little used; owner buying combination; £60.—Fisher, 12, Maplestead Rd., Brixton Hill, S.W.2.

10. 19 James, 4º, haplestead Rd., Brixton Hill, S.W.2. 10. 19 James, 4º, h.p., combination, 3-speed, hand clutch, lumps, screen, horn and tools; £135, exchange light car considered.—Turner, Grey House, Brane-gore, Hants.

Branesore, Hants. (X4631)

19 19 Janes 44/h.p. Combination, only ridden few miles, fully enuipped, equal to new; 1145; extenses.—Smith5, 10-16, Riverstock Hill (opposite 2008)

JAMES 47/h.p. Combination, 1917, thoroughly overhandled magnificent condition, new gear box, nearly new Dunlops, enumel only second rate; any trial; 495.—Lawrence, 84, 8t. Mary 8t., Weymouth.

JAMES 4'(h.p., fully equipped, countershaft combination, all-chain cushion drive, discs, luggage carrier, spares, perfect muning order, ready for toming 285,—D., 6, Park Rd., Kingston Hill, Surrey. [3891]

1 919 James S-6h.p. Combination de Laxe, Lucas dynamo lighting, electric horn, leg shields, rillion seat, screen, spares, etc. efficient, reliable outfit, in mericet conditivn; £185; appointment.—Andrews. Swiss Cottage, Queensille, Stafford.

letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B23

MOTOR CYCLES FOR SALE.

James

James.

WHITBY and Son, the James specialists, have 1919 441h.p. Combination, fully equipped, splendld order throughout; £135; also new and second-land 2-strokes and twins; spares and repairs; sole agents.—7. The Vale, Acton, W.S. Phone: Chiswick 1513.

J.A.P.

4 H.P. Jap Motor Cycle, good condition; £48, or nearest.—63, Dunstans Rd., East Dulwich. [X4701 6-8h.p. Jap-Bat 1914 Combination, 3-speed gear, hood and screen, spare tyres, lamins, tools, and accessules; bargain, £100, or near offer.—3, Queen's Gate l'lace Xews, S.W.7.

Bh.p. J.A.P. Combination, late 1914, 3-speed, chain drive, just thoroughly overhauled and rebushed, excellent condition, very fast and comfortable.—Kanadia, Holmevilla, Algers Rd., Loughton. [3880]

J.E.S.

J.E.S., 1914, perfect, new tyres, tubes, belt; trial; £21.-145, Westbrook St., Bolton. [X4835] J.E.S., motorcyclette engine set complete: 12 gns.; most excellent condition throughout.—Hull, Chan-[3778 dos Rd., Buckingham.

J.E.S. Motorcyclette, better than a scooter, economical, reliable.—Enquiries invited by J. Blake and Co., Liverpool and Manchester. [6579]

J.E.S. attached strong cycle, splendid condition; first cheque nearest £20 secures.—Rev. Brown. 104, Congleton Rd., Sandbach, Cheshire. [3288

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—7-91.p. J.H. combination, 1915, M.A.G. engine, Sturmey-Archer countershalt gear, clutch, and K.S.; 2125.

Kerry

KERRY, 5½b.p., late model, good as brand new, little used, handle-bar control, clutch, and accessories, guaranteed perfect; a bargain, £40.—Box 1,486, c/o The Motor Cycle.

Lea-Francis

19 14 Lea-Francis, 31/sh.p., perfect running order, 2-speed countershift, all-chain; best offer over £65.—Box 1,532, c/o The Motor Cycle. [4102]

LEA-FRANCIS, 1920. - Place your name on out writing list for delivery of these aristocratic mounts. - A. J. Sproston, Ltd., 198, Gt. Portland St., W.I.

19 16 Lea-Francis, 3-speed, counter-hait, hand and foot clutch, mechanical boin, electric light, first, sup-top condition; 80 gns.—62, New St., Woodbridge, Smitolk. (4008

19¹⁶ Lea-Francis Combination, 5-6h.p. twio J.A.P.,
Besch, hand and foot clutch, 3-sreed, all chain,
lamps, horn, etc., perfect; £110: trial by apointment,
-Smith, 208, Gadsby St., Numenton. [X4718]

Levis

EVIS, 1916, single-speed; £50.-Below.

EVIS, 1916, good condition, single speed; £55.-

LEVIS 214h.p., 1915. 2-speed, good running order; £57/10.—George Smith's Motor Cycle Depot, opposite Arding and Hobbs, Clapham Junction, S.W.

DAN GUY, Weymouth.-1920 Levis 2-stroke, for immediate delivery. [4020]

EARLY Delivery Levis.—John Aldrich and Co., District Agents, Diss, Norfolk. [6632

LEVIS 21/h.p., good condition, lamps, ho Hurst, Newbury St., Wantage, Berks.

CYRIL WILLIAMS for early delivery of Levis.— Chapel Ash Depot, Wolverhampton. [X8626 LEVIS, 1916, splendid mount; any trial; £38.—Adams, 278, Dudley Rd., Wolverhampton [X4685

1917 214h.p. Levis, tyres and condition very £40.-Taylor, Lower Heath, Prees, Sal good: 19 20 Levis Popular Model; list price in stock.—Youngs, Heath Garage, Newmarket. Phone:

LEVIS 2-stroke Lightweight, splendid order; £35.— Halitax Motor Exchange, Union St. South,

Halifax. LEVIS Popular, complete with lamps and born, feet running order; £35, or nearest.—Bell, T

Stoke-on-Trent. 1918 Levis 2%h.p., 2-speed, good tyres, lamps, fast machine: 48 gos.; can be seen any time.—Parkin-son, Laindon, Essex.

I EVIS 2½h.p., 2-speed, chain drive, new last year, perfect condition; any trial; lamps; 50 gos.—M., Little Buntings, Ickenham, Middlesex. [3742]

LEVIS 2½h.p., perfect condition and new, unused, lady's B.S.A. cycie, for Douglas or combination; cash adjustment.—Davis, Crowthorne, Berks. [3853] me-

L EVIS Popular 1916 (guaranteed), 2 lamp sets, r chanical horn, knee grips, etc., mileage 1,918, beauty; £37/10.—136, Dalmally Rd., Croydon. [40]

COVENTRY MOTOR

LONDON ROAD, COVENTRY. 'Selection Coventry.

Feb. To-day's Stock of 1920 MODELS

HAZLEWOOD, 6 h.p. twin combination ARIEL, 6-7 h.p. twin combination.
REX, 6 h.p. model 66, twin combination

EDMUND, 23 h.p. spring frame. YNO, 2-stroke, 2-speed. -LDAYS-ALLON, 2-stroke, 2-speed, kick-start.

NY, 2-stroke, 2-speed, kenstall, MY, 2-stroke, 2-speed, disc wheels. CALTHORPE-JA.P., 2-speed, CALTHORPE-PRECISION, 2-stroke, 2-speed

HOBART, 2-stroke, 2-speed.
OMEGA-J.A.P. 2-speed, kick-start, hand clutch, BRITISH EXCELSIOR, 2-stroke, 2-speed, kick-

SUN-VITESSE, 2-stroke, 2-speed. CONNAUGHT, miniature, 2-stroke, 2-speed, kick-start, hand clutch.

To the Trade

We are now fixing up AGENGIES throughout the Kingdom for

THE C.M.M. UNION:

BRIEF SPECIFICATION

Engine.—Urion 2% b.p. 2-stroke. Carburetter.—Brown & Barlow. Ignition.—M-L and C.A.V. bigh-tension water-proof magneto.

Frame.—Exclusive design, with a one-piece head lug, made from facest quality weldless steel tubing.

Handlebars.—Upturned pattern or semi-T.1. or or T.1. at option.

Forks.—Brampton Bildev.

Tank.—Special design, parrowed, at back, finished in best quality enamel, with green panel.

Wheels.—26. x2; with oil-truthing dust-proof

hnbs.

hus.

Tyres.—Dunlop 26×2}.

Bell.—Dunlop.

Saddle.—Panseat, Lycett's, or Leatheries

Mugquards.—Extra wide.
Toolbags.—Panier type, with tool-roll and necessary tools. Gear.-Burman 2-speed.

Footboards or footrests at option.

Models.—Three. Single-speed, 2-speed, and 2-speed kick-start, hand-clutch.

MANUFACTURED IN COVENTRY, not "Down lo a Price," bul "TO AN EXPERT'S IDEAL." IMMEDIATE DELIVERIES. LARGE OUTPUT.

COVENTRY MOTOR MART, LTD. London Road, COVENTRY.

Telegrams: "Selection, Coventry."

MOTOR CYCLES FOR SALE. Levis.

Levis.

1 Q 14 Levis de Luxe 2 24 p. 2. e-peed, chaîn-et Binks carburetter, XL'all saddle, lamp, botols: £60.—Norman, Compbeltown, N.E. (D)

1 EVIS 2 2 4 p. 1920 Popular Model, io stock—
Hardis and Lane, Ltd., authorised agea Woodstock St. (off Oxford St.), Bond St., W.1. "Mayfair 6559."

LEVIS, horizontal 2-stroke twin engines, apple h.p., Thomson-Bennett mag., Binks carb drip feed, mechanical starter; can be seen runs 44a, Wakeman Rd., Kensal Rise.

Lincoln-Elk.

LINCOLN-ELK, 3½b.p., Bosch, B. and B., ty cellent; ride away; £37/10.—Curram, 15, man Rd., N.W.10.

10 20 4h.p. M.A.G., overhead, fitted Fellows, twin nickel exhaust pipes, Indian red, lamps, nt 150 mles, as new: 285: exchange Scott.—Le Prittlewell St., Southendon-Sea.

O.H.V. 4h.p. Martio-Jap, speed 'bus; first \$60

Martinsyde

MARTINSYDE. DEWMAN.—Who is going to lucky person to be first on our waiting lone of these splendid machines?—Julian, 84, 8t., Reading. Thome: 1024.

MARTINSYDE-NEWMAN Combination, the sation of Olympia.—Book you order now lor rotation delivery with J. Blake and Co., the cycle experts, 110-112, Bolt St., Liverpool, Bremer motor cycle saloon; also at Blackfria

Matchless.

8 h.p. Victory Model Matchless Combination; Clapham (Motors), King George St., Gree

CROW Bios., Guildford, West Surrey agen this first-class outfit.—Matchless in nam quality.

JONES' Garage, special agents for Matchless, way, Muswell Hill, N.10, and Woodside I North Finchley.

WAUCHOPE'S. 9, Shoe Lane, Fleet St., Lor 8h.p. Matchless-Jap, overhead valves, wheels; £65.

19²⁰ Matchless Combination, to be delivered in March.—Offers to 30, Legard Rd., High London, N.

1918 Matchless 8h.p. Victory Model, counter and tradesman's carrier; £115.-9, Churc Willesden, N.W.

MATCHLESS Motor Cycle, 3-speed, free enderly new; price £70 quick sale.—Thou Potato. Merchant, Ipswich.

MATCHLESS Combination, 6-8h.p. J'A.P. 2 fine turn-out: £85.-57, Kenbury St, harbour Lane, Camberwell.

MATCHLESS 8h.p. Victory Model, late 1913 scratched and fully equipped.—Write, T. Gr The Terrace, Foston, Cockermouth, Cumberland.

MATCHLESS Combination, M.A.G. engios, horn, screen, ontift like new; any trial Larkbouse, Longcauseway, Farnworth, Bolton-MATCHLESS, Model H, delivery Easter, tiser unable to take delivery, 25 deposit —Particulars, R.H.P., 6, The Strand, Waimer,

10 20 Spring Frame 8h.p. Matchless Combination model, promised next week; offers want letter.—A. Martin, 59, East India Dock Rd., I Loudon, E.

NEW 8h.p. Matchless Combination, with 1 wind screen, electric head, tail, and lamps, coly ridden 100 miles; offers,—Read-Tunbridge Wells.

MATCHLESS Combination, 1920 Model H., Advertiser unable to take delivery. Small prequired. What offers? Loudon district.—Box 14/1 The Motor Cycle.

MATCHLESS 1919 Victory Model Combin fully equipped, spare wheel, hood, screen, cometer, lovely turnout; £170; gennine bargate Lambeth Walt, S.E.

MATCHLESS.—We are still booking orders for H. combination; delivery April or May, Rd., South Kensington.—Edwards, 7, Ed.

MATCHLESS, early 1917, M.A.G. engine, screen, 5 acetylene lamps, Tan-Sad and bed ny time.—19a, Hardess St., Loughborough Ju S.E. (Private owner). £165.

MATCHLESS Combination, 8b.p., new March only done 2,000, spare wheel, electric hors sad, hood, screen, tools; £180, lowest; after 6-19, Girney Rd., Stratford, E.

B24 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

MOTOR CYCLES FOR SALE,

Matchless. MATCHLESS.—We are now booking orders for these famous cutfits, good deliveries.—Principal official Ealing agents, Longman Bros., 17, Bond St., Ealing, 'Phone: Ealing 699.

St., Faling. Plane: Baling 689. [3624]

M ATCHLEASS Combination, the Intest Model H, all most advertiser is entitled to immediate divery from works, but unable to clear, offers wanted—AJL., 468, Harrow Rd., Paddington. [3474]

M ATCHLESS 35th,D... overhauled September, scarcely used since, tyres and belt almost new, coor ruming order; £45, no offers; Saturday after 2—74, Arcadan Gardens, Bowes Park, N.22. [3825]

D 19 8th, Matchless Combination, new September, spare wheel, Klaxon hard, complete lighting out, for the condition guaranteed; £180.—Freeth, 5. Coruwall Parade, Church End, Finch437.

MATCHLESS 1920 Spring Frame Combination.—We are large contracting agents, and can offer early deliveries at list price; demonstration model in stock.—Elco and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3.

MATCHLESS New Spring-frame Model,—Orders booked for rotational delivery. Demonstration model on view. Replacements for Matchless models of all dates in stock,—Tassell, 1a, Bloomfield Rd., Plum stead, S.E.

MATCHLESS Combination, 1914-15, 8h.p., M.A.G. engine, 3-speed, completely overhanded and renovated in our own workshop, as new, full equipment; 150 gns.—Lougman Bres., 17, Bond St., Ealing. Phono: Ealing 669.

M attolless Model H Combination, dyonmo light-ing, fully equipped. Book now for early delivery Authorised London ngents, Virina Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.1 "Phone: Mayfarf 6559

Metro.

19¹⁹ T.T. Metro-Tyler, large Miller lighting set, full equipment; £49.-2, Blenheim Gardens, Wallington, Surrey.

METRO-TYLER.—Enquiries from Liverpool and district invited by J. Blake and Co., 110-112 Bold St., Britain's premier motor cycle saloon. [6581] M ETIG TYLER Motor Cycle, late 1919, 2-speed, disc wheels, aluminium lootboards, quite new coarest offer to £70.—Palmer, Vyrnwy House, Linssauffraid, Mont.

METROTYLER.—New models in stock of this super 2-stroke, for immediate delivery, 2-speed model; £69/18/8.—Elee and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3.

19 19 Metro-Tyler, 2 speeds, disc wheels, guanated brand new; cost £68, sell £63; owner bought same November, now requites countershark 1919 or 1920 Triuand: buy separately or have deal with Metro-Tyler—
Box 1,515, (c) The Motor Cycle.

Minerva.

Minerva.

Minerva.

B. and B. carbiretter, lamps, etc.; £18.—6, Dudley Rd., Chingiord Rd., E17.

[3404]

2 hp. Minervo, new mag., taok new, spane Dudop: 119, -Prarticulars, T. Shell, Longhoughton, Lesburg. 2 lbp. Minerva, complete, acc. igaition, Amaging buretter, needs - overhauling: £7. - Turner. [X465]

MINERVA 4h.p. T.T., good tyres, all good fittings, re-enamelled, and looks real smart; £35, offers.—
Job, 186, Putney Bridge Rd., Putney, S.W. [598]

36b, Minerva, spring forks, rebored, new piston beer lewered; E1; loctboards.—Rogers; 23, High St., Bromley, Kent.

Moto-Reve

MOTO-REVE 214h.p., mag., splendid condition, tyres almost new; £25; after 7.-17, Woolstone Rd..

Cottord.

MOTOREVE 28th.p. Twin, excellent condition, lamps, hora, murror, etc.; £30.—Marks, 121. Acton Lene, Chiswick, W.

24th.p. Moto-keve, Bosch mag., Druid spring forks, 2 single control enhancetter, adjustable pulley, 2 bukes, excellent tyres, stand, carrier, etc.; bargain, £30.—Beq. 1523. Swaby Rd, Earispield. [3701]

Motosacoche.

MOTOSACOCHE 2, sh.p., periect; £25; saip.-2, Burlington Mews East, Westbourne Park. (3594

New Hudson.

New Huuson.
New Huuson. C.B. Combination, 3-speed, 31/h.p.;
a real bargain, £58.—129, Brockley Rise, S.E.23.
[5419] NEW HUDSON, 4h.p. JA.P., 1914, speeds, Chitch 14, 249,—Adams, 278, Dudley Rd, Wolverhampton, 174, Dudley Rd, Wolverhampton, 2110,—Adams, 278, Dudley Rd, Wolverhampton, 184, Dudley Rd, Wo



LITTLE JIM.

(With apologies to E. Farmer.)

The bike it was a patched one, The outside old and mean, And everything within that bike, Was wondrous far from clean.

Tie frame it was distorted. By many a hapless spill, The compression of the engine Was comparatively nil.

Jim, unsuspecting, bought it From a "private owner" man
Who knew full well it was a "dud," But didn't care a d-

He glibly lied to Jim about It being "very hot," But when poor Jim had bought it, He discovered 'twas a "crock'

Protests were unavailing, For the man was not averse To exposure of his treachery To the whole Universe.

And Jim at once decided, That another bike he must Immediately purchase From a firm that he could trust.

So he hied him to the "Eastern" Where his friends were all agreed, Second-hand machines embodied Both trustworthiness and speed.

He selected one that suited him From every point of view, And though this was 'before the war," It's still as good as new.

Verb sap.

Eastern Garage Co.,

Official Repairers to R.A.C., A.C.U., A.A. & M.U.

418, Romford Road, Forest Gate, E.7.

MOTOR CYCLES FOR SALE.

New Hudson.

New Hudson.

h.p. Twin New Hudson Coachbuilt Combination,
1914, 3 speeds, new condition, equipped; £110.
Hawkins, Broadbridge Heath, Horsham, Sussex.
[5391] 6 h.p.

1914 New Hudson 3h.p. Combination, 3-speed and clutch, hunps, horn, speedometer, excellent condition; £70; trial by appointment.—Cock, 25, Tylecrott Rd., Northury, S.W.

10. Koroury, 5. W.

10. 16. 8-hp. New Hudson Combination, spare tube, cover, belt, lamps, speedometer, guaranteed excellent condition, seen by appointment; £150.—J. W., 403, Chingford Rd., Waithamstew. [4469]

NEW Hudoon Combination, 1916, 6-8h.p., V twin, Incod., serven, tansad, all accessorie, perfect contion, ride away; £140, "Phone 1289 Hampstead, Lamberts, Cressy Rd., Hampstead, Between 10 and 5-50.

NEW HUDSON 6h.p. Coachbuilt Combination, Debleved 1915 model, twin J.A.P. engine, 3-speed, shetch and countershift, powerful and confortable and the conformation of the conformation of the conformation of the ment only.—Write, Cap. Mann, 13, Bruton 81, W. 326

N EW HUDSON Combination, 1916, twin, 6h p., cleetric lighting set, electric horn, specialacter, cleetric horn, cleetric

19 14 New Hudsen 3'j.h.p. Coachbuilt Combination, 19 head jahr, Land H., and Ten, Land L., Dunlopa, and spare, 2 head light N. 1 md H., and Tent, horn, new trip specification of the control of the cont

New Imperial.

NEW IMPERIAL 1919 8h.p. Combination, Lucas lamps; £140.-H. Rock, Cradley, Staffs. [X4708] CROW Bros, High St., Guildford, have contracted largely for 1920 New Imperials. [X7946

Ingely for 1920 New Imperials.

IN Stock, new 1920 8h.p. New Imperials, Elsy, Cambs. R. Stock, new 1920 8h.p. New Imperials, Elsy, Cambs. R. Stock, new 1920 8h.p. New Imperial, just delivered Devoushire; 129 gns.—Box 1,486, clo The Motor Cada.

1920 8h.p. New Imperial, new, just received from makers at list price; £125/18.—Rose's Garage, Cxhridge. [3763

GENTLEMAN has 1914 2-speed 234h.p. New Imperial, good condition; £40.-54, Palace Rd., Streatham Hill. [3952

Streatham Hill. [3992]
10 19 2;hp. New Imperinl, 2-speed, as new, not done 400 miles, Innus, horn; £60.—Aldersley, Contest Barnoldswick, Yorks.
10 20 8h.p. New Imperial Combination, inst delivered; £165; owner going away-175, [New North Rd., Islington.

rivered; &165; owner going away.—175, New North Rd., Islington. [5545]
NEW IMPERIALJA.P., 254,h.p., 1916 model, B. and B., horn, overhanked, good condition; 255.—Robertson and North, Pretriboiough.
NEW IMPERIAL 24,b.p., 2-speed, lamps, etc.; 245.—Newnham Motor Co., 223, Hammersmith Rd., W.6. Phone: Hammersmith 80.
NEW IMPERIAL W.D. 8h.p. Combinations; £145.—Clifford Wilson Mig. Co., 70 Royal Hospital dd., Chelsea. Tel.; Kens. 7113. [5266]

Rd., Chelsea. Tel.: Kens. 7115. [3926]

NEW IMPERIAL-J.A.P. 254h.p., 2-speed countershalt. Lumps, accessories, splendid condution; £49, -36, David Lane, Shadwell, E. [3839]

NEW IMPERIAL J.A.P. W.D. Combinations; de-livery from stock; £145.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0071]

NEW IMPERIAL 1919 25th.p., J.A.P., 2-speed, clutch, kick start, perfect condition, all accessories; £70; trial.—11, Wentworth Rd., N.W.4. [3252 NEW IMPERIAL 23 h.p., 1916, 2-speed, perfect condition, very little used, accessories, spares; £53.—Cleveland Hood, Nuntborpe, S.O., Yorks. [3610]

NEW IMPERIAL 1920 6h.p. and Sidecar, not W.D., in stock.—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea. Tel.: Kens. 7113, [3925] 1920 6-8h.p. New Imperial, brand new, still wrapped up, 3-speed countershatf model; £120 cash, first deposit secures.—Box 1,490, c/o The Motor Cycle.

NEW IMPERIAL-J.A.P., 1919, 23 h.p., perfect condition. hardly used, lamps, horn; £60.—Apply K. Rae, Down House, Rottingdean, near Brighton. [3195]

NEW IMPERIAL 1919 8h.p. Combination, not done 1,000 miles, lamps, and all accessories; £135, lowest.—Buckland, Holme, Glade Rd., Marlow, Bucks.

[3866]
20 New Imperial-Jap, 254hp., clutch, kird
starter. 2-speed, perfect condition, only ridden
100 miles; £70.—Box 1,536, c/o The Motor Cycle.

1919 New Imperial. 6-8h.p., contershaft 5-speed and unscratched; £110.—Box 1,492, c/o The Motor Cycle.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. A33

MOTOR CYCLES FOR SALE.

New Imperial. FOR Sale, New Imperial-Jap, 2%h.p., 2-speed, 1916, lamp set, Stewart speedometer, good condition, very powerful; £48.—A. Phillips, Anzac Villa. Chandler's Ford.

1916 Imperial-Jap Combination, 4½h.p. J.A.P., 3 speeds, clutch, handle start, Rudge sidecar, fully equipped, fine appearance: £105.—Johnson, 19, Backway, Bishop Anckland.

A DVERTISER Advised by Agent his 6h.p. Imperial (solo) is coming through in 3 days. Having purchased Morgan, wishes to sell; cost #125; nearest offer accepted.—Box 1,516, c/o The Motor Cyclc. [4106]

P.O.C.H. have a 1920 New Imperial, Light Tourist No. 1, actually in stock, and brand new; list price.—Fair Ofter Car House, 5, Heath St., Hampstead lnear Hampstead Tube Station). Phone: Hamp-stead 3752. Houres 97, Including Sautudays. [4140

Norton.

JACK HEALY, Cork, official Norton agent.—Rota-tional delivery. No premiums accepted. [6486

21h.p. Norton, single-speed, guaranteed perfect order; 250.—Dunkley, Banbury Rd., Brackley, Northants (400)
T.T. Norton, ordered April, 1919, now second on list; T.T. Norton, ordered April, 1919, now second on list £5 paid, will transfer for £15.—The White House Radlett, Herts. [3593

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SPEED Norton, 1916, 31/h.p., T.T., entirely over-hauled and enamelled, condition guaranteed as new throughout, accessories, lamps, horn, knee grips, spare belt; £89 lowest; any trial.—32. Winchester spare belt; £89 Rd., Colchester.

NORTON 1919, special Brooklands model, agreement only timed racing minds of the property of th

N.S.U. N.S.U. 2-speed, 23/h.p., spring forks, B. mag., must sell; bargain £20.-146, Murchison Rd., Leyton. [3205 N.S.U. 6h.p. 2-speeds, clutch, Bosch, B. and B. good tyres, snip; £35.—14, Phoenix St., Euston

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N.U.T.

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JACK HEALY, Cork, official N.U.T. agent.-Rota-tional delivery. No premiums accepted. [6489 STANLEY RUSSELL, Newport, sole Isle of Wight agent for N.U.T. motor cycles; early delivery.

[5295]

19 20 N.U.T., aristocrat of motor cycles: list price; in stock.—Youngs, Heath Garage, Newmarket.

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Withe for princenars.

J. U.T. 1920 Model 3½hp., Lucas dynamo lighting electric horn; 140 gms, complete.—Authorised London agents, Vivino Hardel and Lane, Ltd., 24, Wood stock St. (off Oxford St.), Bond St., W.1. "Phone: May fair 6559. Book now for early deliver."

O.K.

O.K. 234h.p. Junior, 2-speed, brand new: £65; immediate delivery.—Birch's Garage, Wolverhampton (X4179)

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JONES' Garage, special agents for O.K. machines Broadway, Muswell Hill, N.10, and Woodsid Parade, North Finchley.

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ton St., Kennston, Bedford, St., Kennston, Bolton, St., White, St.

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Omega OMEGA-JAP, 2-speed hand clutch, kick starter, aluminium footboards, new; 74 gns.—Evans, 32, Market St., Wigon.

STANLEY RUSSELL, Newport, sole Isle of Wingent for Omega-Jap motor cycles; early delivered to the control of th

19 omega-Jap, 2-speed, clutch, done 200, equipped, as new throughout.—Porter, 57, lands Terrace, Darlington.

O MEGA-J.A.P., 2-speed, and medel de luxe, at and 74 gms. respectively.—Stocked by Lloyd an Son, 29, Station St.; Lewes. [167] Son, 29, Station St., Lewes, Sept.), 2-speed, sporfing model, horn, new Miller's lamps, run about 50 miles; £58.—Dyson, 13, Sugden Rd., Lavender Hill, S.W.11.

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P. and M. 2-speed, F.E., K.S., in splendid condition fully equipped, including Cowey, Stewart horn £65.-1, St. Luke's Rd., Maidenhead. [398

P. and M. 31/h.p., 2 speeds, Cowey, Bosch, P. and H. lamps, coachbuilt sidecar, handle starting; £60.-B., 71, Foyle Rd., Blackheath, S.E.3. ick, renovated, ne

P. and M. 3½h.p., 2-speed, kick, renovated, ne chains, sprockets, etc., fully insured; £55.—See Finchley Engineering Co., Bedford Rd., Finchley. [330 Finchley Engineering vor. Bender.

19 19 2. and M. Combination, fully equipped lamps, born, speedemeter, windscreen, sparsebeautiful condition, guaranteed mechanically penchanically engineering reasonable trial; \$130,-155, Knollys Rd., Streathan

P and M., late R.F.C. model, for renovation, of plete with chain cases and all parts except to act breaker; bargain at £50.—Hubbert Turner at Co., 4-5, Crawford Passage, Ray St., Farringdon R. C. (38)

10 19 P. and M. Combination, engine No. B8397, lamps, 3 generators, Cumeo screen. 2 aprol Eucas horn, petrol tin carrier, single lever, Anne, ma spares, new condition, mileage 1,500; offers over 21 —Brown, 109, Prince Albert Rd., Portsmouth. [35.

19 15 P. and M.; this machine is new, and coached built sidecar, mirror, 3 lamps, 2 generators the born, unscratched; £38, or close offer; must sell, so away—Smith, 3, The Parade, Staines Rd., Bedion Middlesex.

PHILON MOORE, 1917 and 1918 models, exemitary stores, completely overhabled and emparted by us as new; £78; Montgomery, Millord, a property of the stores, and the stores are stores and the stores are stores.

P. and S.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London E.C.4.-21/2h.p. P. and S., new 1920; £67; & terms arranged.

Precision.

DRECISION Enquiries Invited by J. Blake and the leading motor cycle experts, Liverpool Manchester.

3 3h.p. T.T. Precision, 3-speed Sturmey-Archer, Bos 4 Sensyray, speedometer, lamps, horn; Saturday at 2: 55 gns. cash.—Park Lodge Farm Cottage, Hargh Middlesex.

PROTISION Big Four Cancelet Cumbinst-191415, Septed countershaft, K.S., hand d'ul 968th, B. and B., stored 2 years, new condition, o' vants seeing; 95 gns., or nearest offer—Altre 2, Phursday or 7.50 p.m. evenings, Warren, 1, The 1 change, Palmer's Green, N.15.

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P. D. VARTY, Thundersley, Essex.—Premier 12 21/th.p. lightweight, in most exceptional continuous excepti

1912 Premier 31/20.p.; recently overhauled, including cylinder, bandle-bars, etc.; any trial; 238.—Quale, Cleator Moor, Cumberland.

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Paris-Nice Impressions.

ARKED deterioration of French roads, coupled with the comparatively high average speed of 1831 m.p.h., accounts for the fact that only forty-five competitors of sixty-nine starters survived the Four Days Trial from Paris to Nice. British Six Days Trials competitors agree in the opinion that the Paris-Nice event was-this year, at any rate-more severe than any six days event organised so far in Great Britain, which opinion will please the A.C.U., and interest "Six Days" competitors. It may be argued that 750 miles in four days is surely no searching test for a modern motor cycle, but the fact remains that long stretches of notoriously potholey roads-the Rhône Valley in particularcomparable with nothing we know in the British Isles (the pavé, the dangerous railway and tramway setts), accounted for many troubles, and a large percentage of those machines which survived the ordeal bore unmistakable traces of the severe strain that they had received. organisation was good on the whole, and the scenery magnificent; but to enjoy it to the full would entail shorter daily distances and a slower speed than the 30 m.p.h. necessary to average the requisite 1834 m.p.h., for the competitors' attention had almost invariably to be centred upon the road ahead.

Road Surfaces.

Here it may be remarked that the solo rider is at a distinct advantage in being able to pick his track, in daylight at any rate, but early morning starts with lamps alight ensured that every cassis or caniveau or unexpected pitfall was not avoided. Of course, several of the magnificent stretches of road for which France was at one time famous gave the riders a welcome respite and an opportunity for speeding of which they were not slow to take full advantage. All these conditions went to complete the variety for which the Paris-Nice Trial of 1920 will be

remembered. Petrol is not quite so scarce in France as we had been led to believe, but in country districts it is not always obtainable, due to difficulties in distribution, so that a reserve supply should always be carried by tourists,

British Successes.

British motor cycles stand out prominently in the results published in full in another part of this issue, solo riders heading the list. Much remains to be done in the matter of improved sidecar chassis design, and less frequent troubles should be encountered with loose or broken mudguards. Engine trouble was rare, frame fractures on motor bicycles and sidecars being the most serious defects encountered on the trip across France. This result is not so surprising to those who saw and "felt" the roads; moreover, the official cars were also frequently in trouble. But, lest tourists should be dissuaded by these impressions from touring France this year, we would explain that the best surfaced roads were not chosen for obvious reasons. The clear fact remains, however, that French roads have markedly deteriorated during the war, probably to a greater extent than is the case at home.

From what we saw of the conditions of the country we were convinced that the future of the motor cycle movement in France would be severely handicapped by the state of the roads, as until enormous improvements have been carried out the motor cycle as a pleasure mount can never come into its own. Therefore, we would strongly advise French motor cyclists, and all those interested in the industry, to make strong recommendations to their Government as to road improvements, and we feel certain that such a go-ahead country will not fail to recognise the importance of fostering a new and evergrowing industry.

If public enthusiasm throughout the trial is any criterion, the motor cycle movement in France has at least popular approbation to help it forward.



Two-strokes on Brooklands.

EFORE the war two-strokes were practically unknown at Brooklands unknown at Brooklands, presumably because they tended to get so hot in sustained high speed. work that they either pre-ignited or seized. We occasionally got a very stunt performance from some such engine at a hill-climb, in which case-unless it was a Scott-it usually arrived at the venue on a car. Things began to look up in 1914, when a Levis finished thirteenth in the Junior T.T. at nearly 40 m.p.h. average. To-day there are signs that the two-stroke may have to be reckoned with on the track before it is much older. Two-strokes arrive by road at important hillclimbs, and sweep the board up to their capacity limit. I hear of hot-stuff two-stroke engines under manufacture, as opposed to the older type which was deliberately detuned by its designer to prevent its seizing. How soon will the Junior T.T. and the Brooklands smaller class records fall to a valveless engine or, perhaps I should be careful to say, to a " two-stroke " engine?

Driving Two Motor Bicycles at Once.

OFTEN used to see male cyclists riding one machine and leading another—usually of the open frame type—by its handle-bars. The next time I attend a motor cycling gymkhana I shall offer a special prize to any rider who can perform this feat with two motor bicycles. Moreover, I would pay the winner a handsome retainer to teach me the art. The name of my post town is not that of my railway station. Needless to say, I emblazon the name of my station on my private stationery in red letters 2in. high, but this precaution is too mild for the demobilised Whitehall flappers who now staff most of our commercial offices, so that parcels are always arriving at the station near my post town, which is some ten miles away. As usual, my new motor bicycle was sent to the wrong station. I blush in these days of famine to confess that another machine was already champing its bit in my stable. I thought of riding the one machine to the station, and leading the new one home by its handlebar, but prudence prevailed. I borrowed a comrade's car, and enlisted his services to solve this fox, goose, corn, and river problem.

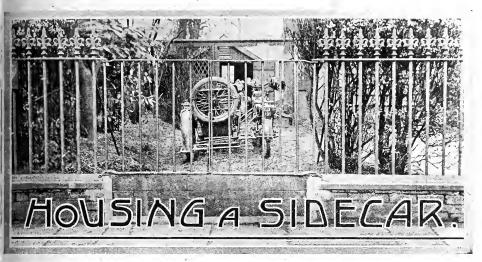
Standardised Controls?

THE price of his hire was that he should have "first biff" on the new jigger (as events turned out, it was some "biff," too). We collected the new machine, and he set off at about fifty, with myself following sedately and enviously in his slow little car. He soon vanished, and I sought comfort by calling at a house along the route to enquire if a beauteous inmate felt like a joyride. She didn't. I emerged crestfallen, and laboured for the next halfhour to start the engine of the aforesaid car. Its

last suck before I switched it off had drawn about ty mattressfuls of fluff into all the jets of its infernal complicated carburetter, and it proved a weary je to cleanse them. Halfway up the last hill along the road, I met my comrade returning on my new jigg in search of me. I waved a hand, and shot u Twenty minutes later I was on the verge of setting out in search of him, when he tottered in bleedin My lovely new jigger had its footrests pointing seven and one o'clock. Its foot-brake was non e. Its front mudguard looked as if it had been trying push a kicking horse. Its valve lifter lever was the ramshorn type. Its front forks were, apparent trying to make a détour round their own crown. Wh I was getting short of breath, he ruefully explain that the throttle worked in an opposite direction that on his own machine, and he had given full gas on a hairpin. As I said before, I will pay very handsome retainer to anybody who will teach n how to ride one 8 h.p. o.h.v. Zenith, whilst leading another by its handle-bar. Alternatively, I will prese a putty medal to anybody who will persuade the trato standardise their carburetter controls.

Tyre Adhesion.

NOTICE that many modern engines dispose more power than the tyres can transmit to tl road. I am at present riding a 4 h.p. machin which climbs 1 in 5 at about 35 m.p.h. on a gear There is not sufficient weight on the bar wheel for the tyre to get a grip on the road surfac When the tyre can grip, the back wheel does upwar In actu of 400 r.p.m. under the conditions cited. practice, such hills are generally very smooth as hard, very greasy, or very rough and stony. Und such circumstances wheel slip occurs, and the pa drops proportionately; the wheel alternately bites, as the machine accelerates; or the wheel spins, and the machine slows. It is for this reason that back tyr are recording rather short lives, especially on passeng outfits. Such bite-and-slip treatment is excessive destructive of indiarubber, and many trials ride practically did in a new cover during a one-day tr last summer. I do not know that there is any possil remedy. We can hardly carry extra weight, or sh the centre of weight further back. But riders w desire to be economical will not attempt to "stun on hills, and should be content to climb slowly a surely. Does anybody know whether the 3in, tyl fitted to many modern heavyweights give super adhesion? The average rubber-studded 21/2in. cov only bites at intervals if a bad hill is rushed. Ste studded covers are worse from every standpoint. The spin readily on hard surfaced climbs, and on soft stony hairpins they bite too hard when they have eat through the "carpet," and cause the machine to g an almost uncontrollable plunge.



To the motor cyclist of small means who lives in a house built before architects realised that a garage is almost as necessary as a pantry, the question of accommodating his machine is a problem presenting considerable difficulty. He is usually forced to decide between the local garage or the trouble of attaching and detaching the sidecar every time the machine is used. Should the sidecar owner have a house with a reasonable side entrance, he is indeed fortunate, for he may build his own garage. True, it entails a little trouble and initial expense, but, in the end, it saves a good deal of worry and after-expense. In June of last

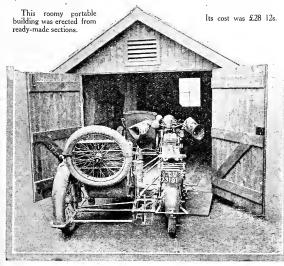
year, my father's family decided to buy a house, and the choice lay between small suburban villa and an oldfashioned semi-detached house; in the heart of London. The latter had ground at the side of it measuring' 14ft. frontage. My brother and myself (both owners of sidecars and also sufferers at the hands of the local public garage) were called into consultation, and, seeing the possibilities of the 14ft. spare land, voted for it, and it was decided to utilise the side ground for the much " longed-for

garage.

There were quite a number of difficulties to overcome, also we had to decide whether it would be cheaper to build of wood in our spare time, have it built of brick, or purchase a ready-made portable structure from one of the many makers of such buildings. Catalogues revealed the fact that prices ranged from about £21 up to £40 odd, so one had a good range of selection. After much thought we eventually obtained one from Messrs. Hobsons, of Bedford, for £28 12s., and very good value it is; if made at home in one's spare time the wood alone would probably cost that sum. To allow of access to the building,

an entrance had to made - firstly be through the iron railings leading from the roadway. work had to be put into the hands of a smith. The photographs show how the alterations were effected. Part of the iron railing has been removed and iron gates substituted, the wood portion at the bottom being used as a ramp for the kerb; the cost was £8 10s., allowing \pounds^2 for paint and sundries. The total cost was £39 2s., which, at first sight, may seem large until one considers the weekly cost garaging two side-

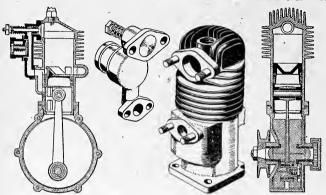
cars.



D.O.

An American Two-stroke Design.

Several Novel Features on the New 238 c.c. "Yankee" Motor Cycle.



Constructional details of the Yankee two-stroke engine. There are two automatic valves in the detachable transfer passage, and the larger of these controls the induction of gas from the carburghter.

ALTHOUGH America was the home of the two-stroke boat motor, bicycle power units working on the same principle have not, been nearly so popular there as in this country.

popular there as in this country.

The two-stroke lightweight is indeed particularly our own, only two examples having hitherto appeared in America, and both of these have been largely based on British design. A new machine, however, is now being manufactured in Chicago, which embodies several features not usually found in conventional two-stroke practice.

Known as the Yankee, this new model is being made by the Illinois Motor Co., and its price in Chicago is \$180 (£35). for a fixed gear model with helt drive.

for a fixed gear model with belt drive.

Engine dimensions are 2½in. bore by
3in. stroke (63.5×76.2 mm.), and its power

will therefore be in the region of 2½ h.p. Conventional three-port practice is not followed, since the induction pipe enters the transfer passage and is closed by an automatic valve, while there are two rows of ports in the piston, in addition to the transfer and exhaust ports in the cylinder walls.

The Action of the Engine.

A separate casting forms the transfer passage, and this is bolted on to the cylinder, while an atmospheric inlet valve and cage is screwed into the former casting. The carburetter is attached directly to the inlet valve cage. When the piston rises, the ports in its skirt uncover the openings of the transfer passage, and the depression in the crank case causes the valve to lift off its seating, and allows

gas to pass through the carbur Meanwhile the charge in the cylind compressed, and the piston descende the exhaust ports are uncovered, in its lowermost position the top ro ports in the piston uncover the opp of the transfer passage, and the gethe crank case passes into the cylinder that the top of the transfer passage smaller automatic valve giving entitle combustion chamber, and a ceportion of the gas forces its way this into the region of the sparking By controlling this valve from the habar, a decompressor action is obtafor starting purposes.

The exhaust ports are at the rear, a bolted-on manifold carries the gas the silencer.

Mechanical Details.

-Internal flywheels are used, these turned from steel castings having crank bosses integral. The latter hardened and ground steel sleeves pron to form the main and crank journals, which run in bronze bushe Gear drive is employed for the mag and the train of three wheels is end

in a pressed steel case.

Lubrication is on the petroil sys
Ducts are drilled in the flywheel cas
to convey oil to each bearing.

Frame Construction.

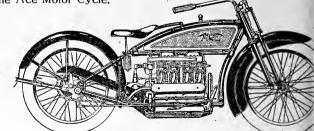
Usual American practice is followe the general design of the frame, be departure is made in the steering he which has plain steel (hardened) beawashers, instead of ball races.

The wheels are 25 x 24, and a cobrake, in conjunction with peda gear, is incorporated in the rear hul. A pressed steel tank is fitted, hol slightly over one gallon of petr mixture, and on this quantity of fu is claimed that 140 miles have attained

A New American Four-cylinder Machine.

Advance Particulars of the Ace Motor Cycle,

ANNOUNCEMENT of a new American motor cycle, to be known as the Ace, is made. The machine will resemble the existing American four-cylinder job in many respects. The frame is of the duplex type, with special-rein-forcing bar at rear end, between the upper and lower forks. This, gives added rigidity for sidecar work. Forks are of the "pusher" type, with straight lines, not unlike the forks on 1914 Hendersons. Having a bore of 68 and 82 mm. stroke, the engine has a displacement of 1,192 c.c., and is said to develop 20 h.p. All valves are 1½m. in diameter, the inlets being overhead, with fully enclosed mechanism. The crankshaft is larger, bearings are more ample, and gudgeon pins are thicker than the usual four-cylinder practice. The bottom of the crank case is removable, permitting of the tightening of the bearings without removing the engine from the



An American newly-designed four-cylinder motor cycle-the Ace.

frame. Oil is carried in a sump in the lower part of the crank case, no oil tank being fitted.

A Berling magneto is used, and separate generator will be attached for an electric model; 27in. × 3½in. tyre fitted, giving a low saddle position. Ace will be furnished in blue, proout with gold stripes, with coloured rims.

French Machine on Car Lines.

The Spring Frame 7 h.p. Lutece with Shaft Drive.

IN reconstructing the French motor cycle industry, the manufacturers of that country appear to have abandoned most of their pre-war designs, and, as revealed at the last Paris Show, a large number of entirely new types have appeared. Many of these show a tendency to impore conventional practice. tendency to ignore conventional practice and to follow more advanced lines, by the use of pressed steel frames, shart drive, vertical twin engines, etc.



The rear suspension of the 7 h.p. Lutèce,

The 7 h.p. Lutèce is one of these new lesigns, having both wheels sprung and composite frame combining pressed teel and tubular construction. The

A French design embodying several modern and unconventional ideas.

engine is a vertical twin having cranks at 360° (on the same centre), and is mounted with its crankshaft and cylinders lengthways in the frame. The hore and stroke are 84 and 90 mm. respectively (998 c.c.), lubrication is by forced feed, an oil pump being driven from one end of the camshaft and delivering oil to the main and big end bearings through oil passages made in the crankshaft and connecting rods.

A Unique Specification.

Next in order to the engine comes the multiple disc clutch and the three-speed gear, which are contained in an oil bath casing. A compressed air starter is em-bodied with the gear box, the former serving also as a tyre inflator. Behind the gear box is the propeller-shaft which drives the rear wheel by worm and worm wheel. A lighting dynamo is fitted be-

tween the engine and the gear box, and ignition is by high-tension magneto. Quick detachable disc wheels are provided with drums for external expanding hrakes; two of these are in the rear and one in the front drum, one front and one rear brake being interconnected and controlled by a lever on the handle-bar. This lever can be locked with the brakes in the "on" position. The second rear brake is operated by pedal.

It is claimed for this machine that it

will attain a speed on the level of about fifty-five miles an hour, and its weight is

said to be 3½ cwt.

Only a very few examples of the Lutèce gear-driven motor cycles have been produced, so that it is impossible to speak of their behaviour on the road until an opportunity has been afforded of judging their performance in some of the important road events.

An Open Frame "Sidecar" Outfit.

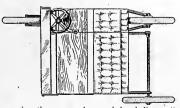
A Three-wheeler with Large Seating Capacity.

N. W. H. PLUMMER, who is responsible for the motor cycle and sidecar of unconventional deign illustrated, has aimed at improved nd simplified construction, increased eating capacity, together with greater omfort, cleanliness, and protection from he weather.

he weather.

In this invention, the motor cycle omprises, in combination, a single ongitudinal frame member, located omparatively low down at its centre, and provided with, or connected to, uprardly projecting members at the forward end, which support the steering column and road wheel. Further uprardly projecting members are proposed to the steering column and road wheel. ordinal and road wheel. Further up-rardly projecting members are pro-ided at the rear end; these carry the riving wheel, and also form a support or the seat. The longitudinal frame sember may be provided with floor-oards, while the forward column may arry a windscreen. If desired, that ortion of the rear frame which carries as seat may be bigged as that the seat ne seat may be hinged, so that the seat ay be swing over to allow of easy coses to the driving wheel. Suitable rovision is made for the attachment of ne engine, gear box, tanks, etc. For

A unique design for a threewheeled runabout, the driver of which is fully protected.



example, these may be carried wholly by the longitudinal member, or partly by this member and partly by the rear column. The driving road wheel and sidecar may be spring supported in any

convenient manner.

The motor cycle may be used separately, or be fitted to the sidecar attach-

ment, which may be of corresponding construction, but having no steering column. Its design is such that the sidecar can be readily attached to the motor cycle in such a manner that the seats, floor-boards, and windscreen meet, and to all intents and purposes form a single unit. It is claimed that the combination described is especially suitable for a motor cycle taxi, since there is ample seating accommodation and space for luggage. If desired, a suitable hood may be

attached completely to enclose the driver and passengers, thus rendering the ontfit absolutely weather-proof. For motor cyclists who ride in all weathers, the machine described would be ideal.

We understand that Mr. Plummer would consider offers from manufacturers for the right of producing under licence.



A Commentary based upon Practical Experience and a Study of Overseas Opinions.

Exports WHILE the position regarding delivery of new machines so far as the "home" Improving. buyer is concerned is very little better this year than was the case last spring, there are signs that there will be considerably more machines sent. Overseas during 1920 Last year, manufacturers appeared to regard export trade as "impossible" owing to shipping difficulties, and were tempted to take the line of least resistance by succumbing to the persuasions of home buyers, who literally besieged On the one hand they were confronted with the usual difficulties of export trade, greatly increased owing to uncompleted selling arrangements, the ever fluctuating prices, the shortage of labour and space for the packing departments, and, finally, the difficulties attending the purchase of suitable wood for packing cases. Perhaps, in some cases where goods were shipped direct to Overseas buyers and not through British shippers, the question of credit, too, may have had an influence. On the other hand, British buyers were willing to call at the works, take delivery of machines fresh from the testers' hands, and pay cash with a consequent saving in detail work.

This year, however, most manufacturers have been able to restore their packing shops, which often during the war were used for other purposes; skilled packers have been reinstated, suitable material for packing procured, and office staffs reorganised and made up to strength. But even now there are many difficulties with which manufacturers have to contend. The moulders' strike seriously retarded output, and this has increased the demand upon the output for the rest of this financial year. Further, shipping facilities are still limited, and we have seen packed motor cycles,

which have stood there many weeks on this account awaiting shipment in the works of several makers. In the case of smaller manufacturers, such consignments represent a great deal of money, and it is fa from satisfactory for it to be lying idle at a time when agents are visiting the works daily hurrying up deliveries.

in in in

British Industries Fair. THERE seems to be an impression abroathat British manufacturers at the presertime are almost apathetic where Overseatrade is concerned. This is not the case

as witness the fact that about seventy manufactures are exhibiting at the Birmingham section of the Britis Industries Fair. These exhibitions are exclusive for Overseas buyers, being held under the auspice of the Chamber of Commerce, and the general publicate not admitted. The fact that so many manufactures are exhibiting is proof that the industry is serious interested in export trade, and that, once condition are easier, there will be little cause for complair from Overseas buyers on this score.

Owing to the national necessity to export as much as possible, manufacturers are displaying patriotist by drawing attention to this. We have a letter beform us which was sent by the makers of the British Excelsion to their home agents, pointing out that the supplie of materials at present are insufficient to meet a demands and asking for patience in delayed deliveries in order to enable the makers to send more good abroad. Other makers are making similar appeals those who have placed contracts with them, and not doubt this will account for an increased market of British machines abroad in the ensuring year.



THE CAPITAL OF CAPE COLONY.

Capetown seen from the picturesque motor road above the city.

A Selection of Letters from Readers scattered all over the World.

Magneto Drive.

MR. W. G. QUINTON, A.M.I.C.E., an executive engineer in the Punjab, India, criticises magnete drive of the conven-

tional machine intended for Overseas use.

"Why do British manufacturers favour the chain drive to magneto?" he asks. "Why, also, do they put the magneto to far forward or rearward of the engine? The latter practice only makes the chain drive worse, in my opinion, han it would be if the magneto were much neaver-fore

r aft. "Personally, I, as an Englishman, would prefer to buy ny motor cycle from the Home country, but when we see and know the better American machines what happens?

"I brought out a 6 h.p. A.J.S. and sidecar in 1915. I had endless trouble with my magneto drive and cork clutch. I mve also had similar magneto drive trouble with a 6 h.p. Nyno. "In spite of a Dixic magneto and its alleged leakage of

nagnetism. ria the gears of its drive, I never had any nagneto drive trouble in 6,000 miles of running on an

American machine.

"I think it is a fact that the Dixie driving pinions de secome magnetised, but it does not seem to do any harm or

veaken the magneto.

"However, this is a minor-point compared to the absolute reedom from breakdown that the magneto gear drive gives. "Similarly with the Powerplus clutch. No harm seems to e done if absolutely no oil is given to the roller bearings. While, with a cork clutch in the bot weather, in negotiating numpy ground or sand one slips one's clutch and spontaneusly starts a very odoriferous bonnre and the gent of Twist controls, too, and the absence of twiddly bits on he handle-bars, and 28in. wheels are points which recom-aend the American product."

The latest A.J.S. has the magneto in the front position.

Most Colonial models of British manufacture have 28×3in.

quickly detachable and interchangeable wheels.-ED. A Letter from Canada.

Mr. E. A. BERTINET, of Montreal, sends a long letter on arious subjects of interest both to maker, and rider in this ountry. He says:

"During the war I wrote to a dozen representative English rms asking for their catalogues. All answered fairly

"Now, please note. American firms supply you people ith sidecars on the left side, for your rule of the road. Not ne of the English firms mentioned whether they would, or ould, supply a sidecar to go on the right of the machine in our rule of the road! Look in your Overseas Suppleents. English firms appear to be represented in every plony except the oldest and nearest (Canada). Are they Are they fraid of U.S. competition?

"I have been waiting for some spares for three weeks om an American firm that advertises it fills orders within wenty-four hours of receipt. I waited two months last year or a kick-starter from the makers. I will admit this would ot happen if I rode an Indian or Harley-Davidson, as those

rms have two fine agents who are well stocked with parts.
"Please 'let up,' so far as Canada is concerned, on this lk of 'Overseas conditions.' You discourage the fine type i man (who is usually a motor cyclist) from emigrating. ur reads are of two types—very good or impassable. From ere to New York, approximately 400 miles, is splendid road I the way, as good as city asphalt, and dustless. ore good roads in Quebec than any other province, and the motor fees go on the roads. We pay, appreximately, be per horse-power and 2s. for the plate, plus £1 for driver's occuce. With me this amounts to \$12.85 yearly (£2 12s.), his is the highest fee in North America, New York State

bing, I believe, only \$5 (£1.)

"I have tried to see my way to buying an English machine cycle car, such as the Morgan or Premier, but at the lees over in England I regret my patriotism does not hear a call. There is a 20% or 221% duty on machines coming re, and I can get a beautiful silent Henderson delivered the electric lights for £125. I can also get half a dozen od makes of five-passenger cars for about £280, so I sitate and think twice before I send to England to buy pything that I cannot even see, and with which I have all the trouble of passing through the Customs. I can get a 21 h.p. two-stroke single for \$295 (£59) after it has paid a 575% duty. This is the Cleveland lightweight—an excellent

"At present I have a 1917 Reading Standard with electric lights. I have been down to New York each year with sidecar attached, and will endeavour to give a truthful history of the weaknesses of this machine. It may be history of the weaknesses of this machine. interesting to English readers to learn that the American Bosch Co, were behind the Reading Standard people, and when the United States alien custodian took over the Bosch works as enemy property it necessitated a reorganisation of the motor cycle firm. Mechanics have remarked to me that the Bosch people saw that the excellent workmanship that went into their magnetos also went into the Reading Standard.

Some Details.

"I have made 47 m.p.h. on the level for as long as thirty minutes with passenger and luggage. How fast it will go my nerve will not hold out long enough to find out—I have gone fifty-two for a few minutes. These are its faults: The crank case leaks oil despite all efforts to prevent it; the The crank case leaks oil despite all efforts to prevent it; the pump leaks oil, and the crank case breather, which throws on to the chains, does its work so well that the back wheel (and my left trouser leg) is black with oil. It uses up about a quarter every 500 miles. It starts on the second or third kick without having to be primed. I have yet to or third sick without having to be primed. I have yet to find the hill it will not go up. In the country I take all on 'high' with passenger and luggage. Our speed limit is 18 m.p.h. in towns and villages, and 25 m.p.h. in the country. New York State limit is 30 m.p.h. in the country. "After 3,000 miles, I took the R.S. down, and found a

negligible quantity of carbon and some wear on the rocker, otherwise everything was O.K. Bushings showed no sign of wear at all. I have forgotten I have a magneto en the machine; it has never failed me, even in winter at ten degrees below zero. Yes, I have ridden at that tem-perature. I throw some boiling water over the Schebler, give it one kick, and I am off. I keep a Thermos bottle in the sidecar, containing hot water for restarting when away

from home. My back wheel wears a chain.

Too Heavy!

"I have had trouble with the nuts on the machine loosening up, but now I rust them before using, and then put them on with shellac or rubber cement, and they stick. I have broken innumerable ball bearing retainers in the front hub, due, no doubt, to the pull of the sidecar. The latter is a Rogers, steel frame and body, and wooden floor, and equipped with a top. I have broken both C springs and frame, so, except for the body and wheel, the sidecar is new !!! It is attached to the machine by three ball and is new !!! It is attached to the machine by order had and socket joints. It takes about three minutes to disconnect it, and six to attach it. I never worry whether it is in line, but the tyres show even wear. I have had about six punctures in three seasons, and use butt-ended tubes exclusively. In fact, I class the tyres with the magneto, and forget about them. After reading this you will wonder why, in starting, I said I would like an English machine. Well, I will tell you. I am 51t. 6in. in height, and weigh about 150 lb. This machine weighs about three hundredweight, and when it falls down, I feel like calling somebody to help me pick it up. It is too heavy, and whatever trouble I have had, I am convinced, is due to the enormous weight.

"If you see any British manufacturer 'cocking' his this way, tell him Canada will buy his machines if he will meet the American price, which be should be able to do owing to the preferential duty, but that we must have grip controls, 28 x 3in. tyres, sidecars to go on the right side of the machine, and kick starters, preferably on the left side. Appoint an agent here or at Toronto, supply him with a stock of spare parts valued about £1,000, and you

can have our dollars.

By the way, I noticed a kick from someone that the tanks should be made to hold two and a quarter gallons, so as to take two gallons, as you sell your petrol that way. "Here the village pump is the 'gasolene' pump, and in

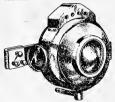
the settled parts these are numerous. These pumps will supply any quantity. Oil can be got also in this way, but I prefer to get a sealed can of Mobiloil B. We are paying 37 cents per gallon for petrol, and \$1.25 for oil in tins.

A Tobacco Box that Became a Rear Lamp.

The Romance of a Lamp, of which Many Thousands are in Use.

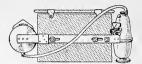
F OR several years the Motex rear lamp has been on the market, and before the war was often quoted as an example of the quality of German-made goods compared with British propositions at the same price. Probably hundreds of accessory dealers know the lamp as a German production—and riders, too, who have been under this impression, have consoled themselves with the knowledge that, whatever its origin, it is a good

It may come as a surprise to many of the thousands who use the lamp to learn it is not, and never has been, a German production. It is, as it always has been, the leading speciality of Buckingham Street, Birmingham. How it came to be made illustrates how necessity is the mother of invention.



The Motex rear lamp.

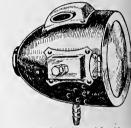
When the lighting regulations called for rear lamps for motor cycles, Mr. Towel, the proprietor of the concern, could not obtain a rear lamp for his machine. At that time he was manufac-



The lamp and generator attached to the number plate.

turing metal tobacco boxes, such as are sold in their thousands at seaside resorts. This tobacco box formed the nucleus of Mr. Towel's first rear light. A ruby glass inserted in the lid, a simple "chimney," and a Bray burner quickly converted it into a strong and good looking lamp. Seeing the commercial possibilities of the lamp, Mr. Towel approached several large factoring houses, who, while being attracted by the price, would only give orders for single thousands. A German in England, however, gave orders for thousand gross lots, and the name Montie was given to it for these orders. Hence its reputation as a German lamp. Now, however, Messrs. Stanley and Hill, Ltd., are manufacturing under their

own name, and in future the lamp be known as the Motex, and sold generator and a bracket for connect the two to the rear number plate a very moderate figure. A sidecar lish has now been added to the Motex ra and later on, perhaps, a head light follow. In the meantime, the firm is centrating upon motor cycle lamp specties, which are manufactured through in its own works. Incidentally, manufacture of even a small lamp generator requires quite a large plate for the moderate of the mining generator alone. Messrs. Stanley-Hill make all parts themselves.



The Motex lamp, designed for sidecars

TO FACILITATE TIMING.

WHEN retiming their engines, amateur mechanics—and for that matter garage mechanics also—frequently experience the need for some instrument accurately to show the top of the piston stroke and positions near to it. Usually a rod is used in the cylinder, and when it is desired to time the engine, say two millimetres before the top of the stroke, the crank is moved until the rod falls that amount. By this method it is im-

that amount. By possible to obtain accuracy, as it depends so much upon the eye in watching the rod, but with the device illustrated such rough and ready methods are obviated. It is the design of Mr. E. Mitchell. of 35, Oatsfield Road. Liverpool. who has protected it.

Referring to the illustration, the body is screwed into the compression tap orifice with the fingers. The indicator rod is a good sliding for in this body, and when the pixtor raises it to the



The N it:hell timing device. (A) Body to screw into cylinder head. (B) Extension piece for valve timing. (C) Measuring rod.

piston's top position, the position is noted on the rod and the crank revolved again until the piston is further down the cylinders. The rod is then adjusted to give whatever advance is required, the rod being marked in millimetres. When the piston is again brought up to touch the rod, the exact required position is assured.

An extension to the rod is necessary if the timing of the valves is being checked, the rod being in two pieces, owing to the restricted space between the tank and cylinder heads of most machines.

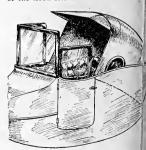
A CABRIOLET SIDECAR DESIGN.

SIDECAR passengers are almost unanimous that the majority of sidecars are designed from the saddle of the machine and not from the passenger's point of view. They complain of grit thrown from the front wheel, and when a screen is fitted point out that there is a draught which appears to be thrown upon their faces by the body of the driver. When hoods are fitted, then the complaint is transferred to the draught which passes through between the top of the screen and the hood extension.

The motor cyclist who provides his passenger with a coupé sidecar probably will be told that fresh air is required. Mr. B. H. A. Chalk, of I, Kendal House Road, Isleworth, probably heard these complaints before the war put a step to his motor cycling, and apparently for the past twelve months he has

been working out a solution to problem, for the date of application his patent bood was November, 1918

his patent hood was November, 1916. The main part of the hood is a 1 structure of metal, wood, or fal which is pivoted at its forward end that when not required it may be sy down into the body at the sides and hind the seat. The door is constructed accommodate a sliding window, a also the opposite side of the body the three short of the construction of the interest of the interes

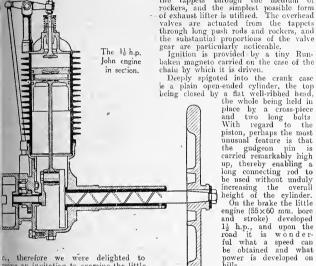


A sidecar hood that folds out of sight w

THE JOHN SCOOTER ENGINE.

A Tiny Power Unit of Exceptional Efficiency.

UITE a new department of the motor cycle trade has surpra unit cycle trade has sprung up in recent times. The introduction of the oter and various cycle attachments as necessitated the careful study of ininture engines, magnetos, carburetters,



ceive an invitation to examine the little gine built by Messrs. T. G. John, Ltd., Holyhead Road, Coventry, during rious stages of construction.

The engine is designed on up to date ies, and is a sound manufacturing oposition.

The first feature to strike an observer the enormous length (5½in.) of the main inkshaft bearing. The reason for this usual feature is that the engine is tended to be fixed on, one side of the oter wheel, with the crankshaft passing rough the hub, the flywheel being ounted on the further side. Oil is conveyed down this long bearing by a spiral groove, and the crankshaft is of the overhung type. A spigot on the end of the crank pin drives a light crank, the purpose of which is solely to operate the timing gear. Large inlet and exhaust cams mounted on separate shafts operate the tappets through the medium of rockers, and the simplest possible form of exhaust lifter is utilised. The overhead of exhaust litter is utilised. The overhead valves are actuated from the tappets through long push rods and rockers, and the substantial proportions of the valve gear are particularly noticeable.

Ignition is provided by a tiny Run-

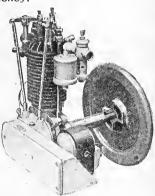
place by a cross-piece and two long bolts With regard to the piston, perhaps the most unusual feature is that the gudgeon pin is carried remarkably high up, thereby enabling a long connecting rod to be used without unduly increasing the overall height of the cylinder. On the brake the little

On the brake the little engine (55×60 mm, bore and stroke) developed 1½ h.p., and upon the road it is wonderful what a speed can be obtained and what power is developed on bills hills.

A very simple and neat little automatic car-

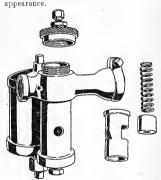
buretter is supplied with
the engine, and the
complete unit with flywheel, magneto, carburetter and control weighs barely

The long main bearing previously referred to does not preclude the use of the engine in scooters in which the flywheel shaft is not required to pass through the hub of the wheel, nor of miniature motor cycles of the more or less conventional type. It is possible to



Power unit of the overhead valve John engine.

adapt the engine on the frame of a scooter, the main part of the engine being on one side and the flywheel on the other. The whole unit presents a very neat



Components of the automatic carburetter fitted to the John scooter.

HOW TO ENSURE A CLEAN ENGINE.

LL motor cyclists will agree that an I oily engine is a bother to clean, and detracts very considerably from
e pride of ownership. At the same
ne, not a few otherwise excellent
gines are sinners in this respect.

We are this resident of the price of the price

Realising this point, Mr. R. Wood, of , Westbrook Road, Thornton Heath, irrey, has gone to some trouble in preparing an efficient substitute for the usual paper washer. For some time past we have had some of these speciallyprepared washers in use between the cylinders and crank case of a small twin which was inclined to be messy at this spot. The results have been excellent, and we can confidently recommend their use. Motor cyclists who are overhauling

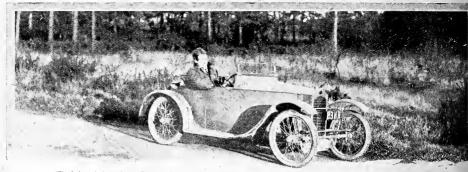
their mounts preparatory to spring runs should bear in mind that the prepared sheets are made in different thicknesses so as to be suitable for cylinder washers or timing gear covers, etc. The material is easily cut, either with scissors or in the usual manner by tapping round the edge of the cylinder mouth, so no difficulty is presented in fitting.

MOTOR (YCLE SPRING NUMBER AND BUYERS' GUIDE.

MARCH 25th has been fixed as the date of the Annual Spring Number of The Motor Cycle. Special articles are in course of preparation, and a feature of the issue will be an illustrated Buyers' Guide.

A SIMPLE MINIATURE FOUR-WHEELER.

The Bleriot Whippet Cycle Car now on a Productive Basis.



The belt and chain-driven Blenot Whippet. This little four-wheeler is fitted with a Blackburne air-cooled engine.

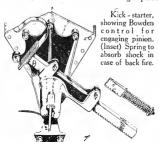
A SERIOUS effort to capture the market at present held by the de luxe sidecar outfit is being made by the Air Navigation and Engineering Co., Ltd., Addlestone, Surrey, who will shortly be producing in quantities the ingenious little cycle car (designed by Messrs. Jones and Marchart) which was described in The Motor Oycle of March 13th, 1919. Since that date the vehicle has been improved in several details, and on the occasion of our visit to the works numerous chassis were seen in a partially completed state. As soon as the effect of the recent moulders' strike allows a more rapid delivery of engines, numbers of these cycle cars will be in the hands of the public.

Some Innovations.

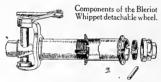
As regards improvements, one of the most important of these is the fitting of interchangeable and detachable wheels. Changing a wheel on the Blériot-Whippet merely means removing a spring steel locking ring in the hub cap, undoing the hub cap and pulling out a special key.

A further improvement is the ingenious

A further improvement is the ingenious form of steering fitted, a long nut being attached just below the steering wheel, engaging with a square thread on the inner tube, sliding up and down inside the steering column. In this tube, near its base, is a slot in which an angle piece



at the end of the short steering arm is fitted. The reciprocating movement of the tube gives to the arm sufficient movement to control the front wheels. The angle piece of this arm comes up against two hardened steel blocks, behind which are two shock-absorbing rubber buffers so that positive action without shock with absence of wear is obtained.



Yet a further innovation is the pedal starting device attached to the timing gear side of the Blackburne engine, which, incidentally, has been slightly modified, being fitted with Ricardo pistons and roller big end bearings. The starter consists of a rack engaging with a pinion on the main shaft, engagement of the pinion being effected by a Bowden control conveniently situated on the dash. The only objection to this device is that it is fitted with a curved plate surrounding the pedal for the purpose of lifting the rack to its highest point previous to starting the engine, and this curved plate is somewhat apt to damage the driver's boot. It would be a simple matter, however, to line the plate in question with leather or some other suitable material.

Efficient Transmission.

We may remind our readers that the drive is taken from the Blackburne engine by means of chain to the countershaft expanding pulley gear, in which the pulley is expanded by means of inclined planes, the tension of the belt being kept constant throughout, any slack in the chain being taken up by means of an idler pinion. The light, belt runs under ideal conditions, being fully enclosed and entirely protected

from the elements, and by its si running should remove one of the cobjections to cycle cars, i.e., the post the transmission.

Running Impressions.

The chief object of our visit to works was to have some little experion of the running of the vehicle on the rand in the course of the afternoon made a short trip in the neighbourd of Addlestone and Weybridge, which sufficient to give us some idea of behaviour of the little vehicle upower. What impressed us most estally was the extraordinarily good sping—in fact, it is one of the best sping—in the control is simple, gear being changed by means of a 1 situated near the driver's left hand, a to control was to be found in the accust positions. The clutch, which is f with Ferodo, was particularly swee action. The steering would be grumproved by the fitting of a much is steering wheel, and, in our opinion, sthing might be done to render the errather more silent, otherwise the Bk Whippet is a little vehicle of promise, and we do not doubt that it become extremely popular when of to the public in quantities.





A scene at the start of a Colmore Cup Trial, when nearly 250 competed.

THE COLMORE CUP EVENTS BRIEFLY REVIEWED.

THE Colmore Cup Trial, which will be held next Saturday, was first organised in February, 1911, and its success probably had an enormous influence upon motor cycle competitions held by organisations other than the A.C.U., for, prior to that date, the Auto Cycle Union had not granted a permit for an open competition. The decision of the Sutton Coldfield A.C. to hold a winter trial was not arrived at until January, 1911, and, in consequence, the preparations were somewhat hurried. The committee applied to the A.C.U. for a permit, but the week before the trial was to be held, the club was advised that "so far the A.C.U. had not sanctioned an open reliability trial and did not intend to make a beginning at this stage."

Over forty entries had been received, and the Sutton Club was in a quandary, which was overcome by electing every entrant a member of the club, so it will be seen that the first Colmore Cup Trial was a closed event.

Forty-six competitors started from the Gun Barrels Hotel, Birmingham, the course being through Alcester via Rose Hill, Stratford-on-Avon, Sunrising Hill, Warmington Hill to Banbury. The return took in Edge Hill.

The winner of the Colmore Cup was W. D. South (334 Scott), who secured maximum marks. R. W. Duke (3½ Zenith Gradua) and P. J. Evans (3½ two-speed Humber) secured maximum marks and were awarded gold medals. A secret check decided the winner; only nine others made non-stop runs.

The 1912 Event.

In the 1912 event, held on February 17th, the entries numbered 106, which, at that date, constituted a record. Of these 104 started over the same course

as in 1911, but during the intervening twelve months machines had vastly improved, and no fewer than twenty-four secured maximum marks, and a further thirten also made non-stop runs. The winner in this year

was Frank Smith (5-6 Clyno sc.).

The course for the 1913 trial was changed, and was practically identical with that which will be used 200 competitors again made it a record this year. trial, and the severity of the event may be gauged by the fact that only eight qualified for the premier award. Secret checks gave the cup to W. B. Gibb (234 Douglas). Starting from Stonebridge, midway between Coventry and Birmingham, the course included Kenilworth, Warwick, Stratford, up Saintbury Hill, down Willersey, through Broadway, Winchcombe, up Sudeley Hill, through Roel Gate and Andoversford to Cheltenham. The return was via Rising Sun (Gamble's Lane), Winchcombe, a hairpin bend near the latter place, back again to Winchcombe, up Willersey, and via Stratford and Warwick to Stonebridge.

The 1914 Event.

No fewer than 252 machines were entered in the 1914 trial over a similar course to that of 1913, but omitting the hairpin at Winchcombe. 244 started and 125 made non-stop runs. Norman Lea (Lea-Francis) secured the Colmore Cup, H. Newey (Levisette) made the best performance in the lightweight class, E. H. Littledale (Ariel) made the best amateur performance, and H. F. S. Morgan (Morgan) was first in the cycle car class. The James's team won the team prize, and the Coventry team the club prize.

This year the secret check as a means of finding the winner is eliminated, and the awards will be made to those who have secured maximum marks and made the best performance in the acceleration test.

The Conversion of Fixed Gear Motor Cycles.

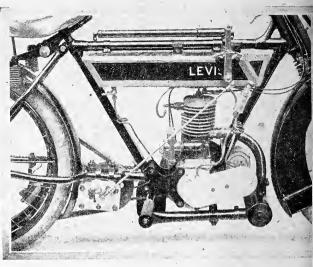
Fitting Change-speed Transmission to Single-speed Machines.

F ROM the large number of letters on this subject, received at the offices of The Motor Cycle, it is clear that few owners of single-geared motor bicycles are content to leave them as sent out by the makers, as the exigencies of traffic and the popularity of the sidecar traffic and the popularity of the sidecar are creating a huge demand for the delivery of gear boxes. Up to the present time our readers have found it extremely difficult to get their singlegared mounts converted, chiefly because not every motor cyclist is capable of doing the work himself; firms which undertake this work have been hard to find, and manufacturers of gear boxes have been mable to accept orders for single units as they have to supply the manufacturers with large quantities.

A Progressive Firm.

The Ray Motor Cycle Co., 49, Brick Street, London, W.I., are making a speciality of fitting Roc two-speed gear boxes to such well-known mounts of boxes to such well-known mounts of modern manufacture as the Levis, O.K., and Diamond, while they also fit these gear boxes to Metro-Tylers and the old pattern 2 h.p. Humber. The company also undertake the conversion of older pattern motor bicycles of $3\frac{1}{2}$ h.p. and over, altering them so as to take the well-known three-speed and kick-starter Burman gear hoves thus rendering these Burman gear boxes, thus rendering these old pattern machines suitable for sidecar

The conversion on the two-stroke models is particularly well carried out. Special clips are supplied to suit the various types of frames, as well as con-trol levers to fit on the lower horizontal



A single-geared Levis fitted with a Roc two-speed gear.

tube of the frame, or, if the machine does not possess one, on to the top tuhe.

A special sprocket is supplied, which can be fitted in place of the pulley on the Levis engine, and can be easily bolted

on the inside of the flywheel. The wh conversion is an extremely simple matt and can be carried out by an intellige mechanic without difficulty in a ye short time.

A Motor Cyclists' Targa Florio.

Proposed Race for Motor Cycles and Cycle Cars on the Famous Sicilian Course.

MANY of our readers are acquainted with the Targa Florio race for cars organised by Commandatore Florio, president of the Automobile Club of Sicily, held on the Circuit de la Madonie, Sicily. Last year's race was won by a Peugeot car after an exciting contest. The course is very hilly, abounds in corners, and is a very complete test of a driver's skill.

This year the race will take place on June 20th, and is confined to stock cars, with slight modifications; but what is of greater importance to motor cyclists is the suggestion that has been made in Paris to the organiser to create a race for motor cycles and cycle cars to be held over the same course a day or two days after the car event.

after the car event.

If sufficient support is forthcoming, the length of the motor cycle race will be three or four laps of the circuit, which measures 108 kilometres (sixty-seven miles), or a total distance of 201 or 268

For the car race a special train will run from Paris to Marseilles, and boat from there to Palermo, calling at Genoa for the Italian competitors. A special service from Paris on the Thursday night, prior to June 20th, will carry spectators to Sicily, depositing them close to the starting and finishing point early on the Sunday morning of the race.

If the motor cycle race materialises, motor cycle competitors will be able to avail themselves of the organisation for transport which is being made for the car race.

A Clashing of Dates.

We imagine that only Continental motor cyclists could compete in this event, for the dates of the T.T. races in the Isle of Man are June 15th and 17th, and it is most unlikely that sufficient com-petitors could be found to support both races. Possibly the organisers have over-looked the dates already fixed for the T.T. races, or are not counting on substantial British support, and are willing to depend on what entries they are likely to receive from French and Italian riders who are also unlikely to ride in our T.T.

By a strange coincidence, both the T.T. and Targa Florio are held on island courses in mountainous country, although we imagine the winding, hilly course in Sicily is more difficult than the climb over Suacfell and the twists and turns of Manxland. Also, it is somewhat strathat both French and British support of motor races are a little shy of c petitions this year, the French very meso, although they appear ready to s port races that are being held outs

port races that are being new outs their own country.

In the possible event of the mc cycle Targa Florio receiving suffici support this year, it may eventually come as important to French and ot Continental riders as our T.T. races

to us.

There appears to be a certain glam about these island events. First, the is the fascination of a semi-holiday practising and tuning up; then ther the journey to and from the island; a lastly, there is a certain amount of free of action that does not appertain to other event, either for motor cycles cars, that has ever been held in the islands or upon the mainland.

We understand that the Automo Association is endeavouring to person architects and local authorities to pro-efficient garage accommodation in housing schemes undertaken under to control.



The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

PROVISIONAL PRICES.

Sir,-Seeing a letter in your issue of February 5th from A.J.M., Boltom," re the above, I would like to give my experience. Like "A.J.M.," I required a runabout, and wrote to Messys. Alexander, Edinburgh, a matter of 300 miles from here, stating my requirements, and asking what prospects they could offer me, and received reply per return telling me what to expect if I cared to go on their waiting list, which I did, and I am pleased to say I have now received my machine. Nothing could have been more businesslike or courteous than the way they treated me. I may say they did not ask for any deposit, or wish to bind me in any way. I do not know this firm beyond this recent transaction. Stourbridge.

Sir,-The announcement of the Sopwith Aviation and Engineering Co. of their intention to increase the price of the A.B.C. motor cycle from £85 to £130 must have come as a rude shock to prospective purchasers. As one of the latter, I-should be more interested if they would answer the following question, instead of trying to justify their action in advertisement pages:

Are they prepared to allow some concession to those who ordered their machine twelve months ago, at the much advertised price of £85, with delivery promised by their

agents last year?

They may be interested to know the reason I did not complain when they put the price up to £110 was because I was fully aware of the reasons given by them in your issue of the 12th inst., re materials, labour, etc., therefore I thought their action justified and legitimate. Now I think they have gone too far.

Birmingham. KEENLY DISAPPOINTED.

THE "T.T." AND "TRADE."

Sir,—One reads with very great interest the letter which has been published by the Triumph Cycle Co., Ltd., and, if truly represents their views, it would be difficult to find a more conscientious letter to the trade and motor cycling public alike. It clearly states their circumstances, over which, I take t, they have had no control, and in order to carry out their obligations to the trade, etc., they intend to reserve all their resources to attain this end. May their letter be a guide to other manufacturers.

All motor cyclists fully realise the enormous difficulties which manufacturers have been up against, and much patience has already been absorbed in waiting for the new nachine, and unless manufacturers give the whole of their ime, money, and resources to the production of that machine, which is already before the public, I fear even that valuable commodity, public patience, will be exhausted, and much pushness go over to other countries—a thing to be deeply egretted in these fimes.

Again, should not the Tourist Trophy Race be a gathering ogether of all manufacturers, leading and otherwise, with he whole of their best endeavours behind each machine mtered so that it represents a true battle of brains and pluck? No one regrets more than myself that the 1920 T.T. race, t held, will not have the backing of all manufacturers, and this is the case, I am firmly of the opinion it should be lelegated to such a time when those most interested can ive it their whole-hearted support without endangering their resent commercial interests.

No words of mine are needed to lay stress upon the great waste of time and money and the disorganisation such events

After all, a Tourist Trophy race is not a sine gua non of coduction.

THE MAN IN THE STREET. production. London, S.W.

Sir,-We have noted with interest the recent letter from the Triumph Cycle Co., Ltd., stating that they have decided not to build special machines for the Tourist Trophy Races and to abstain, during the coming season, from those trials where specially constructed machines are essential in order to ensure success.

We should like to say that we take an exactly similar view with regard to the Tourist Trophy Races, and have decided that we will not build any special machines for this race, which further means that we shall not participate in the

Tourist Trophy Race this year.
We entirely endorse the remarks already made as to the enormous demand on output which the production of special machines entails, and we consider that, in view of the delay machines entails, and we consider that, in view of the delay in post-war reconstruction owing to labour unrest and other difficulties, it is far more important to the industry and to the nation that regular output of standardised machines should be thoroughly established, both for home use and particularly for export than that valuable time should be expended in preparing special machines for special events, because desirable these events may be under ordinary circ. however desirable these events may be under ordinary circumstances. ZENITH MOTORS, LTD.



The Bleriot runabout on the road. (A road test of this little four-wheeler will be found on page 228.)

A COMPETITION FOR SCHOOLBOYS.

Sir,-Now that competitions are again flourishing, after many years of war, would it not be possible for The Motor Cijcle to organise another Public Schools' hill-climb similar to one arranged some years ago, which was so successful

and well attended.

I am sure such a competition would again appeal strongly to the motor cycling fraternity in Public Schools, and most Public Schools would be very well represented. The motor cycling spirit in schools is so strong at the present time that I am sure the competition would be accepted unanimously. I would propose a hill in the Midlands again, or on Shrews Hill, Broadway, where the last climb was organised. I am sure I am not the only Public School boy who would

welcome such an event in the near future.

IN BONO VINCE. Ramsgate. [We are very much obliged to our correspondent for his suggestion. The matter is being brought to the attention of the Public Schools M.C.C., whose sphere it is to organise competitions for present and past members of the leading Public Schools.—Ed.]

MUDGUARDING.

Sir,—The article in your issue of February 5th on "Comments on Mudguarding of To-day" was of considerable interest, but as I put The Motor Cycle down I said to myself. "I do not get in the mess some riders seem to do, neither do I get on my person much muck or slush."

I have been motoring continuously since October in all weathers, and knowing my overalls seldom, if ever, get a brush, I examined them, and found mud around the ankle of the left leg only, where it seems to get a rehound off the sidecar. As for splashings around the neck and face, the sidecar. As for splashings around the neck and face, they have never been my experience. I do not ride furiously everywhere, neither do I crawl. My machine and sidecar get very dirty, except the engine, which gets no mud other than underneath; but in whatever weather I ride, and whatever road conditions, I always seem to come out clean.

I have examined my mudguards again to-day, and it seems to me that the makers of the "AJS." have evolved a system of protection which is thoroughly efficient, graceful in design, and which avoids anything approaching freakish and ugly mudguarding. This is my experience, after considerable work with this machine. I do not know what other 1 has of the same machine find.

My inexpert criticism of mudguarding in general is that the guards are far too close to the wheels, and generally too small for real protection.

LEONARD A. WIDE.

SPEED WOBBLE.

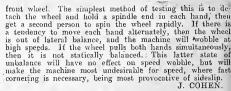
Sir.—In your issue of February 12th a correspondent.

"S.A.B.," mentions that he has never failed to cure a "wobble" in less than a couple of seconds.

Does he realise that at a rate of sixty miles per hour he will have covered 176 feet in that time?

I have had machines with twisted frames that showed no

tendency to wobble, but were practically impossible to ride



Sir,—There has been much discussion of late with regard to that disconcerting phenomenon of "speed wobble," and I should like to suggest a theory which, to my knowledge, has not before been advanced. I am referring to a belt-driven direct drive T.T. machine. I have noticed that the tendency to wobble is much greater with a tight belt than with a fairly slack belt. In fact, a short time ago I experienced a wobble which I directly attribute to the tightness of the belt on that occasion (owing to the fastener pulling through and a hasty repair).

and a hasty repair).

Now, with almost all motor cycles, the engine has a slight lateral movement, due to the spring of the frame. Put your foot against the pulley and press. The engine can invariably be "swung"—if I may so call such a slight movement—a perceptible amount, where the modified diamond type of frame is used, and this swing, or vibration has a

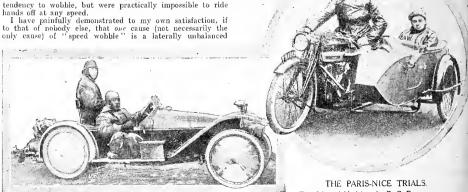
definite period.

Now, especially in the case of the belt-driven machine referred to above, the snatch of the drive will tend to produce such a swing, as the belt pulleys, to allow the engine to assume a central position, are of necessity rather overhung.

· If the beat of the engine either corresponds with or bears some simple numerical relation to the period of swing of the engine in the frame, this will set up violent lateral oscillations, with consequent effect on the steering, and subsequently, as in the case referred to, considerable effect on the steerer also.

Birmingham,

Sir.—I have seen a lot recently in your paper re speed wobble. It is not my intention to enter into any long discussion on the question of stability, etc., but I would suggest that anyone who suffers from wobbly steering (especially at all speeds, as in "Ixion's" case, in your issue of January 22nd) should make sure that their spring fork springs are of the same strength; the majority of people, when they unfortunately break a spring, simply fit one new one, and not both not both.



The 8 h.p. A.V. driven by R. C. Empson. (Inset) An Anglo-French entrant of a 4 h.p. Douglas side ar, M. E. G. Fery, of Gloucestershire, formerly well known in French car racing circles.

Dangerous Front Brakes

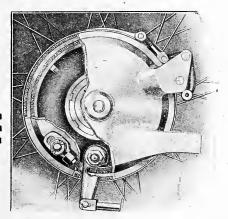
Referring to the death of a Motor Cyclist, the Coroner, Mr. S. Ingleby Oddie remarked, "The authorities should consider whether the law requiring a motor bicycle to be fitted with a front brake should not be altered so as to allow both brakes to be on the back wheel," (What the law says is:-" Two independently operated brakes.")

We have always recognised the importance of fitting efficient brakes, and all



Motocycles

for the past 10 years have been equipped with two brakes on the rear wheel.

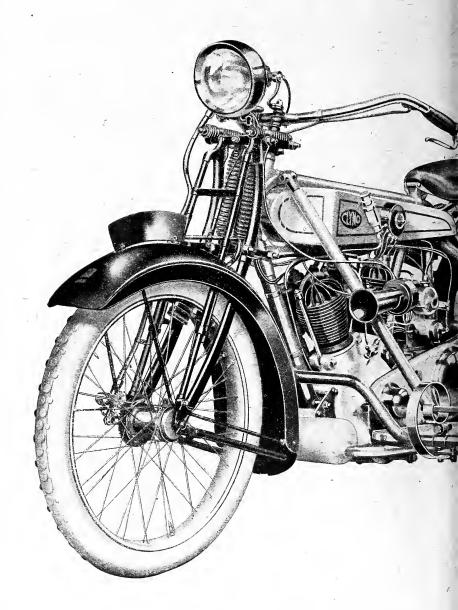


This is only one of many points in which the INDIAN excels.

SEND FOR CATALOGUE.

HENDEE MANUFACTURING Co., "Indian House, 366-368, Euston Read, London, NW.

Telephore—Museum 1643. Grans—"Hendian, Eurond, London AUSTRALIA—109-113, Russell St., Melbourne. AFRICA—Indian House, 127-9, Commissioner Street, Johannesburg Indian House, 579, West Street, Durban. Indian House Strand Street, Port Elizabeth



In answering this advertisement it is desirable to mention "The Mator Cycle."



I had a 21 h.p. Douglas which suffered from this trouble. I eliminated all other sources, such as frame distortion, link wear, etc., and found the above to be the cause. The difference in frequency on hitting an obstacle is accentuated by the free fit of the spindles and links (spindles, etc., are not

yet made to 1500 in. elearance).

I have owned a 23 h.p. A.J.S.; it used to wobble, but I did not at that time (1913) go into the matter.

With a Rudge-Multi (a single central spring) I never had a single webble, although its maximum speed was greatly in excess of that of the other two machines.

I have had no experience of cantilever leaf springs, but should like to hear of their behaviour, if such information is available. WALTER HARE.

FINDING A WINNER.

Sir,-This question has admittedly become a real problem for trials organisers to solve owing to the reliability of the

modern motor cycle.

The policy of freak hills and surfaces, combined with numerous watersplashes, does not appeal to many riders as a sound means of eliminating competitors in trials, and surely it is now time for those who frame the regulations in such events as the Six Days Trials to endeavour to encourage a machine which, though strong and reliable, is yet of lighter weight than the present standard-at any rate for solo work.

The objection to many present-day trials is that compara-tive engine inefficiency and excessive weights will not put a machine out of the running for a premier award, provided the machine is reliable, owing to the fact that abnormally

low first speeds are as a rule fitted.

The following is a suggested scheme for finding a winner in long distance reliability trials which is not open to the above defect :

First, after the course has been chosen, the maximum gradients to be accended would be published for the benefit of all competitors. Secondly, a certain minimum all-out speed on lowest gear would be fixed by the judges for all types of machines. Thirdly, the usual system of marking for reliability, general condition at the end of trial, etc., would be retained.

With regard to the minimum all-out speed on lowest gear, this would be arrived at as follows: The judges, either by their expert knowledge of modern machines, or by practical trial of machines of various sizes on a steep hill, would, having due regard to the difficulties of the course to be covered, definitely fix speeds for three or four machines of different engine capacities, which speeds they would consider should be attained on lowest gear by these machines. From these three or four points a curve would be plotted connecting engine capacity with minimum all-out speed on lowest gear so that this speed could be at once obtained for any machine.

For the sake of example, 25 m.p.h. might be fixed as the minimum all-ont speed on lowest gear for a machine of 500 c.c., 32 m.p.h. for one of 500 c.c., and 40 m.p.h. for one of 500 c.c., and

1,000 c.c. A curve would Z then be obtained something like the sketch herewith. A different bacurve would be barrived at for Hg

arrived at for 150 to 160 to 1 Before the start of the trial all

trial all competitors would be electrically imed over a whort urlong or other hort distance at

heir fastest speed on lowest gear. These speeds would be oted, and any competitor who did not attain the minimum Hout speed on lowest gear as fixed for a machine of his ugue capacity would be disqualified.

At the end of the trial, which should contain several really

250 500 750 ENGINE CAPACITY IN C.C.

1000

0

tiff hills, but no freak surfaces, and also a high speed test i possible, a certain number of machines would perhaps have all marks for reliability, general condition, etc.

The winning machine would be the one out of the above number for which the fraction

Actual all-out speed in lowest gear in timed test Minimum all-out speed in lowest gear as fixed

worked out to the greatest figure.

Thus, reverting to the figures given above, a 500 c.c. machine which did 36 m.p.h. in its low gear speed test would be beaten by a 250 c.c. machine which did 30 m.p.h., both machines having obtained full marks for reliability, general condition, etc. As for the former, the deciding factor

would be $\frac{36}{52} = 1.125$, and for the latter $\frac{30}{25} = 1.2$.

It will be observed that in the foregoing no account is taken of the weight of the machine. The reason for this is that it is assumed that the conditions of the trial, coupled with the reliability, general condition, etc., tests, should be so framed as to weed out any machines not strongly enough built or equipped with light and shoddy fitments or accessories. Light sound machines would be directly encouraged owing to the fact that they could carry a higher gear than their heavier companions, and hence put up a better speed in the low gear test.

It may be thought that fixing a minimum gear ratio

dependent on engine capacity would give as satisfactory results in a much simpler manner, but a little consideration will show that this would probably encourage the slow-speed engine which takes a high gear at the expense of the high-

It will be noticed that if a curve of the nature indicated above was once fixed by competent authorities, by merely deciding a minimum all-out speed on lowest gear for one size of engine and altering the scale of m.p.h. accordingly, this curve could be used for trials of varying severity.

With regard to the practical difficulties that arise over

obtaining the gear ratios required for any trial, it would seem that on the average three-speed machine a suitable chain sprocket might be fitted to give the lowest gear required, on second for solo machines, and on first for sidecar machines. In the former case, the operating mechanism would be sealed so that first speed could not be used. In the case of variable gear machines, once the required lowest gear is decided on the mechanism operating the gears could probably be sealed so that it could not be used to obtain a lower gear.

lower gear.

There are undoubtedly various objections to the above scheme for "finding a winner," and probably far sounder methods can be thought out; but if any alteration can be brought about so that a machine, equal to the present-day machine in power but of lighter weight, is definitely encouraged, I for one at least will consider it a step in the right direction.

F. P. DICKSON.

Sir,-Your columns have recently contained suggestions as to the 1920 A.C.U. Six Days Trial. It has been advocated that the test should conclude with a speed trial at

This may have much in its favour, but, after all, a track test, while searching as regards the engine, does not prove a great deal as regards the clutch, gear box, and in the case

of sidecars, chassis design.

I should like to suggest, as an alternative, a test of the

following description:

Assuming the trial to be held in the Newcastle-on-Tyne area, there is within forty miles or so of this city a section area, there is within forty miles or so to this city a section of country which, in about sixteen miles, contains four real test hills. Two of these are, practically, what may be termed "low gear" hills, and another is a grind, about three miles in length, which rises from 900 feet above sea level to 2,000 feet. Include this section in the last day of the trial. Take each competitor's time when he enters, and what he leaves the certified. and when he leaves the section. Allow sidecars about fiftyfive minutes and solo machines about forty-eight minutes for the section. Deduct numerous marks for every minute in excess of these times, and also for failure on any of the hills, which should be under observation, and the problem of "find the winner" would be almost solved.

Petrol consumption should also, in respect of the whole . of the trial, carry much weight.

As a plea for the standard machine, may I suggest that none but teams of standard machines be allowed to enter for C. J. LEATHERBARROW. the team prize.

CURRENT CHAT REE



Gimes to Light Lamps.

	GRE	ENWICH	Tim	10	,
Feb.					p.m.
,,	28th			6.3	٠,,
Μar.				6.7	,,
,,	3rd			6.10) ,,

Hard Luck.

S. Parker, one of the Norton team, as, unfortunately, prevented from was, unfortunately, prevented from starting in the Paris-Nice Trial owing to the contraction of a severe cold whilst in Paris. This was, indeed, unfortunate, occurring thus at the eleventh hour.

Locality for Garage?

Two demobilised R.A.F. fitters (Fitter-Two demonlised it. A.F. ntiers (ritter-Sergt and Sergt.), with pre-war experi-ence, wish to start a garage and repair shop, and would be glad to hear from readers of a locality where such is needed. Letters addressed to Engineer, c/o Editor, will be forwarded.

47th (Lon.) Div. Sig. Co. R.E.

The D.R.'s propose celebrating the anniversary of "going out" by a reunion dinner on March 13th. Will any D.R. who was attached to the section, and who has not received notice, please write to Mr. J. C. S. Richardson, 8, Cemmaes Terrace, Hemel Hempstead, Herts?

Institution of Automobile Engineers. Mr. P. J. Worsley will read a paper, entitled "Gears and Gear Cutting," on Wednesday, March 3rd, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.1, at 8 p.m. Application for cards of invitation should be made to the Secret.ry, Institution of Automobi e Engineers, 28, Victoria Street, London, S.W.1.

Transport Difficulties.

Owing to the refusal of railway companies to deal with motor cycles and sidecars, some of the Belgian competitors in the Paris-Nice Trial were not able to reach Paris.

Price of Petrol.

The Anglo-American Oil Co., Ltd., amounce the present retail prices of their leading brands of motor spirit as follows: Pratt's Aviation spirit, 4s. 0½d. per gallon; Pratt's Periection spirit, 5s. 8½d. per gallon; Anglo's Taxibus spirit, 3s. 62d. per gallon.

The Auto-Cycle Union, realising how hardly motor cyclists feel the ever-increasing cost of motor spirit, is cooperating with the A.A. and M.U. in presenting to the Prime Minister a mon-ster public petition urging the Government to take steps to create independent sources of supply and distribution of home and Empire-produced motor fuel. Motor cyclists will, we feel sure, recognise the "friend in need," and, by signing the petition in their tens of thousands, help this movement to combat what is becoming an insufferable burden, a burden which not only increases the cost of their pastime and business, but directly affects the general cost of living.

All members are being circularised, and additional Petrol Petition Forms may be obtained from the secretary, Auto-Cycle Union, 83, Pall Mall, S.W.1.

Special Features. PARIS-NICE TRIAL REPORT. OVERSEAS NOTES. HOUSING A SIDECAR.

Co-operation of Associations.

In connection with the public petition (organised by the Automobile Associa-tion) to the Prime Minister, on the subject of the exorbitant price of petrol, is addition to the Auto-Cycle Union, the following bodies have already signified their co-operation and support:
United Kingdom Commercial Travel

lers' Association.

British Engineers' Association.

Association of Factors, Merchants and Importers of Leather Hides and Tanning Materials, Inc.

National Union of Vehicle Workers. British Electrical and Allied Manu facturers' Association.

Federated Home-grown Timber Mer chants' Association.

Beach Racing in New Zealand.

At a time when British motor cyclist were thinking of Christmas dinners and blazing hearths, the Pioneer Motor aud Sports Club, of Christchurch, New Zea land, were holding a very successful race meeting on the Brighton Beach. The results of this event were as follow:

MILES SIDECAR HANDICAP (OPEN).
 F. Haworth (7 Harley-Davidson), scratch.
 F. V. Thomas (3½ F.V.T.)
 Time, 23m. 35js.

8 MILES SOLO HANDICAP (PRIVATE OWNERS), 1. R. L. Kennett (7 Harley-Davidson), acratch. 2. J. V. Buchanan (7 Indian), 70s. Time, 12m. 41s.

8 MILES SOLO HANDICAP (OPEN).
1. R. L. Kennett (7 Harley-Davidson), scratch.
2. A. Morland (7 Excelsior), 70s.
Time, 7m. 40s.



Prince Albert and Prince Henry are enthusiastic owners of motor cycles. The Princes are here seen starting up their Douglases after attending a lecture at Trinity.

MOTOR (YCLE

As Usual,

Most of the daily papers have reported the Paris-Nice Trial as a race and gave the credit to an American machine as having won because it was the first to arrive at Nice.

20th Squadron R.A.F.

It is proposed to hold a reunion dinner in London. Will all past members please communicate with J. A. Hone, 23, Palmerston House, Old Broad St., London, E.C., who will inform them when defi-nite arrangements have been made?

The British Industries Fair.

The British Industries Fair, held concurrently at London, Birmingham, and Glasgow, opened last Monday. Upwards of seventy manufacturers in the motor cycle industry are exhibiting at the Birmingham section, which is housed at the Castle Bromwich aerodrome. Yester-day, Sir Alfred Mond, on behalf of the Government, held a reception at Olympia to the foreign visitors, when the Right Hon. Sir Auckland Geddes, K.C.B., M.P., President of the Board of Trade, received the guests.

T.T. and the Trade.
In addition to the Triumph Co., several In addition to the Frumph Co., several other leading manufacturers are not supporting the Tourist Trophy Races this year. Among them are the B.S.A., Zenith, Ariel, Velocette, Precision, Indian, and Rudge.

Mr. V. Holroyd, of Rudge-Whitworth,

Ltd., informed us that, owing to the fremendous difficulties with which manufacturers have had to contend as a result of the moulders' strike, the loss of production entailed by the concentration of a staff of experts on preparation for the race could not be faced under existing trade conditions.

It will be remembered that Mr. C. G. Pullin won the 1914 Senior Race on a Rudge-Multi, and it is therefore of more than passing interest that the makers of this machine will abstain from the 1920 competition.

Have you Signed the Petrol Price Petition?

Colmore Cup Trial.

The Colmore Cup so far has always been won by a rider having a single syllable name. In 1911, W. D. South (Scott): 1912, Frank Smith (Clyno); 1913, W. B. Gibb (Douglas); and 1914, Norman Lea (Lea-Francis). Seventy entries have been received for this year's event, and no less than thirteen teams will compete.

The "Y" Spring Fork.

The "Y" spring rork.

The "Y" patent spring fork described last week is the invention of Mr. S. J. Young, late works manager of the F. Aslett Coulson Engineering Co. Mr. R. S. Whaley, of the Patent Spring Fork Co., draws our attention to this fact, and also that his concern is manufacturing the fork in conjunction with the "Y" Engineering Co., of 1, Machise Road, Kensington, with which Mr. Young is associated.

Clubs Co-operating in South Wales.

Three South Wales clubs are co-operating in their competitions this year. clubs are the Carmarthen and District M.C. and C.C.C., the Welsh Auto and Swansea Valley M.C.C. In addition to the open speed event allocated to the three clubs by the A.C.U., which will be held in August, the clubs intend to run six competitions, open to members of the three clubs. This decision is the result of an inter-club conference held recently in Swansea, when a committee was formed consisting of three officials of each club.

Owing to the very cordial relations existing between the clubs, the scheme should result in South West Wales having seven well organised and well-supported events for 1920 which are quite distinct from purely club events.

Eighty were present at the inter-club dinner that followed the conference.

Petrol Prices Protest.

The petition to the Premier, organised by the A.A., against the high price of petrol, has been strongly supported everywhere in Great Britain. Within twenty four hours of the distribution of the petition forms over 10.000 signatures had been received by the A.A.

At a largely attended meeting of the Council of the Federation of Grocers' Associations, held at St. Pancras Hotel, last week, a resolution was passed unanimously pledging the Federation to giving their full support to the petition, and resolving that a copy of the petition should be circulated to each individual employee, asking him to secure nineteen other signatures besides his own.

When it is realised that the Federation employ some 160,000 persons, the support of the Federation should mean a minimum of at least 1,000,000 signatures to the Automobile Association's petition, apart from all other sources. From the point of numbers the petition should be a great success.

The London-Land's End Trial at Easter.

The route of the M.C.C. Easter competition to Land's End has now been decided. The start will be from the Berkeley Arms Hotel, Cranford Bridge, Hounslow, at midnight, Friday, April 2nd. Arrangements have been made whereby competitors may obtain supper at the hotel from 8 p.m. onwards.

at the hoter from 6 p.m. onwards. From Hounslow the route will bes via Maidenhead, Reading, Marlborough, Devizes, Bridgwater, Porlock, Lynton, Barnstaple, Launceston, Truro, Penzance. The breakfast stop will be Bridgwater, and luncheon will be taken at Launceston

Competitors for the Jarrott Cup and other cups must climb Porlock and Lynton without leaving the saddle or having a wheel stop.

The course is of a very sporting nature, and no doubt it will attract a great number of entrants from the club's large membership, the event being for members



Blizzard in Yorkshire last Sunday. A Sheffield rider's B.S.A. on Owler Bar.



ACROSS FRANCE IN FOUR DAYS.

From Paris to Nice over Atrocious Road Surfaces. Magnificent Scenery on the Esterels and Riviera. 45 Survivors of 69 Starters. British Machines Prominent in the Results.

FIRST DAY. — Paris-Montgéron (start), Fontainebleau, Sens, Auxerre (lunch), Montbard, Val Suzon, Dijon. (193 miles.)

HITHERTO the annual Paris-Nice Trial has been regarded as an enjoyable cross-country trip appealing to private owners. That was the case in the trials held in 1913 and 1914. Put this year's competitors had quite an eye-opener. Long daily distances over varying road surfaces, sometimes atrocious and quite as bad as some of those encountered in the war zone, coupled with the time schedule, robbed the event of interest from the viewpoint of the pleasure seeking amateur.

In short, the trial, which lasted four days, proved a strenuous one. Some consolation was obtained from the magnificent scenery, particularly near the Franco-Swiss frontier, on the second day, and also approaching the Côte d'Azur. The Riviera itself formed a delightful change from our English climate. No fewer than twenty-four starters never reached Nice, their experiences being rélated hereafter. So bad were the roads, generally speak-ing, that several successful competitors, who had intended riding back, abandoned the idea and came home by train. Another year, if the event is to continue to attract the private owner as an enjoyable method of spending ten days' holiday, the daily distances must be cut down, and good average roads chosen. Frame fractures hundreds of miles from home are no joke, particularly to an amateur. No such contretemps would have been experienced had it been possible suitably to adjust the pace to the state of the road surface.

The Early Stages of the Run.

In the last issue of The Motor Cycle we described the atrocious road surface and paré from Paris to the official starting point at Montgeron. Very wisely this stretch had not been included in the early morning start in darkness, but it nevertheless acted as a foretaste of what was to follow, and Parker (Norton), who was

suffering from a chill, elected not to start. Every hotel in the village was crowded, three or four occupying each bedroom, which became the usual order as the miles were left behind.

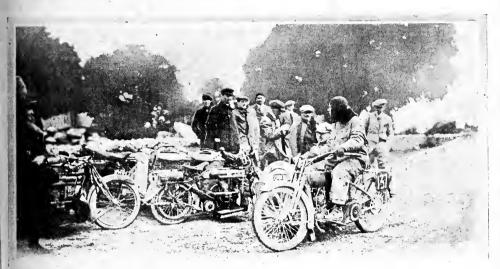
Motor cyclists, car owners, and countryside spectators were much in evidence at the start, with which was associated the usual hubbub and excited conversation of non-competitors, who would persist in calling it a race. The names of the sixtynine starters were given in our last issue.

Pot-holey roads at the outset damped the spirits of those who have been trained to regard the roads of France outside the war zone as superior to any in the world. Heavy transport lorries and fast cars have contributed to cut up the surface, and jolts and jars were the rule. Just before the first control at Fontaineblean (40 kilometres) we caught up Max C. Moriss, the frame of whose machine had snapped clean through at the down tube, the engine and the front of the side-

car resting on the ground. Mr. and Mrs. Moriss were fortunately unburt, though the machine slithered along the ground to the extreme left-hand side of the road. Guignet (twin G.L. sidecar) suffered the experience of the left handle-bar breaking clean off, evidently due to a flaw, but with the throttle control on the right bar he pluckily continued without hesitation. Fontainebleau was the first of the numerous time controls. Passing the magnificent Château of Fontainebleau on our left we turned along the Sens road, appreciating once again the splendidly elear signposts and kilometre stones of France. Uren (Edmund-Jap) was passed later pushing his machine in an endeavour to start, but without success. Hereabouts on the good road to Sens, a Grand Prix racing Itala car swept past us at a good mile a minute. Naas (A.B.C.) was early in trouble, which perhaps is not surprising, as the three machines were only finished the night previous to the



Two of the winning team in the Paris-Nice Trial, Captain C P. Wood and W. L. Guv (34 h.p. Scott machines) traversing pavi



At the summit of Mont Agel competitors were entertained to tea by the Nice Golf Club. Our photograph shows a group of competing machines outside the golf club house.

start, and were scaled but a few hours before the trial began. Auxevres was the appointed place for lunch, the machines being parked in an enclosure in the open square, and inspected by an interested crowd.

Over Undulating Roads.

Then followed a run over open moorland roads with many a twist through the Morvan district in the Côte d'Or, where occasional stragglers were encountered, though for the most part the competithough for the most part the competi-tors ran regularly; indeed, most of the marks lost by the riders were for arriving too early at controls. Owing to a mis-miderstanding of the rules, the riders contested this. Dupuis (B.S.A.), with his wife in the sidecar, was delayed by is when the speed, we there is broken front spindle, but, having a spare, he fitted it, and his pace theretiter was astomating. The smart discreticeled Bedelia was held up temporarily a broken belt hereabouts.

Montbard was the point selected by Dr. Low for his audiometer tests, which istrument had been conveyed by W. oode aboard his Hispano-Suiza saloon.

Before reaching Val Suzon, the non-top section, there were many miles of leserted roads reminiscent of the Yorkbire moors, and as darkness was pproaching those in the rear of the rocession had to light up. We ourselves sperienced trouble, and were among the il end of the procession as a result, lough we were able to pick up the ragglers and learn their troubles. Notithstanding the quick descents and sinuus nature of the course, several French ders actually continued without lights—
remarkably dangerous procedure for temselves and other road users, but the

iles of the road in France are notoriously ose.

The official cars were delayed by trouble on several occasions, one stopping finally on the first day with a burnt-out big end. There was not a competitor who was not delighted to reach Dijon that evening, after a tiring run of 287.6 km; Nine riders failed to report at the finishing control that evening, and no fewer than twenty-eight had marks deducted.

Naas (A.B.C.) was towed into Dijon by a Douglas rider early on Saturday morning, and on the tramlines executed a hair-raising skid at the end of the rope affixed to his machine. The risks the French riders run are amazing! Isodi (Stucchi) also arrived a day late, but his confrères on other Stucchi machines are making an excellent impression.

SECOND DAY .- Dijon, Châlon-sur-Saône, Macon, Bourg, Nantua (lunch), Meximieux, Lyon. (1853 miles.)

Once again in the dark, and fortified only with café and a roll, the sixty odd competitors set out from Dijon on Saturday. To-day the road surfaces were better, and the scenery in parts magnifi-cent, with an impression of Switzerland as the Juras, the footbills of the Alps were crossed. Several went off the course, but managed to regain the correct route. Brunell's two stroke Triumph and Greenwood's two-stroke Connaught are the surprise of the trial, for they run most regularly and have climbed all hills with ease. The Connaught is a 1914 with ease The Connaught is a 1914 model, with Armstrong three-speed hub gear. The Scott rider's team is complete, also the Sunbeam, and Harley-Davidson men are runing like clockwork. One can well believe already that the team prizes are to be closely contested.

Rex Mundy's 5½ h.p. Rover is going extremely well; but, curiously enough, his French passenger speaks not a word of English, and Mundy admits that his French vocabulary is extremely meagre!
Their signs, signals, and grimaces are,
consequently, distinctly amusing.
The twin-cylinder disc wheel Biéricts

have been suffering tyre trouble, but their riders seem to have no feeling for bumps when the moment arrives to make up the road became very trying.

At Premeaux we caught up Major Empson, at first imagining that he had suffered a horrible accident, for we saw in the distance his A. V. monocar on its side. Closer investigation, however, showed that he had turned it over intentionally in order to fit a new rear spring, the original one having broken. Many hours later he caught us up, and continned to the end.

time to the end.

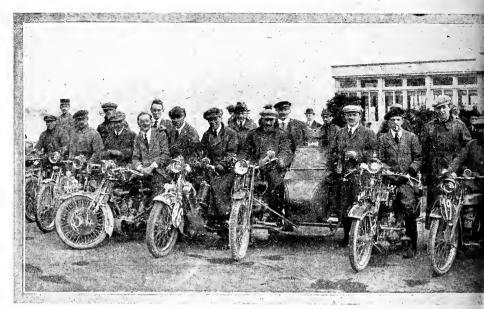
M. Psalty, with Mde. Psalty in the sidecar of his single-cylinder Rover, is putting up a plucky performance, and is continuing with a broken chain stay supported by straps. Hitherto the course has not proved severe, so far as gradients are concerned.

A Real Hill-climb.

The first real test hill of the trial came to-day after Bourg, four miles of 1 in 10, stiffening to 1 in 8, being observed. Kaye Don (twin Zenith) thoroughly enjoyed himself on these ascents. On the corresponding descent of the Berthian M. Gaston Sweerts warned the competities of an impending brake test. The per-

or an impending prace test. The performances generally were good.

Just before reaching the brake test, at one of the numerous turns Pletsier (Harley-Davidson sc.) overturned while trying to avoid a wall, and managed to



throw his passenger clean over it. Both got up again undamaged and resumed, but the sidecar frame had been badly strained, as subsequent experiences proved.

The weather was getting noticeably warmer as the trial progressed further South, and the limestone roads threw off much dust. Sreame Fenton (A.B.C.) stopped finally with piston trouble, and Fred Dover (Triumph sidecar) failed to arrive at the luncheon stop owing to a broken sidecar frame.

Some of the other machines were already showing signs of battering, for sidecar passengers were in two cases observed carrying the mudguards of their sidecars. Towards Lyons, the end of the second stage, the road surfaces deteriorated again, and the one topic of conversation that evening was the unexpected severity of the trial, the miles of tram setts encountered on entering Lyons providing the finishing touch to a strenuous day. Quite a large crowd welcomed the arrivals, the buzzing Scotts greatly attracting the attentions of the Lyonnais. who are great admirers of the English. The Moto Club de Lyon is an active body of enthusiasts, who gave the riders a very hearty welcome during the evening.

THIRD DAY.—Lyons, Serrières, Valence, Avignon (lunch), Orgon, Salon, Marseilles. (205½ miles.)

Whatever the riders thought of the two previous stages, the third day was infinitely more difficult. Resuming in the pale monolight, competitors remaining set off for Valence by the road on the right bank of the river Rhône. Starting from the train (Frinius, a Blériot carburetter caught alight, one of the A.B.C.'s having also caught fire momentarily en garage.

It was cold and misty—far colder than hitherto—and when actually in the Rhône valley the mist and awful roads rendered a 19 m.p.h. average somewhat risky. The riders were soon, too, enveloped in frost, the whole countryside being covered with a white mantle of hoar frost. But the roads! Words can hardly describe the ruts and pot-holes. It is no exaggeration to say that many were a foot deep. Passing competitors was next to impossible, and yet the sidecars scurried along maryellously well.

The outskirts of Lyons formed a test in themselves. Brunell, who had spent an uncomfortable night (since Dover was carrying his night apparel and had failed to turn up), preferred to ride between the tram lines as most others did, but, when after some distance the track sud denly veered to the right-hand side of the road, and a questionable macadam surface appeared, he elected (in the dark of course) to continue along the lines, and, as a result, his front wheel dropped into a deep square gap between the rails and buckled the wheel. Brunell was precipitated over the handle-bars, but, providentially, he was unhurt, though his front wheel was crumpled up beyond repair. A minute later Chapman (Morgan M.A.G. Runabout) almost repeated this performance, but Brunell yelled out in time to enable him to bring his runabout to a standstill a bare foot before the chasm! This Morgan, the only one in the trial, is standing up remarkably well, though one acquainted with the roads would pronounce a three-tracker to be an impossible vehicle under such conditions.

That Never-to-be-forgotten Rhône Valley

Soon we caught up Rutherford (Sunbeam) repairing his second puncture, which put him sixty-five minutes behind

SURVIVORS OF THE PARIS-N

Among the competitors, reading from left (Zenith), J. Baker, Wood, and Guy (Scotts), (Diamond), Columbel (Douglas). Brunet (Bl (Sunbeams), M



Arriving at the Riviera each competitor's act with the palms and



IP ON THE PROMENADE DES

Pinney, Ringot, and G. Hill (Triumphs), Don auné (Matchless), Newman (Sunbeam), Milner ar), M. Hamon (judze), Gillies, T. Rutherford sell King (Scott)



NTROL

mosa, so that the group on the promenade.

time, but he nevertheless managed to catch up again. P. W. White (Sunbeam sc.) and Douglas Hawkes (A.J.S. sc.) have been noticeable for their consistent and quiet running, and their machines have so far stood the gruelling in a wonderful way. Before Givors we over-took several riders who were ahead of time and resting, but it was a relief to every man when, chilled to the bone, that never-to-be-forgotten Rhône Valley, with its enormous pot-holes and ruts, was left behind at Avignon. Before the lunch stop at the last-named town we caught up d'Argollo (American Excelsior). who had run out of petrol and was beginning to think that all was lost. His We sent him on his way rejoicing, and received his grateful thanks. Incidentally; it should be remarked that the petrol arrangements throughout were excellent, and no difficulty was experienced in ob-taining supplies, the price varying in our case between 6 frs. 50 c. and 9 frs. per can of five litres (about one gallon), which is cheaper than in England at the present rate of exchange. The Imperial team complete, Mundy The New Hill (Triumph), the G.L.'s, Sunbeams, New Imperials, Scotts, and Nortons were as usual well up to time at the luncheon check.

French Summertime Commences.

On approaching Avignon, magnificent views were obtained. The competitors passed beneath the fine Château of Villeneuve, and from the bridge first saw and then passed through the wonderfully preserved walls of Avignon.

At this point we overtook Barthélémy (3½ Rover), who has ridden most regularly throughout. Dubost and Dupont of

the two-stroke Moto-Solos are also most consistent performers among the French riders.

By five-thirty (Sunday was the first day of French summer time), all the survivors were through Salon, the usual crowd welcoming the competitors at the control. Punctures, as usual, were a feature of the closing stages until arriving at Marseilles. At the sea port the paré and tramlines caused several falls but no serious damage, though the front sidecar spring of Hawkes's A.J.S. broke, rendering the going uncomfortable for his wife. G. Hill (Triumph) broke his rear spindle, but undaunted earried on to the end, though his back wheel had quite half an inch of play.

The manner in which the French iders of the Harley-Davidsons, Indian, and Excelsiors blaze along, stopping every now and then to touch up any necessary parts, is an indication of the keen competition existing between them. On one occasion we were travelling at 40 m.p.h. when a Harley sidecar easily passed us in a huge cloud of dust. A French rider whose consistent running has evolked general praise is E. G. Féry (4 Douglas sc.). Féry speaks English fluently, having spent a long time in this country. He has a cork leg, the result of an accident at Brooklands fourteen years ago, but as a private owner he manages his machine with remarkable dexterity. Columbel on a 23 Donglas is riding equally consistently.

One of the 1920 French models, the Benoit-Gonin—the driver of which was kissed on both cheeks on arrival at Lyons, where the Benoit-Gonin works are situated—is going splendidly. The Moto-Solo two-strokes are also splendid little

Motor Ccle

The Paris-Nice Trial .-

lightweights, judging by the way they keep up to time. Rex Mundy finished the day's run with straps supporting his chain stay and sidecar lug, which had snapped, whilst Psalty (Rover) had made a splendid roadside repair to his sidecar spring with a shackle and yards of insulation tape.

FOURTH DAY.—Marseilles, Brignoles, Fréjus, Estérel, Cannes (lunch), Antibes, Nice, La Turbie. (140 miles.)

A daylight start was enjoyed on the last day—probably the most interesting stage of all from a scenic point of view. The early portions, as on previous days, were over atrocious paré, and miles of it, too. Pitfalls everywhere awaited the nuwarv.

Not an hour after leaving Marseilles, Victor Horsman, whose performance on a Norton has not received special mention so far simply because be has run consistently throughout and been on time at all controls, discovered that he had left his money in the hotel bedroom at which he stayed. He promptly wired the manager, and it is to be hoped that he may recover the large sum he had with him. His stable companion, Harold Petty, was unlucky in another way. On one of the turns eight kilometres out of Marseilles, he encountered a car, and in the tight corner he found himself adopted the English rule of the road and swerved to the left. As a result he collided violently with the car and suffered a broken nose. Several British riders stopped to render assistance, and he was taken on the car to a doctor. His machine was badly damaged. The going improved towards Brignoles, but here Fery (Douglas sc.) was late, and lost four marks, having stopped to adjust a tappet, whilst Pletsier (Harley) was late owing to a broken indexar coupling. Hawkes also found a fracture in the sidecar frame, his

wife consequently adopting an uncomfortable seat on the carrier.

On the Esterel Mountains.

Outside Le Luc, Milner (Diamond-Jap) broke a valve spring, was some time tracing the trouble, and then could not remove the spring. He lost much time, yet stuck on gamely, but in endeavouring to make up time on the descent of the Esterels, he fouled a corner and he and his machine turned three somersaults, so he told us. The forks were bent and rubbing the tyre, the mudguard crumpled so badly that he had to remove it, but, not to be beaten, he carried on to the end, only to miss an arrow at the top of La Turbie. Near the beautiful Esterel mountains the scenery was superb and the gradients long and tiring, though beautitully engineered, and not really steep. There were no failures and the test provided proof of the fact that the riders generally possessed abundant engine power, and it was only the execrable roads which were serving to swell the casualty list. The descent of the Mediterranean side was more rapid. Fréjus, Psalty punctured and found seven holes caused by a pin in his spare tube, which he had hitherto carried in a coil on the handle-bar.

On the handle-bar.

Nearing Cannes, glimpses of the blue Mediterranean were observed, and the competitors' spirits obviously rose several degrees. Entering Cannes, a long procession of cars—many British—were encountered. We passed Grapperon (Blériot) with a seized engine. A goodly crowd had assembled on the promenade to greet the hungry riders who had survived 6½ hours' riding on coffee and a roll. Machines and riders were promptly decorated with beautiful mimosa. Can it be wondered that lunch was welcome? The surroundings were brilliant to the tired riders, though the sun made but fitful appearances through the clouds. No rain had so far been encountered, nor was it until the last five miles of the trial.

Along the Côte d'Azur.

After lunch the road ran along the sea front to Nice, past glorious and sweetsmelling flower beds. Orange trees were abundant. But the end was not yet, for an ascent of the sinuous La Turbie and on to Mont-Agel was arranged with a slow and fast hill-climb. It was extraordinary and only typical of French rules of the road that the riders were allowed to race up while cars descended. Capt. Wood (Scott) encountered a car-during his timed ascent, and was forced into soft gravel and fell—but neither machine nor rider was hurt. Baker also touched Rex Mundy's Rover, but with no untoward result. Surprisingly fast ascents were made, the engines, apparently having lost little or no power, picked up immediately after rounding the hairpins.

Magnificent seascapes and panoramas of the Esterels from the Alpes-Maritimes were obtained from the top, where the riders were entertained to tea, as in the 1914 trial, by the Nice Golf Club. After a considerable wait, what time a huge but impatient crowd awaited the fina arrival of the competitors on the Nice promenade, the machines were parked in the fine new Atlas Garage.

The competitors, headed by Kaye Do (Zenith), arrived in a bunch, much to the enjoyment of the interested visitors to Nice, who saw the whole of them the second time in the space of a fee minutes. Of course, it was a race if French people's eyes, and even the manager of the Hôtel Atlantique, where we stayed, was more interested to know who had won than in the rooms for which we sighed, having had a total of ten hours sleep in four days. Truly, the competitors' lot was severe, but pity the journalists, whose lot is not easy, an who obtain no gold medals! But the run was worth it all. A tour from Parto Nice (preferably not too hurried!) surely the most delightful form of hold day imaginable.



Tom Gillies (3½ h.p. Sunheam), who was p'aced seventh in the general classification who succes. July completed the course

Detruche (3 h.p. French made A B.C :

MOTOR (YCLE

The Paris Nice Trial .--

BRAKE EFFICIENCY TEST.

A TEST of the brakes took place on the afternoon of the 17th inst. Before starting, competitors were allowed fifteen minutes in which to attend to their mounts. The way to the westernmost end of the Promenade des Anglais was led by M. Hamon, Dr. Low's fellow judge, and no one was allowed to pass

The afternoon was fine, but cold and vindy-in fact, not at all the kind which s to be expected on the Riviera.

Several incidents took place during the est. Don (Zenith) pulled up very martly, but the fact that he had his sipe in his mouth during the run much listressed the screent of police who kept he course, and he expatiated to us on he danger of such a procedure at great ngth. J. A. Newman (Sunbeam) ignored Il signals, and proceeded towards Mar-eilles at a rapid rate. Eventually, how-ver, he returned, and was allowed nother try. Greater misunderstanding as evinced by the gallant Frenchman ho drove the G.L. sidecar outfit over 700 tiles with a broken handle-bar, one half f which was missing. First, he ignored the signal to stop; then, at his second attempt, he stopped at the first line instead of the second; but the third time he did what was wanted. The performances are given in the tabulated list.

Silencers were tested as to their efficacy by means of Dr. Low's photo-electric audiometer at Montbard in the Côte d'Or and again at Nice during the brake test.

STARTING FROM COLD TEST.

DULL and rainy morning followed the arrival of the competitors at Nice, so the starting test took place in the huge garage.

Across the floor two tapes were stretched, and each motor cycle was wheeled by hand to the first one. At the word "go" the petrol had to be turned on, the carburetter flooded, and the engine started, either by means of the kick-starter or handle or by pushing. The time was taken from the word "go till the engine was firing properly. Most of the machines came through well.

Milner created great enthusiasm by making a quick start and vaulting with his feet on to the saddle. Don, who has no kick-starter to his Zenith and a damaged hand, made a brilliant start by pushing off.

Brunet's Blériot was badly gummed and refused to start. Pinney, whose Triumph was fitted with a special carburetter of his own, could not start.

TEAM PRIZE RESULTS.

TRADE TEAMS.

Mark-

 SCOTT (C. P. Wood, H. O. Wood, and W. L. Guy)
 HARLEY DAYDISON (I) (Verpault, Mulliman, and Plettier)
 TRUMPH (Pinney, Hill, and Gallie)
 G.L. (Gempertz, Guignet, and Lacour) SUNDEAM (Newman, Gillies, and Rutherford) Rutherford) ...
Hyuler-Davidson (2) (Collot, Bon-New IMPERIAL (Rigal, Horton, and Gisquet) .. 247.52 Gisquet) 247.72 ROVER (Psalty, Delabre, and Mundy).. 175.00 *Winners of the Coupe du Président de la Republique to the best team nominated b, a manufacturer.

CLUB TEAMS.

†Moto Club de France (Dubost, Barthélémy, and Delauné)

2. Touring Moto Club de France (Verpault, Pletsier, and Mulliman).

3. ILRLEY AND DISTRICT M.C.C. (H. O Wood, W. L. Guy, and G. Hill) CUMBERLAND COUNTY M.C.C. (T. Gillic, T. Rutherford, and J. A.

Gilio, T. Newman) MOTO CLUB PARISIAN (Etaye, Bernard and Sermeus)
† Winners of the Coupe de Petit Journal.

THE COMPLETE OFFICIAL PERHITS OF THE DADIS NICE TOTAL ADDANGED IN ODDED OF MEDIT

	THE COMPLETE OFFICIAL	RESULTS	OF THE	PARIS-N	ICE TRI	AL, ARR	ANGED I	N ORDER	OF MER	IT.
		Reha-		Non-	Hexi-	Brakes	Brakes	Starting	Spare	
Co	mpetitor's No., Name, and Make,	bility,	Silence,	stop,				from Cold,		Marks
		60 Marks	20 Marks	20 Marks	30 Marks	20 Marks	20 Marks	10 Marks.	20 Marks	Gained.
54.	KAYE DON (Zenith)	. 6o	13	20	13.7	20.0	3.0	5.22	20	154.92
	BARTHELEMY (Rover)		1.2	20	20.0	6.7	5.9	6.20	20	150.8
16.	W. L. Guy (Scott)	59	- 14	20	15.0	7.8	5.4	7.2	. 20	149.3
138.	VERPAULT (Harley-Davidson sc.)	60	1,8	20	12.7	11.8	3.2	0.43	20	146.13
53	I. Baker (Scott)		15	20	15.9	7.6	. 3.0	6.0	20	144.5
55.	E. CHAPMAN (Morgan)		15	20	9.1	13.0	4.3	2.64	20	144.5
	W. M. GREENWOOD (Connaught)		15	20	12.7	3.9	11.1	3 - 33	20	141.97
	T. GILLIES (Sunbeam)		1.4	20	10.3	8.5	4.7	5.47	20	139.7
	C. P. Wood (Scott)		15	20	16.3	9.8	5.6	- 8.2	20	139.6
	COLOMBEL (Douglas)		13	20	13.7	6.0	1.8	5.22	20	138.72
	BONNARD (Harley-Davidson sc.)		11	10.	13.7	7.3	3.1	3.87	20	137.97
18	Pinney (Triumph)	. 60	11	20	12.7	8.9	4.0	0 .	20	136.6
	Detruche (A.B.C.)		12	20	5-5	8.6	4.3	9.2	20	135.6
	W. D. HAWKES (A. [.S. sc.)		15	20	16.0	9.0	5.4	2.12	20 -	135.72
	Debay (Rover)		12	20	13.7	6.6	4.5	10,0	20	133.5
	Oblin (Enfield sc.)		10	20	10.9	3.8	2.8	7.2	20	133.7
	E. G. Fery (Douglas sc.)		13	15	8.3	8.9	1.0		20	132.7
	ETAVE (Indian sc.)		6	20	11.2 -		2.5	4·5 2.14	20	132.34
	MORET (G.L. sc.)		11	20		7.5			20	131.13
	A. Collot (Harley-Davidson sc.)		1		11.1	7.7 8.0	4.1	3.23	20	
	E. Dubost (Motosolo)		15	20	12.4	1	1.3	9.2	20	130.90
			12	20	9.0	10.4	3+7	5.10		130.2
	L. Horton (New Imperial)		II	20	10.4	6.4	3.9	3.33	20	129
	LACOUR (G.L. sc.)		1.2	`, 20	II.2	8.9	3-3	2.40	20	128.8
	V. Horsman (Norton)		10	20 .	17.4	7.6	5.I	6.97	20	128.0
	GUIGUET (G.L. sc.)		11	20	12.8	7.0	1.5	5.22	20	127.52
	P. W. WHITE (Sunbeam sc.)		11	20	11.4	6.6	2.9	3.40	20	125.3
	H. J. MULLIMAN (Harley-D. sc.).	**	16	20	8.1	8.0	7.6	7.79	20	120.49
	F. Gallie (Triumph)		10	20	14.6	8.5	2.9	6.97	20	117.17
	PLETSIER (Harley-Davidson sc.).		8	20	12.7	7.2	1.6	4.6	20	112.1
	G. Hill (Triumph)		13	20	16.2	8.9	2.I	2.84	20 .	100.01
	DELAUNE (Matchless sc.)		_ I 2	10	11.0	9.6	3.3	6.0	20	105.9
15.	SERMEUS (Sunbeam)		1.4	20	12.3	4.6	1.9	3.91	20	104.71
:5.	T. RUTHERFORD (Sunbeam)	• 3	13	20	10.4	6.8	3.1	6.57	20	98.97
1.4.	H. O. WOOD (Scott)	. 2	15	20	17.4	7.9	4.5	7.66	20	98.56 *
3.	NAAS (A.B.C.)	. 21	9	20	13.7	7.8	2.8	4.6	20	98.9
14.	REX MUNDY (Rover sc.)	. 0	12	20	10.3	8.4	20.0	4.90	20	95.6
ĮI.	A. DUPÓNT (Motosolo)	. 10	12	20	11.2	2.6	1.4	4.5	20	93-7
	F. DELAUNAY (Stucchi sc.)		12	20	11.0	7.8	5.9	5.35	20	87.05
10.	R. King (Scott)	. 0	13	20	13.6	4.0	5.7	0	20	86.3
I.	F. Gompertz (G.L. sc.)	. 0	11	20	5.4	6.6	7.7	6.0	20	85.7
0.	L. PSALTY (Rover sc.)	. 0	13	20	10.3	10.2	2.0	3.90	20	79 - 7
8.	R. Dupuis (B.S.A. sc.)	. 0	13	20	12.5	4.6	0.7	3.50	16	70.3
2.	M. Brunet (Blériot)	. 0	11	20	8.3	8.3	0.8	0	20	68.4
1 2.	A. Galien (Benoit-Gonin sc.)	0	13	L 5	9.1	6.1	0	2.92	10	51.62

A Sporting Afternoon Trial.

Severe Road Conditions in a Competition for the Longman Cup.

THE disappointingly small number of four competitors finished within reasonable time in the trial organised by the Ealing and District M.C.C. on Saturday last.

A sporting trial, indeed, the odds against which, the solo riders in particular, had to compete, constituted such a test for both rider and machine that but a few skilful riders survived. The starting and finishing point was at the Anchor Hotel, Ripley, from which twenty entrants were started by the

donor of the silver cup.

A route of approximately sixty miles was selected, which had to be completed non-stop, at an average speed of 20

NICE-LA TURBIE HILL-CLIMB.

THE results of the Nice-La Turbie hill-climb, held on Thursday morning after the conclusion of the Paris-Nice Trial, are as follows:

Motor Cycles.

		m. s.
1.	Agnero (Motosacoche)	7 17
2.	Wood (Scott)	7 53
3.	Mulliman (H.D.)	8 15

MOTOR CYCLES AND SIDECARS.

			u.	₽.
1.	Unia (Indian) .		10	24
2.	Rolly (Motosacoche	e) '	11	27
3.	Noret (G.L.) .		12	41

CYCLE CARS.

1. Maj. Empson (A.V.) 11 48\(^2\)
A record for the hill was set up by Aguero in 6m. 49\(^3\)
The challenge cup of the M.C. de Nice was retained by that body, the total time for the team (three riders) being 29m. 6s., and the challenge cup Martini Rossi was won by the Bradford Club team (two riders) in 17m. 11s. riders) in 17m. 11s.

N.M.C.F.U. (Coventry).

A meeting of the above will be held at A meeting of the above will be neid at the White Lion Hotel, Smithford Street, Coventry, to-night, the 26th, at eight o'clock. Business: Taxation and petrol. The opening run has been arranged to take place on March 28th, Newnham

Paddox.

Birmingham M.C.C.

Financially, this club is in a very satis-Final Clarity, this cities in a very sausfactory condition, having nearly £200 in hand for the coming year. At the seventeenth animal general meeting, held recently, it was decided that the subscription be raised from 10s. 6d. to 15s., and that no entrance fee for new members be charged. About twenty-five new members were put up for election, and a proposal to incorporate a light car section was rejected.

From the start a steady climb along a narrow track, with thick muddy surface, necessitated driving of a very careful

The steep gradients, combined with appallingly bad road conditions, began to comb out the number of possible finishers. The survivors seized every opportunity to open their throttles in order to make good their time in anticipation of further difficulties.

Passing through Peaslake, Pitch Hill was encountered, the hairpin corner situated about halfway up considerably reduc-ing the survivors. After negotiating two further difficult hills, the "star turn' of the run, Dunley Hill, was a verital riders.

A circuit round Ranmore Commo brought the competitors to East Horsle

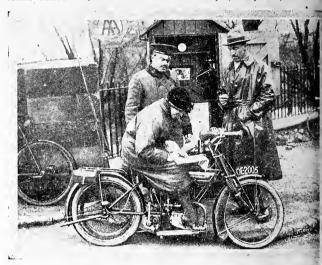
and thence back to Ripley. Unfortunately, this circuit upset may riders' sense of direction, and they co tinued to "blind" round the common The survivors to reach the Anchor Hoi within a quarter of an hour to time wer

Malone (Harley-Davidson sc.).

Tilt (Triumph solo).

Sharratt (Triumph solo).

Boya (Triumph solo).



The A.A. defensive. A scout obtains signatures for the petrol price protest. Despite the great economy of the Connaught, its fair owner considers it worth while.

CLUB NEWS.

Bournemouth and District M.C.C.

A general meeting of members is convened for 7.30 on Tuesday, March 2nd, at St. Ambrose Hall, Alumhurst Road. Bournemouth West, when it is proposed that the existing club be formerly wound up. A mass meeting of local motor cyclists will be held in the same hall at 8 p.m. on the same date, and will be presided over by Dr. George Frost, J.P. At this meeting it is intended that a new club and organisation shall be formed. All who are interested are urgently requested to attend.

Doncaster and District M.C.C.

It has been decided that a general meeting will be held some time in April, when it is hoped that all local motor cyclists will be present. The date will be announced later. Apparently there is a

lack of enthusiasm on the part of the members, which is most regrettable, view of the fact that in pre-war da the club was recognised as being one the most progressive in the North England.

Cambridge University M.C.C.

In the recent hill-climb at Croydon H B. A. Hill won the 600 c.c. Class on 4 h.p. Triumph in 30s.

North London M.C.C.

Although formed quite recently, club has made excellent progress, ands club has made excellent progress, and mow firmly established. Members a reminded that the opening run tablace on Sunday next, after which paperchase has been arranged for Mall4th, to be followed by a run of Stevenage on March 28th. Club News .-

Essex M.C.

On March 27th, an open hill climb, for motor cycles, will be held. All information may be obtained from the hon. organiser, Mr. E. J. Bass, Bishop's Stortford, Herts.

Hastings M.C.C.

An enthusiastic committee has been An enthusiastic committee has been elected for this recently-formed club, with Mr. Laurance Lyon, M.P., as president; Councillor A. Blackman, J.P., und Mr. J. F. Martin as vice-presidents, und Mr. F. E. Thomas as hon, secretary.

East Lancashire M.C.C.

Tickets for the annual ball, which is held in the Co-operative Hall, Fown Hall Street, Blackburn, on March the man street Backburn, on March the man be obtained from any member of the committee, or from the hon-ceretary, Mr. W. G. Guest, 9, Exchange street, Blackburn. The annual general neeting will be held in the Banquet toom, at the Old Bull Hotel, this evenng, at 7.30, when a most attractive rogramme for the year will be subnitted. To this meeting all intending nembers are invited.

Coventry and Warwickshire M.C.

A committee meeting was held on the 7th inst., Mr. V. A. Holroyd presiding, t was decided to hold the opening run a March löth, and that the date of the anual meeting be announced at a later ate. Mr. Holroyd, who was one of the nunders of the club, and who has acted chairman for many years, reluctantly unded in his resignation, owing to the ct that it is impossible for him to attend eetings called for the evenings. Mr. G. .. Roberts, one of the oldest members, as elected chairman in place of Mr. olroyd, and Mr. Norman Rycroft, 48, roadway, Earlsdon, Coventry, ected hon, sec.

A Conference of Welsh Clubs.

The Welsh Auto and Aero Club and e Ystalyfera and Carmarthen Motor rcle Clubs, all affiliated to the A.C.U., ld a conference at Swansea on Thursy, February 19th, when it was nounced that they had been granted a licence of the A.C.U. for open speed als, to be held between August 14th d 21st at Pendive. An executive com-ttee was appointed, and it was decided tt each club should run two events en to the other clubs. A letter was eived from Mr. Ivor L. Roberts, of ansea. offering the Welsh Auto and ro Association a silver challenge cup the best performance throughout the The offer was accepted with

New Barnsley Club.

lotor cycling enthusiasts of Barnsley district assembled on the 16th inst. decided to form a club, to be called Barnsley M.C.C.. Over fifty mems have already enrolled, and the Com-tee have been elected. A smoking cert was held on the 17th inst., foled by a meeting, at which a pronged. Any interested motor cyclists requested to communicate with the secretary,- Mr. Claude H. Gray, gate, Barnsley.

MOTOR (YCLE

Future Club Events.

Future Club Events.

6. Bondary and Faterit M.C.C. Annual General Meeting.

Feb. 26.—Bondary and Event M.C.C. Annual General Meeting.

Feb. 27.—NuNC.F.C. (Ratherham), Meeting.

Feb. 27.—Public Schools M.C.C. Committee Meeting.

Feb. 28.—Fublic Schools M.C.C. Committee Meeting.

Feb. 28.—Nullengibler and District M.C. Asnual Committee Meeting.

Feb 28.—Nullen Coldheld and N. Birmingham A.C. "Victory Colmore Cup Triol.

Feb. 28.—Nullen Coldheld and N. Birmingham A.C. Annual Meeting Meetingham M.C.C. Annual Meetingham Meetingham M.C.C. Annual Meetingham M.C.C. Annual Meetingham M.C.C. Annual Meetingham M.C.C. Annual Meetingham Meetin

Mar. 2.—Ealing and District Man. Annual District Nature, Curendon Restaurant, Hummer-smith Nature, Curendon Restaurant, Hummer-smith Nature, City Hotel.

MAR. 6.—GL. ISGOW WESTERN M.C.C. OPEN Restaurant, Mar. R.—GL. ISGOW WESTERN M.C.C. OPEN Nature, Contested the Holborn Restaurant and Mar. 7.—Lecks and District M.C. Mr. Water-Mar. 8.—Binniphum M.C.C. Pantomime Night. Mar. 8.—Binniphum M.C.C. Pantomime Night. Mar. 9.—East Lancashire M.C.C. Annual Ball. Mar. 18.—Surbiton and District M.C.C. Frest Lancashire M.C.C. Annual Ball. Mar. 18.—Surbiton and District M.C.C. Meeting, Run. Mar. 19.—Chelenham M.C. and L.C.C. Meeting, Mar. 19.—Chelenham M.C. and L.C.C. Meeting, Mar. 2.—Co.C. Opening Mar. 18.—Derobester M.C. Opening Run.

Mar. 18.—Chelenham M.C. and L.C.C. Opening Run.

Mar. 18.—Derobester M.C. and L.C.C. Opening Run.

Mar. 18.—Derobester M.C. and L.C.C. Opening Mar. 18.—Derobester M.C. a

Mar. IL.—Surbiton and District M.C.V. Opening Run. Mar. 18.—Dorchester M.C. and L.C.C. Opening R. 29.—House Counties Clubs Reliability Trial. Mar. 32.—Essex M.C. Open Hill-Club. Apr. 3.—Essex M.C. Open Hill-Club. Apr. 3.—Resex M.C. Open Hill-Club. Apr. 3.—Resex M.C. Open Hill-Club. Reliability Trial Pensance on Return. Apr. 3.—Essabovoyh M. and M.C.C. Stavion Hill-climb.

Surbiton and District M.C.C.

The first annual concert will take place at the Scotch Café, Kingston Bridge, on March 10th. Tickets may be obtained from the hon. sec., Mr. W. B. Reeve, 25, Ditton Road, Surbiton. Activities will commence with the opening run on March 14th to Burford Bridge Hotel. Members should meet at the headquarters, Members should meet at the headquarters, Fex and Hounds Hotel, Portsmouth Road, Surbiton, at 2.45 p.m., the actual start being at 3 p.m., Mr. F. W. Barnes (captain) leading. Sole machines will start first, in pairs, at one minute internals of the start intervals, followed by sidecar outfits.

Public Schools M.C.C.

Candidates for membership will be elected at a committee meeting which will be held on the 27th inst. All paand present members of recognised publi schools are eligible, and intending candidates should forward their names at once to the hon, see, Mr. H. B. Browning, Loftus Hotel, Earl's Court, S.W. An attractive programme, which includes speed trials, hill climbs, and week-end runs has been arranged for this year.

South Birmingham M.C.C.

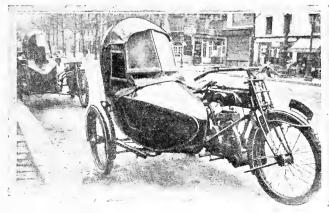
The committee report a substantial increase in the membership list, and there is every indication of a successful future. This evening the annual meeting will be he'd at the Mermaid Hotel, Stratford Road, at seven o'clock, when officers will be elected and a programme of events fixed for this year. The hou, sec., Mr. E. Boydell, 95, John Bright Street, Birmingham, will be pleased to hear from any motor cyclists who wish to join the

Exeter M.C. and J.C.C.

On the 13th inst, the annual dinner was held at the Globe Hotel, Major W. P. Martin, J.P., presiding. The prizes awarded to members during the past year were presented, also a silver cup won by Mr. Fry Allen in 1914. The membership total now stands at 62, and it is hoped that this number will be greatly increased in the near future. May 8th has been selected as the date for the opening run, which is the only fixture yet decided upon.

Banbury and District M.C.C.

The support given in the past having been inadequate, a general meeting will be held at headquarters, the George and Dragon Hotel, Horse Fair, Banbury, to-night, 'at 7.30, in order to decide as to the continuance of the club. All members are requested to attend, if possible. It is hoped that interested motor cyclists living in the district will communicate with the hon, secretary at headquarters, when full particulars will be given.



Sunbeam G.L. outfits used in Paris on taxi service. At present the fares are fifty centimes (5d.) for the first 666 yards, and ten centimes for every further 333 yards, and three francs per hour while " waiting."

AN OPEN FRAME MINIATURE.

A New Scooter with Single Lever Control

ALTHOUGH described as a scooter, the Autosco illustrated below is more a motor cycle than some of the machines of the miniature class, and illustrates the tendency for makers of such machines to fit larger wheels. The Autosco has 20×13in. tyres, and a frame which may be said to be a lady's cycle frame slightly elongated. The rear wheel is an Auto-wheel unit, while the front uses the same size rim and tyre.

One of the most interesting features of the little mount is the provision of a single lever for the complete control of the engine. A Bowden lever is located on the handle-bar, which, when in the closed position, releases the compression of the cylinder, whilst a small opening opens the throttle, and, at the same time, operates the device for releasing the compression.

A wide footboard, to which is attached a small stand, forms part of the equipment. The manufacturers are Brown and Layfield, 12, Empire Parade, Sydenham Road, London, S.E.26.



An open-frame lightweight-the Autosco

A SCOTIISH OPEN TRIAL.

* The Palmer Trophy Event organised by Glasgow Club.

N Saturday, March 6th, the Western M.C.C. of Glasgow will hold its open trial for the Palmer trophy, which will be held under the open competition rules of the Scottish A.C.U. A course of 125 miles has been mapped out, which has to be covered at a schedule speed of 20 m.p.h., and apparently the Glasgow club has been unable to find a better means of finding a winner among those securing maximum

marks than by instituting a secret check. Solo machines will be allowed two minutes, and sidecars four minutes, either way, while competitors more than ten minutes ahead of their schedule speed will lose one mark for each minute. Speed will lose one mark for each minute. Entry fees are: Manufacturers, agents, and non-members of the club, 10/-; non-trade members of the club, 7/6.

All competing machines accompanied

by their drivers and passengers must

report to the chief marshal at the chi headquarters, 250, Great Western Road Glasgow, before 9.30 a.m. on the day of the trial, and competitors will be started in pairs at one minute intervals started in pairs at one minute intervals the first pair leaving at 10 a.m. Thorganising secretary is Mr. J. R. Bell 2240, Great Western Road, Glasgow, an entries close on Tuesday, March 2nd the entries, however, will be accepte at double fees up to Friday, the 5th.

THE MONTREAL SHOW.

An Exhibition consisting chiefly of American Motor Cycles.

CANADIAN correspondent writes from Montreal, Quebec, that new models of a number of leading American motor cycle lines, as well as various exhibits of accessories, were seen at the National Motor Show of Eastern Canada, which was held in the Motor-drome Building, Montreal, last month. This exhibition was attended by dealers and riders from many centres of Eastern Canada, and much interest was taken in the latest two-wheel productions.

An Attractive "Indian."

One of the features of the exposition was a new Indian Scout model, which was was a new Indian Scott model, which was finished in white enamel, with silver mountings. This was displayed on a special stand in the exhibit of the Arlington Bicycle Co., Montreal, Indian distributers in the Province of Quebec, and the effect was heightened by the use of a spotlight, which added lustre to the machine. Two Indian Powerplus models, in regulation Indian red, an Indian sidecar, and several Indian bicycles were also shown. Another feature of the exhibit was a Smith motor wheel which was attached to an Indian bicycle.

Gravelin and Kennedy, Montreal, Quebec distributers of the Excelsior, Henderson, and Cleveland motor cycles. made a special feature of a 1920 Excelsion, which had been rushed to the show from Chicago, with its new mudgnard design,

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

FARREDOORDOODOODOODOO

new spring fork, smaller wheels, an larger tyres, as well as other refinement The new Excelsior made a deep impression upon the show patrons. A new Clev-land lightweight also had many admiren The Henderson was not shown.

British Goods.

A feature of the show was the displaced samples of British goods. There we two exhibits of this nature, and the served to introduce a number of Briti accessories and tyres. One of these exh bitors was the Associated British Indu tries of Canada, Ltd., the head office which is at Toronto. The manager this concern is S. A. Rowlandson, wh it will be remembered, was responsib in pre-war days for the competition of partment of Messrs. Rudge-Whitwort Ltd. The lines shown included Brooms. Sphinx spark plugs, Amac carburette Accles and Pollock steel tubing, Bat tyres, and Harvey Frost vulcanisers. -T other British exhibit was that of t British and Foreign Agencies, Ltd., Montreal, and this company also made display of various British lines.







A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," so, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing ligal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Combustion Space Design.

(1.) I have a V twin, with a Jin. bore and 4in. stroke, and should like to know how much clearance I should have between the piston head at top dead centre and the cylinder head for compression. (2.) What horse-power should such an engine develop? The engine has overhead valves, with detachable head.—R.S.

1.) We cannot answer this question, as the actual distance from the piston top to the cylinder head depends entirely on the formation of the head itself and the calve ports. (2.) This also depends on the design, but is probably from 8 to 10 b.h.p.

Two-stroke for Sidecar Work.

I wish to purchase a motor cycle and sidecar outfit, and prefer quietness in running to speed. I am inclined to try a 53 h.p. Scott outfit, but my knowledge is very seanty, so I shall be obliged if you will give me your opinion on the following points: (1.) Is the machine of sound construction? (2.) Will it meet my requirements as regards quietness? (3.) Has it any features that make it unsuitable for a tovice? (4.) Would it be capable of carrying myself and two passengers (combined weight 26 stones) on a tour through the Lake District? (5.) Does it compare favourably with other makes in economical running?-W.H. l and 2.) The Scott motor cycle is xtremely well made, and is one of the nost silent machines on the road. judguarding also is excellent. (3.) as several unconventional features, but here is no reason why it should be un-aitable for a novice. It is quite simple drive and control. (4.) The load you aggest carrying in such a district as the akes is excessive; you really need a lachine of at least 8 h.p. for such ork. At the same time, a similar load ay be taken up a 1 in 7 gradient with imparative ease on a 1919 model. (5.) he oil consumption is reasonably low. ew spare pasts, are needed, as the wear transmission and tyres is small. etrol consumption, with sidecar, aver-jes 50 m.p.g., and fairly high speeds ay be maintained. One improvement hich is recommended in order to secure sy starting in cold weather is the ting of a compression tap in one of the linder heads. A few drops of petrol rough this will ensure an instant start the coldest morning.

Dual Ownership.

In co-operation with a friend,
I am considering the purchase,
use, and maintenance of a sidecar combination, on a sharing
basis. We propose to share,
while the first cost of the outfaind

car communation, on a share, equally, the first cost of the outfit and accessories, running and maintenance costs being borne by the parties in proportion to the mileage run by each of them separately. Owing to the great difference between my friend and myself, in our hours of duty and leisure, we should each be able to have a maximum amount of use of the outfit without causing inconvenience or disappointment to the other. The difficulty seems to be to determine the procedure in the event of one party wishing to dispose of his share, the other being unwilling or unable to buy him out, and a buyer approved by both parties not being available. Can you suggest a plan?—PARTSER.

If you purchase a first-class machine, there should be no difficulty in disposing of it, provided it is kept in a reasonable condition, so that in the event of either you or your partner being unable to buy out the other's half share, it would be quite an easy matter to sell and divide the proceeds. This seems to be the only

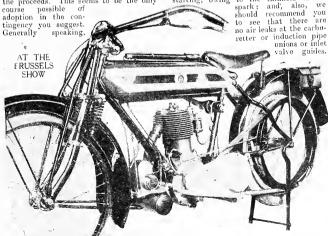
there are several objections to copartnership in such, a vehicle as a motor cycle and sidecar, since different styles of driving may account for faulty runing when in the hands of one of the partners, and the matter of costs would then be somewhat difficult of adjustment.

Difficult Starting.

I have a 1916 6 h.p. Enfleld sidecar outfit, which will not start unless one of the plugs is heated, and it only fires in one eviluder. On one of my cylinders 1 have a plug which fires, no matter what cylinder it is put in—the spark seems to follow this plug. have tried the spark with the plugs on the top of the cylinders and get a fine spark from both plugs; and I have put two new plugs in, and it did not fire at all, although it gets plenty of petrol, as when the non-sparking plug is removed the engine is flooded with petrol. I do not understand it, as all the rest of the engine seems to be all right.—J.C.S.

Probably the plug referred to has a slightly wider gap than the other one. Motor cyclists often set their plug points far too close together, causing difficult starting, owing to the thinness of the

Early Sarolea design greatly influenced general practice in this



To-day the latest model closely follows British lines

READERS' REPLIES.

Generator Trouble.

I notice in a reply to a correspondent, in your issue of Kebruary 12th, who cannot keep his rear lamp alight, that you give three points to observe. I should like to mention a fourth. I suffered from the same trouble until I discovered that the flapping about of loose portions of the gas tubing, due to bumps, has such momentary effect on the gas pressure as frequently to cause the lamp to go out altogether. Since I have had the tubing securely anchored I have had no further trouble.—L. W. 2576.

Rear Lamp Trouble.

I noticed in The Motor Cycle of February 12th a letter from a reader complaining of having trouble with his rear lamp. May I state that I used to experience the same trouble with my rear light. The small burners supplied for these lamps became either choked or the light was jolted out, as the pressure of gas decreased the rear and head lamp working off the same generator. I have now fitted on my rear lamp an ordinary gas tap. To do so I cut a thread on the lamp nozzle, drilled and tapped the cock to suit, and screwed it home, whilst in the other side of the tap is screwed a piece of brass tube, over which the rubber connection pipe slips. I now use a large size burner in the lamp, and regulate the flame by the tap. This has been on my machine for the past seven or eight months, and I have never had any trouble with it.—R.T.

RECOMMENDED ROUTE

BIDFORD TO BIRMINGHAM .-- R.B.

Bedford, Olney, Northampton, Weedon, Daventry, Dunchurch, Coventry, Meriden, Stonebridge, Birmingham. Approximately 70 miles.

DUDLEY TO LLANELLY .- J.B.

Dudley, Kingswinford, Kidderminster, Bewdley, Tenbury, Leominster, Hereford, Abergavenny, Merthyr Tydfil, Neath, Landore, Lianelly.

FARNHAM (SURREY) TO MARCH (CAMBS.).

Farnham, Farnborough, Frimley, Bagshot, Windsor, Slough, Denham, Rickmansworth, Watford, St. Albans, Hatfield, Hertford, Ware, Buntingford, Royston, Caxton, St. Ives, Somersham, Chatteris, March.





Increased Prices.

From the manufacturers of the Douglas, Wooler, and Levis motor cycles, we have received a notification of an increase in selling prices, necessitated by the increased cost of production.

A Well-known Douglas.

Although built six years ago, a 23 h.p. Douglas, ridden by F. A. R. Zurcher, has won every open hill climb in Natal since the Armistice, and also gained two medals and certificate in the Johannesburg-Durbase race of last year.

Oxy-acetylene Welding.

We understand that Messrs. Lyell, Ltd., Flood Street Engineering Works, Sloane Square, London, S.W.J, who manufacture the "Auto" oxy-acetylene welding plant, are prepared to execute welding repairs of the most difficult nature.

Catalogues Received.

We are in receipt of a folder dealing with the 5-6 h.p. Hazlewood motor cycle and sidear, specifications of both being given. Accompanying the folder is a leaflet giving a sectional view of the gear box and a key of its components.

Electrical Accessories.

Messrs. Ward and Gladstone, Ltd., of Manchester, inform us that they are exhibiting a full range of electrical goods of interest to motor cyclists at the British Industries Fair, to be held at Birmingham, from February 23rd to March 5th

A B.S.A. Development.

The great demand for B.S.A. small tools has decided the manufacturers, The Birmingham Small Arms Co., Ltd., to arrange this department as a separate concern. The new company, which has been registered as the B.S.A. Tools, Ltd., will devote its energies entirely to the production of small tools and engineering tool equipment. Messrs. Button, Griffiths and Co., Ltd., of Ludgate Square, London, E.C., have been appointed sole selling agents for the new commany.



THE PARIS NICE TRIAL.

G. L. sidecar outfits. A machine of this make took part in the English Six Days Trial Observe the height of the handle-Lar.

Magneto Deliveries.

The "M-L" Magneto Syndicate, Ltd., of Coventry, inform us that they are now in a position to give prompt delivery of "M-L" magnetos. Enquiries from motor cyclists and retailers should be addressed to Messrs. S. Smith and Sons (M.A.), Ltd., 179-185, Great Portland Street, W.I.

A Request.

With reference to the disappearing sidecar hood, reviewed in our issue of January 29th, we are asked by the inventor, Mr. G. W. Davis, to state that any correspondence regarding this device should be sent to him at 35, Britannia Road, Norwich, and not to Messrs. Mann, Egerton and Co., Ltd.

Motor Cycle Repairs.

The Mead Cycle Co., Inc., Birmingham, ask us to state that they have considerably extended their motor repair department at 11 and 13, Paradise Street, Liverpool, which is equipped with all the latest appliances, and is under the control of Mr. H. Alban Brayshaw, M.I.M.E., who will give expert advice with regard to tuning and repairing all makes of motor cycles.

Robbialac for Decorative Treatment.

Messrs Jenson and Nicholson, Ltd., Robbialac Works, Stratford, London, E.15, the manufacturers of Robbialac enamel, had a big stand at the Ideal Homes Exhibition, at Olympia, showing the application of Robbialac enamel for interior and exterior house decoration. Various attractive colour schemes for drawing rooms, dining rooms, and bedrooms were exhibited.

A Useful Pocket Diary.

Information of considerable value to all motorists is included in the excellent pocket diary which Messrs. George Spencer, Moulton and Co., Ltd., and Messrs. Wood Milne, Ltd., are issuing. It contains calendars for 1920-1921, some equivalents in popular measurements, an English-French dictionary, lighting up table, hints and tips to motorists, a dictionary of daily wants, and numerous other items of useful information.

A Correction.

In our issue of February 5th we stated that the Landaulet sidecar outfit, illustrated on p. 163, was supplied by Mr. E. W. Ball, the Scott agent for Birmingham. We are now informed that while the motor cycle was supplied by Mr. Ball, the sidecar body was built to the design of Mr. C. G. L. Bowley, of the Cabriolet Sidecar Co., and is a purely experimental model of a type which will shortly be marketed.

An O.K. Dinner.

With the object of overcoming the lack of cohesion which usually exists between the shop and office sides of a manufacturing concern, a staff dinner was held at the Nag's Head, Hockley Heath, or Friday last, at which the works departmental foremen and senior members of the office staff employed by Messys Humphries and Dawes, Ltd., were present. An impromptu concert, which followed, was much appreciated, and further events of this character are to be arranged.

Note & Watch This Space Every Week

When you will see full designs and particulars of the Motor Cycle that caused such a sensation at the last Olympia Show, viz., the

ROYAL RUBY

3 h.p. SINGLE - CYLINDER Patent Spring Frame Solo Model

Manufactured by

The RUBY CYCLE Co. Ld., Cannel St., Ancoats, MANCHESTER.

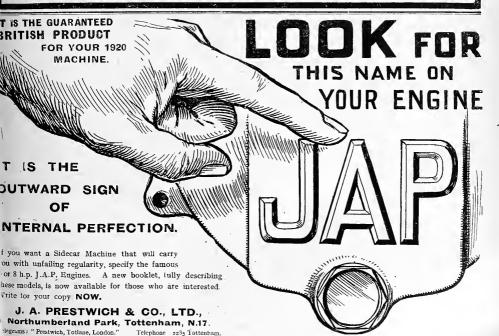
Manufacturers and Patentees of Royal Ruby Cycles, Motor Cycles, etc.

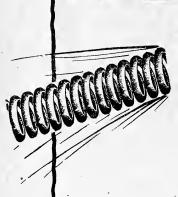
Telephone City 3818

Central 1570

Telegrams: "Machines Manchester"

Look out for next week.





SPRING is coming!

—and never were there so many newcomers to the Pastime as this year will see. Wise indeed were they who ordered their new machines early—right well will they enjoy their Easter awhee! Have YOU heard the call of The Open Road?

¶ Look through our list of Agencies and write us TO-DAY

CLYNO. A.J.S. MATCHLESS. TRIUMPH, NEW HUDSON. P. & M. NORTON. LEVIS, A.B.C. ROYAL ENFIELD. BLACKBURNE ZENITH. NEW IMPERIAL. ROVER. ARIEL

"Biggest Dealers
in the South"

H.JULIAN

The "No Premium" House
BROAD READING PHONE
STREET READING 1024

THE

RICHARDSON LIGHT

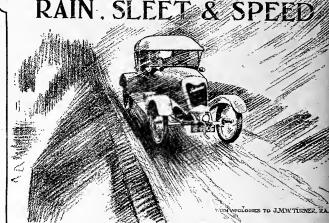
The conditions under which we tested the RICHARDSON were exceptionally bad. A gale of wind, accompanied by rain and sleet, added to the joys of à thoroughly greasy road . . it was not long before we got away (three up), and, once started, one of the first obvious things was the handiness of the gears. As the low gear is only really necessary when starting, we were soon in top, and before long were roaring through mud and rain at nearly 40 m.p.h. In view of the bad weather conditions, we did not prolong the trial, but we were out long enough to satisfy ourselves as to the strength, efficiency, and comfort of the RICHARDSON."—Extract from Light Car and Cycle Car. 20th Dec., 1919.

(Copy of full Report sent on application.)

Provisional Price, £250

Complete with Hood, Screen, Horn, Electric Lighting Set, Tool Kit, and Pump.

IMMEDIATE DELIVERY. DEFINITE DATE GIVEN, IF DESIRED.



C. E. RICHARDSON & Co., Ltd.,

Telephone: 36 Sharrow.

SHEFFIELD.

Telegrams: "Finbat, Sheffield."

Beardmore,

ANCASHIRE (West) and Cheshire.—Beardmore I Predsion, the most advanced and practical motor lo yet designed.—Enquiries lavited by J. Blake and , 110, Bold St., Liverpool.

Blackburne.

ROW Bros., High St., Guildford, are eld Black burns agents, and invite enquiries. [X794]

9²⁰ 4h.p. Blackburne, delivery from stock.—Wire, Eric Williams, 12, Foregate, Worcester. [5024 TANLEY BUSSELL, Newport, sole 1ste of Wight ugent for Blackburge motors; early delivery, [5297] *LACKBURNE New 4h.p. Combination in stock, tendy to drive away.—Edwards, 7, Exhibition Rd., ath Kensington. [5061

dil Koss-inston.
LACKERURE Motor Cycles, delivery 41, p. model from stock—Arents, Lankester Engineering Co. Brighton Rd., Surdston.
LACKERURE 1919, Nov.; 40, p. Combination, Milliond sidear, under 500; best over 135; by apartment.—Dunn, 37, Colebank Rd., Hall Gieen, Birdston.

20 Blackburne 4h.p., 3-speed Sturmey-Archer gear box, all-chain drive, 28,83in, wheels, ia k; list price.—C.W. Motor Co., 209, Brondway, t Hendon, N.W. 'Phone: Kingsbury 162. [5029

Bown.

OWN-VILLIERS, 1920 model, 21th.p., 2-stroke, 2-speed, clutch, kick starter; £69/5; one avail-lor immediate delivery.—Frank Whitworth, Ltd., New St., Birmingham. [X5241

Bradbury. *AUCHOPE'S, 9, Shoe Lane, Flect St., London-4h.p. Bradbury, 1911; £35. [514 [5148

p. Bralbary, Aruse, Bosch, Grado zear, spleadid endition; \$50,—15, Uttley St., Bolton. [4436] p. Bralbary Combination, 2-speed, perfect order; 245,—15, Kelvin Av., Bowes Park, London, [4750]

p. Bradbury, 1913 model, excellent mechanical condition; £37/10.—Springett, Billericay, Essex. confidon; £37/10.—Springed, Billericay, Essex, data, p. 3-peed Bradluny and Sidecar (new coach body), alsohately perfect condition—Haraett, North St., lester. [4548] W 1920 Bradluny 3-peed Countershaft, chain-drive, clutch, and kick-start.—Harris's Garace, Counter Start (LSO95)

tADBURY New 6h.p. Twin, 3-speed, kick-start; also aew 4h.p. 2-speed kick-start, actually in .-Birch's Garage, Wolverhampton. [4449]

!ADBURY Combination, 4h.p., coachbuilt side-car, in first-class condition; £50.—Seen, Scrase's ge, 381, Battersea Park Rd., S.W.11. [5175

14 Bradbury 4h.p. Coachbuilt Combination, 3 speeds, clutch, sound tyres, and all accessories, et running order; £56.—72, Longridge Rd, 5 Court, London.

Bradlany, Bosch, B. and B., clutch, variable gear, Lucus lamp, speedometer and accessories, thy overhauled, splendid condition; £54-4. Ard-1 Rd., Cafford, S.E.6.

1 AUG. CATHOTA, S.E. 6.

13 31-bn, Bradbury, 5-speed Starmey-Archer gear and clutch, with sidecar, in good condition bargain; £55.—Flower, The Harpenden Garage Coach Works, Harpenden. [3726]
ADBURY 1920 4lip., 5-speed countershaft, kick starter, chain drive, Canoclet sidecar, storm agron, acts of maker's price; £147/3—Wilkins, Simp at Co., opposite Olympia, Loudon. [4355]

4 (late) 4h.p. Bradbury, Bosch mag., B.B. caburetter, T.T. bors, aluminium disc wheels and ards, new Palmer cord tyres, engine just overlexcellent condition, very last; £65.—59, New 5t. Swindon.

Brough.

TH Lancashire, North Cheshire, and Isle of lan only.—Brough enquiries.—J. Blake and Co., l Dealers, Liverpool and Manchester. [6588

B.S.A. A., 2-speed, F.E., conclibuilt sidecar, excellent ouddition, stored 3 years; £60.-W.. 352, High last Ham.

A. 1919 Model K., complete with Lucas lamps, era, etc., done few hundred miles only, and is 1, £100.—Pitts, Redditch. [X5247]

2100. Pitts, Redditch.

1 B.S.A., brand new, still wrapped, as received from makers, T.T. model, special engine; £92.—

100. clo The Moior Cycle. [4840]

101. clo The Moior Cycle. [4840]

102. clo The Moior Cycle. [4840]

103. clo The Moior Cycle. [4840]

103. clo The Moior Cycle. [4840]

104. clo The Moior Cycle. [4840]

105. clo The Moior Cycle. [4840]

105. clo The Moior Cycle. [4840]

106. clo The Moior Cycle. [4840]

107. clo The Moior Cycle. [4840]

108. clo The Moior Cycle. [4840]

109. clo The Moior Cyc

B . 414h.p., 3-speed, K.S., eaamel and plating as w. new tyre and belt, very smart appearance; Middleton sidecar to suit, £12.-7, Gibson Sq., n, N.1.



1917 1918

£78



We have purchased 20 only, 1917 and 1918 P. & M. machines, Ex Military Stores. They are completely overhauled and guaranteed by us.

Special Cash Price £78 each.

NEW SIDECARS CAN BE FITTED FROM STOCK.

B.S.A. No. 2 £34 MILLFORD Skiff.. £23 .. £26 5s MILLFORD Corvette PORTLAND £ 28 MONTGOMERY No. 3 £18 10s. 6d. P. & M. ..

Canoelette, racing model, etc.

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100, Great Portland St.. London, W.1. 100, Paris St., Exeter.

Telegrams: Telephone: Telegrams: Telephone:

Abdicate Wesdo, London." Museum 557 Combustion, Exeter,'

Exeter 033

MOTOR CYCLES FOR SALE.

B.S.A. and Sidecar, 1913-14, T.T. handle bars, 2-speed and free engine, in really good condition; £60. Write (or call Sandays), 142, Schurst Rd., South Norwood, S.E.S.

B.S.A., 1920, T.T. model, engine No. 31984, per-fect condition, lamps, hoin, tools; buying com-bination; what offers,—Foster, 3, Arnow Hotel, Rhodes, nr. Manchester. 5,533

Rhodes, ar. Manchesser.

B.8A. Specialists, All reducements in stock: B.8A. siderars, sereous, hoods, and grids in stock.—The County Cycle and Motor Co., Broad St., Birmingham.

T.4.; Comovyce, Birmingham.

[19] 9 4/jh, B.8.A. Combination, Model K., might always under 5,000, guaranteed in perfect order; my rind given; cowner bought cut; 1125, or offer.—Cuptain Page, White House, Gomeldon, Sahsbury.

B.S.A. 1916 4 h.p. Combination, brees nearly new, not used 18 months, perfect condition and mechanically sound; price, complete, £115; bought 8h.p.-Whitecotte, Petersham Av., Byflect Surrey. (5003

91 h.p. B.S.A., 1913, Basch mag., 2 speeds, clutch, 22 pedal starter, in excellent running order, type-goal; seen and tried by appointment; £40, or very near offer.—Bex 582, cfc Samson Clark and Co., Ltd. 58, Gt. Porthand St., W.

B.S.A. 1919 All-chain Model, complete with Millford commeteral sideers, Lucas lamps and horn, only used 5 months, perfect condition; £110, or nearest offer; sideers can be converted for pleasure; or would be sold separate.—Haddon, North St., York. [4156]

P. O.C.H. have a 1916 4/jhn, B. S.A., 5-speed counter-shart, all chain drive, fully equipped, excellent order.—Pair Offer Cpr House, 5, Hearth St., Hampstead Inear Hampstead Tube Station. Phone: Images 3752. Hours 97, including Saturdays. [447]

Calcott.

19¹³ Calcott, single-speed, excellent condition.—Mil land, 56, Leighton Gardens, Harlesden, N.W.

Calthorne.

CALTHORPE 2-stroke, Enfield 2-speed gear, new; at list price.—Goodwin and Cragg, Stafford St., Derby. [X5297]

CALTHORPE-PRECISION 1914 214h.p., 2-speed, splendid condition; after 6.30; £35.—34, Magdala Rd., N.19.

1916 Calthorpe 2-stroke, Enfield gear, King of Road lamp set, engine as new; £50.—181, Burges Rd., East Ham, E.6.

10 16 25 h.p. Calthorne-Lap, lamps, speedometer, and all accessories, perfect order; £46.—White, 30, Rusholine Rd., Putney. [4270]

19 15 Calthorne-Jap 234h.p., Grado multi gear, Amac, Dixie; £37.—The Woking Lodge, Ottershaw Park, Chertsey.

CALTHORPE 1917 2-stroke, 2-speed, free engine, tyres and condition perfect; £37.-58, Nelville Rd., Fazakerley, Liverpool.

CALTHORPE 2-stroke 2¼h.p., Enfield 2-speed, brand new, at makers' price; £66/5.—Wilkius, Simpson and Co., opposite Olympia, London. [4396

23h.p. Calthorpe-J.A.P., late 1916, Amac, Enfield 2-speed, lamps, just overhauled, excellent condition; £48.—Dewey, 73, High St., Sidcup. [4783

1915 Calthorpe-Jap 254h.p., 2-speed, excellent condition, very last: offers over £40, or exchange higher power.—46, Victory Rd., Wimbledon. [4226]

1916 Calthorpe 2-stroke, countershaft gear box, excepted to condition, lamps; nearest £42; trial.—E

James, 8, School Terrace, Hawkhurst, Kent. [4184]

C ALTHORPE - PRECISION 1916 Lightweight, 2 speeds, very economical, go anywhere, appearance as new; bargain, ±38.–172, Greenvale Rd., Eltham, S.E.9.

S.E.S.

CALTHORPE-J.A.P. 2⁵4h.p., 2-speed, October, 1919, done 1,000, lamps, horn, speedometer, insured for 6 months; £60.—Berry, c/o Bull Garage, Cambridge.

10 16 Calthorpe-Jap 25/h.p., Enfield gear, in good brder, all tools and accessories, good tyres; hest offer over £42 secures.—Peterson, 88, Oxford Rd., Cambridge.

2 3h.p. Calthorpe-Jop. 1917, sloping tank, Enfield gear, condition like new, but needs new cylinders worth £50; any reasonable offer.—127, Malden Rd. Xew Mollden, Surrey. (4828)

Campion

CAMPION-J.A.P. 4h.p., Grado gears, clutch, all accessories, in splendid condition; £55; after 6.—22, Brent St., Hendon. [4616]

22, Brent St., Hendon. 231, 4616

CAMPION.J.A.P. 41-h.p., Bosch mag., 3-speed
Sturmer-Archer gears, lamps, tools, complete, splendid order; £78, or near offer—H. Crass. St., Conduit Rd., Stamford.

Carfield.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London. 24h.p. Carfield, 1920; £59. [5148

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. BI5

Cédos.

CEDOS.—The finest 2-stroke ever produced; ladies or gentlemen's; order now for spring delivery.—J. Blake and Co., Lancashire's leading motor cycle dealers. Liverpool and Manchoster. [6576

Chater-Lea.

CHATER-LEA 2-stroke Gear Box, immediate disposal.—Box 162, clo The Motor Cycle. [X5185]
CHATER-LEA Enquiries Invited by J. Blake and Co., leading motor cycle experts, Liverpool and Manchester.

CHATER-LEA 1913 Sh.p. Coachbuilt Combination, 3 speeds, chain drive, perfect order; £95, or agar effer. 226, Crownfield Rd., Leytoa, E.15. [4241]

CHATER-LEA, new 1920 model, 245h.p., 2-stroke, Celeberty.—Frank Whitworth, Ltd., 139, New St., Birningham. (X5240

CHATER-LEA Sh.p. Countershaft Coach combina-tion, fully equipped, hood, screen, specidemeter, hord to be combined to the combined of the comb

CHATER-LEA Model No. 7 Sidecar Combination of staff, late 1919, magnificent outlit, little used, staff, late 1919, magnificent outlit, little used, staff with the staff with the combination of the 1910 staff, late 1910, sample of staff, late 1910, sample of the staff with the combination of the 1910, sample of the 1910, late 191

Specially built by Chater-Lea, Ltd., for member of staff, late 1919, magnificate outfit, little used, stored winter, now refitted equal to new; complete specification, upon application; price 2170.—Smith 98, Mayola Rd., London, E.S. Tel.: London Wall 7801.

CHATER-LEA, 3½hp., Minerva eagine (good as new), Palmer coud tyres, B. and B. carburetter, Brooks B170 saddle, U.H. mag., footboards, all extras, enamelled red, take 2 anywhere, nothing more confortable, soddle height 29 inches, ready for thousands of miles; lowest price 42 gos.—Alise E. Helland, Eastry, Reatt. (2472)

Chater-Lea-Jap

CHATER-LEA-J.A.P., 1914 racing model, speedometer, ride away; offers.—Taylor, Trumpet Hotel, Stafford.

CHATER-LEA-J.A.P. 8h.p., Millford sidecar, speed-ometer and lamp, in good order; £95.—Box 1,722, cto The Motor Cycle. [4964]

Clyno.

CLYNO 2-speed Lightweights in stock.—Marston, 31, Bridge St., Chester, 1X5251

DAN GUY, Weymouth.-1920 Clyno 2-stroke, 2 speed, clutch, immediate delivery. [4021]

19 20 Clyno Lightweight, 2-speed, clutch; £70.— Brook Bros., Bunham, Somerset. [3433

19 20 21/h.p. Clyno; delivery from stock.—Wire, Eric Williams, 12, Foregate, Worcester. [5025]

CLYNO 1926 2-stroke Model in stock; £70.—Edwards, 7, Exhibition Rd., South Kensington. [5057

WAUCHOPE'S, 9, Shee Lane, Fleet St., London, E.C.4., supply new 1920 2½h.p. Clyno; £70. [5150

CLYNO, 1916, just been overhanled; officer owner ordered abroad.—Joyce Bros., Ltd., Farnborough, Hants. [4157]

PRESTON.-Clyno 2-stroke, clutch model; actually in stock; £70.-E. Bradsbaw, the Motor House. [3497] 19 16 Clyno Combination, 3-speed, interchangeable wheels, take 3 anywhere; £98.—150, Camberwell Grove.

6 h.p. Clyao Combination, 3-speed, K.S., fully equipped; appointment; offers.—Kenney, 7, Dawson Rd., Ryfleet. Surrey. [4235]

Byfleet, Surrey.

CROW Bros., Guildford, West Surrey Clyno agents, have large contracts for 8h.p. combinations and 2%h.p. lightweights.

CLYNO C.B. Combination, 5-Sh.p., 3-speed countershaft; £100; any inspection.—Lec, 14, Half Moon Crescent, Loadon, N.1.

Moon Crescent, London, N.1.

CLYNO, -New 1920. 2-peed 2-stroke models actually on stock—Chandler, Reyre and Williams, Hitchin, Herts. Phone: 165 Hitchin. [0663]

CLYNO 2-speed 2-stroke; 270; delivery from stock—Julian, 84, Broad St., Reading. Biggert deliers in the Sonth. Those: 1024.

in the South, Thone: 1024,

CINNO 2-stroke, 2-speed, hand clutch, lamps,

Charles, 2-speed, hand clutch, lamps,

Charles, 2-speed, hand clutch, lamps,

Charles, 2-speed, lamps, 2-speed, hand clutch, lamps,

Rd, Clapham Common, S.W.11.

CLYNO New 1920 Grey and Black Models netually in stock; makers list price—Clyno Agents;

Rhosha Motor Co., Mawersy Rd, Romford,

CLYNO 1920 2-stroke, 2-speed and clutch; £70;

brand cave, actually in stock at makers price—

Wilkins, Simpson and Co., opposite Olympia, Lendon,

CLYNO 2-speed, clutch, purchased Norcables,

CHYNO 2-speed, clutch, purchased Norcables,

Granding upuncturedly, lomps, Khaxon, pump, tools;

any thai; machine unserratched; £55.—Biryley, Wrose

eter, Salop.

CLYNO Combination, 1914, thet overlanded re
CLYNO Combination, 1914, thet overlanded re-

CLYNO Combination, 1914, just overhauled, reclassical control contro



All machines quoted below are for immediate delivery. If you want to secure a first-class machine it will be well worth your while giving us a call.

Combinations.

1920 10 h.p. HENDERSON Combination, just arrived (in crate), complete with dynamo lighting set, disc wheels.
1920 ENFIELD Combination, complete with lamps, all accessories.

with manps, an accessories.

1920 MATCHLESS Combination, spare wheel, Lucas lamps, all accessories.

1919 6 h.p.A.J.S. Combination, Hender-

son Elite Sidecar, Lucas dynamo lighting

1919 3½ h.p. SUNBEAM Combination, Diaky Sidecar, disc wheels all round, Lucas lamps, as new.

lamps, as new.
1919 3½ h.p. ARIEL Combination, disc.
wheels, hood and screen, lamps.
1919 10 h.p. HENDERSON Combination,
handsome Sidecar, F.R.S. electric lamps.

mileage 300.

1918 HARLEY Combination, T.T. bars, sporting Sidecar, disc wheels all round, dynamo lighting.

1918 6 hp. ENFIELD Combination, complete with lamps, all accessories.

Solo Machines.

1920 Isle of Man RUDGE, just delivered. 1920 4 h.p. BLACKBURNE, chain drive, 28ia. wheels.

1919 (November) 3½ h.p. SUNBEAM, T.T. model, Lncas lamps, as new.

Cars.

1916 11. h.p. PERRY, 4-seater, dyna-mo lighting set, detachable wheels £450 1914 to h.p. STANDARD, excellent condition £310

We are the London Agents for the famous Castle three-wheeled runabout. Early deliveries guaranteed. PRICE APPROXIMATELY £250.

We are also London Agents for the famous Henderson Elite Sidecar.-—We have numerous models in stock for IMMEDIATE DELIVERY.

J. SMITH & CO., 16. HAMPSTEAD ROAD, LONDON, N.W.11.

'Phone No.: Museum 3419.

MOTOR CYCLES FOR SALE

Clyno.

CLYNO Lightweight in stock. Orders booked tion. Clyno combination orders booked in a delivery from March,—Rothwell and Milbourn leigh Garage, Malvern.

CLYNO 25/h.p., clutch, 2-speed, speedometer, hora, new September, 1919, not done 500 can be seen at any time by appointment; £70.11, Toller Drive, Heaton, Bradford.

1920 2-speed Baby Clyno, mileage 100, ena scratched, new spare belt, P. and H. usc aluminium rear lamp, kneegrips, Lucas homower getting 8hp.—123, Rugby Rd., Leamin

1916-17 6h.p. Clyno Combination, 3-speed, ki electric lighting set, spore tyre and the ctc., enamel and plating like new, new sidec fitted; bargain, £110.-101, Grove Lane, Cam

CLYNO Combination, 1915-1916, new interable detachable spare wheel, new potest hora, new lamps, never been used, high-class B. and B. varnable jet, 3 speeds, clutch, kind all chains ecolosed, comiorable sidear; photographical; condition as new; trial; bargain, 12: C. Jenner, 185, Church Rd., Mitcham.

Connaught.

CONNAUGHT 2-stroke, 3-speed, clutch, top £39.—White, 62, High St., Kingston. CONNAUGHT.-Immediate deliveries, order f Barran-Ackroyd, Hyde Park Corner, Leeds CONNAUGHT 23/h.p., mechanically sound, goo wasts enamelling; £29/10; offers.—Seen Park Rd., Crouch End, N.

Coulson.

COULSON B 234h.p., 2-speed model, in a Malvern Agents, Woodyatt, Ltd., Malvern COULSON B.—The ideal spring frame.—En invited by J. Blake and Co., the mote experts of Liverpool and Manchester.

COULSON B.—New 1920 model in acts, list 2-speed spring frame, 2341.p. and 41.p. burse engines.—Edwards, 7, Exhibition Rd., S sington.

19 20 Coulson-B., spring frame, 2%h.p. Blsc 2-speed, Bramptos Biffex forks, trip speed Lucas horn, not ridden 150 miles; £95.-T. A. Bartholomew's Hospital, E.C.I.

10 20 Coulson B., brand new, 2½b.p. Blace engine, 2 speeds, spring frame, 2½in. I tyres, only need 150 miles, guaranteed perfect; first deposit secures.—Box 1,697, c/o The Cycte

COULSON-B. 2%h.p., 2 speeds, spring frame, hot air pipe, very economical, 100-120 to speedy and sporty, new in Decomber, done und niles, condition throughout equals new; owaer abroad; 288.—Marshall, Barrow-on-Humber, Hull.

Coventry Challenge.
COVENTRY CHALLENGE 2/h.p., 2 lamps machine; £50.—Phone: Hammersmith 68

Dayton.

DAYTON 2-stroke, fine running condition; £2: Fuller, 1, Victoria Rd., Brighton. DAYTON 2-stroke Lightweight, lamps, ready taway; £28.—Tedd, 27, Whiteley Rd., No London.

De Dion.

DE DION 31/sh.p., new covers, good running £27.—71, Pelham Rd., Wimbledon.

De Luxe.

DE LUXE 1919 234h.p., Senspray carburetter, horn, generator, 3 months' light work; pro-Horley Motor Service Co., Ltd., Horley, Surrey.

Diamond.

DIAMOND, 21/th.p. Jap-Eafield, in stock, 1920 new: £75.—James Gerages, Church Stretton. CYRIL WILLIAMS, for early delivery of all Diamonds.—Chapel Ash, Wolverhampton. [

JACK HEALY, Cork, official Diamond agen tational delivery. No premiums accepted. 19 20 Diamond, both models; list price; in a Youngs, Heath Garage, Newmarket.

19 20 21/2h.p. Diamond-Villiers, as new, complet lamps, tools, horn: 257.—Wallis, Fownhope

19 20 234h.p. Diamond-Jap, 2-speed, and Villiers, single gear, in stock.—Wire, Eriliams, 12, Foregate, Worcester. DIAMOND-J.A.P., Enfield 2-speed gear, not r miles, purchased September, 1919, mod. new; price £60.—Apply, Birohall, Brock Garge stang, Liace

B16 All letters relating to advertisements should onote the number at the end of each advertisement, and the date of the issue

Douglas. VIVIAN HARDIE and Lane, Ltd., Douglas Special

h.p. Combination, 1920 model; £155.

3h.p. Solo, 1920 model, clutch and kick starter; £95.

3 h.p. Solo, 3-speed Model W.; £90.

WE Stock Everything you require for your Douglas

24. Woodstock St. (off Oxford St.), Bond St., W.1 Phone: Maythir 6559. SPEED Douglas, 1915; £45.—Marks, 121, Acton Lane, Cluswick, W.4.

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19¹⁶ Douglas 2³ Jh.p. W.D., uncrated July, 1919, all accessories, pillion seat, new tyres, absolutely perfect: £70.—127, Mount View Rd., Strond Green. [4669]

19¹⁸ 4 h.p. Douglas, practically unused, lamps, tyres, horn, £95; 1916 4h.p. Douglas, new condition, £86/10.—Raymaside, 8, Station Parade, Balham. [4814

DOUGLAS 25th.p., 2-speed, uncrated October, 1919, absolutely perfect, well equipped, exceptionally smart; £65.-60, Wallingford Av., North Kensington. [4884]

31. Claremont Rd., Alexandra Park, Manchester.

DOUGLAS, 2'sh.p., 2speed, engine No. 2465, perter running order, good trues and helt, lighting set hera; 233, lowest. 4, Yewtree Rd., Beckenham, Kent.

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Monkhaus Drive, Woodford. [4253]

HARLEY-DAVIDSON Combination, 1917-18, all Motor Co., King St., Mold, X.W. [2558]

HARLEY-DAVIDSON 1916-17 Combination, electric model, period condition, all sparse; 145 gns.—Hind, Acton Bridge, Cheslire. [X5270]

HARLEY-DAVIDSON, dynamo lighting, sporting shicker, 240 overhaul, 2 new tyres; \$2145; Lordenson Landenson (Landenson Landenson La

HARLEY DAVIDSONS, electric and n models, for immediate delivery.—Maudes' Mart, 100, Paris St., Exeter. Phone: 933. magneto

HARLEY-DAVIDSON Clutch Model, T.T., bus, lamps, horn, pump, spare tube, splendid dition; £75.—W., 21, Shaa Rd., East Acton. [

1920 Harley-Davidson Combination, new, 7-9h.p., complete with lamps, horn, hood, screen; £250.

-Whiles, 25, Upper Kennington Lane, London. [4323] T.T. Harley-Davidson, 1915, 3-speed, hand and foot clutch, Bosch, good tyres and tubes, very fast, good condition; £98.—Gornall, Bishops Castle, Salop. [4200

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—7-9h.p. Harley-Davidson combination, 1919, £185; 7-9h.p. Harley-Davidson combination, 1915, £157/10.

HARLEY-DAVIDSON 5-6h.p. Single, 1915, with Hight sporty sidecar, all discs, original tyres, in-sured, just overlauled; bargain, 85 gns.—Gilton, Gren-ville Rd., Braintree. (4985)

HARLEY-JAVIDSON; late 1916, Swan sidecar, Hamps, Klaxon, Tau-Sad, College mudshield, spares, splendid condition; batgain, £128, — Graham, 39, Catherine St., Salisbury. [4229]

HARLEY-DAVIDSON Combination, November, 1915, horn, 2 lamps, luggage grid, new Palmer tyre, not done 3,000 miles, spleodid condition; £125.—Revtor, Monkton Wyld, Charmouth. (4611

HARLEY-DAVIDSON 7-9h.p., 1918, 5 speeds, elutch, kick starter, magneta, dusc wheels, very little used, excellent condition; any trial, examination; £150.—198, King St., Hammersmith. [4401]

F.O.C.H. have a 7-9hp. Harley-Davidson, Model F. solo, fully sequipped by makers, braud new; list price.—Fair Orfer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hompstead 3752. Hours 9-7, including Sahrdars, [4475]

HARLEY-HAVIIISON 1918 Combination, 7-9h.p., side curtains, luggace grid, Klaxon, in first-class forder and condition, large sidecar, comme a new, 2160 buying car.—Greeo, Barus, Hindhead, Surrey, [4315]

NEW 1920 Harley-Davidson 7-9h.p. Combination, electric model, with Montgomery No. 1 sideen, Hailey model to match, delivered and Junuary at £200; will accept this amount; list price now advanced to £220; absolutely perfect—Murray, Fawasmoor, Axmin-

Hazlewood.

HAZLEWOOD, new 1920 model, 6h.p., sidecar com-bination: £186; one available for immediate delivery.—Frank Whitworth, Ltd., 139, New St., Bir-mingham. [X5237]

Henderson.

HENDERSON, Model A, speedometer, horn, lamp set, very fast; £85.—Grimes, 18, Bruton Place, Bond St., W.1. [5112

HENDERSON 1920 Model, with sidecar, used once; too fast for owner; £195.—Can be seen at Marston's, 31, Bridge St., Chester. [X5249

L ANCASHIRE, Cheshire, North Wales, and Isle of Man.—Enquiries for Henderson 4-cyl. wanted.—
J. Blake and Co., Official Dealers, Liverpool-Man.—6887

Hobart.

19²⁰ Hobart, 2-stroke, 2 speeds, in stock; £67/10.— Cross, Agent, Rotherham. [X5284 HOBART-VILLIERS 254h.p. 2-stroke, 2-speed, Andover. £35.—47, Old Winton Rd., [4796]

16) 20 2%h.p. Hobart J.A.P., Sturmey-Archer 2-speed, clutch and K.S., Miller head lamp, electric tail, all accessories; £85.—Robinson, Ingfield, Baildon, Yorks.

H OBARTS for Brighton and Hore. The Villia (1407) at the case of the decrease of the case of the case

Hockley.

3h.p. Hockley, 2-speed 2-stroke, perfect order: £40.

Humber.

Humber.

WAUCHOPE'S, 9, Shoe Lace, Fleet St., London, two, 1919;
[5142]

HUMBER, 1914, 3-speed, K.S., clutch, tyres and condition like new; £64.—White, 62, High St., Kingston.

H UMBER 3½b.p., Bosch, B. and B., running order; £27; seen week-end.-3, Ashtead Rd., Clapton Common, E.5.

Common, E.5. [4947]
HUMBER 31/4h.p., 2-speed, handle start, new tyres, perfect condition; £35.-248, Drakefell Rd., Brockley, S.E.

Brockley, S.E. [5101]
H UMBER 3½h.p., 2-speed Roc, 1913, new condition,
1 thtle used, 3in. Dunloy rear, 2½in. ditto front;
255.—Bond, Station Rd., Bexhill.

21b.p. Humber Motor Cycle, about 1914, in good framping order, guaranteed by owner; £25,-30, Legard Rd., Highbury, London, N. [4682] H UMBER Lightweight, lamps, horo, splendid con-dition spares; £30.—Hill, 2, Farm Cottages, Low Hall Lane, Markhonse Rd., Walthamstow. [4910

H UMBER 1918 31/h.p. Flat Twin, 3-speed eluted gear box, clain drive combination, handle starting, lamps, hore, speedometer; £97/10.-555, King St., Hannersmith. [4461]

HUMBER Combination, 1914, 3 speeds, kick start, lamps, born, splendid condition, new tyres and belt, Milis-Fulford sidecar; £100,-140, Fordel Rd., Hither Green. [4498]

21h.r. Humber Combination, 3-speed, clutch, Bosch, Band B., Best and Lloyd drip, C.B. sidecal, pertect rubuing order; £65, or nearest.—Foulger, Beechcliffe, Keighley.

19 18 Humber C.B. Combination, flat twin, 3-speed countershaft, chain drive, sneedometer, new lamps, Dunlops, good condition; £105.-32, Wycliffe Rd., Battersea, S.W.11.

HUMBER 3½h.p., 1912, single-speed, ridden 30 dition, spares; £30,—Hill, 2, Farm Cottages, connecting rod, bearings, busbes, timing gear; £45, or nearest offer, including head lamp, generator, horo—12, Dysart Ferrace, Newtown, N.W.

Indlag.

INDIAN 7-9h.p. Combination, 2-speed, clutch, lamps, tools, spares; £75.—329, Old Ford Rd., E.3. [4849] INDIAN Combination, C.B., 7-9h.p., 2 speeds, clutch; bargain, £75.-53, Russell Rd., South Tottenham.

19¹⁵ Indian Combination, clutch, gears, good running order; 80 gns.—Springett, Billericay, [4172

INDIAN 5h.p., T.T. model, fixed gear, tyres good; first cheque £40 secures.—Whitehouse, 1, Gowrie St., Dundee.

19 20 Indians; prompt deliveries.—E. Brown, Indian Specialist. 3 and 7a. Parker Lane, Burnley. [X0334]

INDIAN 7-9h.p. Powerplus C.B. Combination, all accessories; £110; any trial.—C.S., 14, Swaton Rd., Bow, E.3.

INDIAN, 7-9h.p., clutch model, discs, fine running condition: £67, or nearest.-1b, Uganda St., Selkirk Rd., Tooting. [4793]

19¹⁴ 7-9h.p. Indian, 2-speed, coachbuilt sidecar; £75.—Maudes' Motor Mart, 100 Paris St., Exeter. 'Phone: 933.

DAN GUY, Weymouth,—1920 7.9h.p. N.E. Indian combination, electrically equipped, early delivery; £218/10, at works. [4022

7 h.p. Iodian, 1914-15, 2-speed, K.S., clutch, spring frame, excellent condition, accessories; £70.—
Clarendon, Staplegrove, Taunton. [4761]

INDIAN 7-9h.p. Road Racer, sound mechanical condition, lamps, horn, English controls; £52.— Letters, 22, Crookston Rd. S.E.9. [4178

19¹⁷ Powerplus Indian, in splendid condition, with brand new sideoar; £150, or other.—J. Dowland, 15, Parkhurst Rd., Sutton, Surrey. [4670

19 to 5-6h.p. 3-speed Indian, stored 2½ years, remained and overhapled; £80.-3, Gilston Rd., S.W.10. 'Phone: Kensiogton 5732. [4349]

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19¹⁵ 7-9h.p. Indian, spring frame, 2-speed, Idaal clutch, speedometer, lamps, horn; 26
Marks, College Sbip, Bromley, Kent. £130.—Indian Powerplus Combination, electric liging.—Clifford Wilson Mig. Co., 70, Royal Hosp Rd., Cbelsea, S.W.3. Tel.: Kens. 7113.

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INDIAN 1916 5-6h.p., T.T., 3-speed, clutch, language of the perfect condition; £75, or exchange 31/2-4h 2. c. bination, cash adjustment, -36, Oxford Rd., Winds

INDIAN 1915-16 5-6h.p., 3-speed, clutch, kick-star Canoelet caochbuilt sidecar, all accessories, condition, hardly used; £125.-63, Solon Rd., Brix 1914 7-9h.p. Indian, Swan sidecar, 2-speed, I horn, tyres perfect, fine condithroughout; £110.—Gill, 36, Nortbcote Rd., Walth

1916 Indian 5-6h.p. Solo, 3-speed, clutch, full lamps, T.T. bars, long aluminium exhaust price £30, no offers.—Star Laundry, 35, Sonth Wakefield.

NDIAN Coachbuilt Combination, 1914, 7-9h, speeds, clutch, electric horn, upholstering good running order; £95; Newcastle.—Box 1,657
The Motor Cycle.

10 15 7-9h.p. Iadian Combination, spring fram speeds, K.S., foot clutch, lamps, born, and good condition; £130, or offer.—Whiles, 25, Upper nington Lane, S.E.

NDIAN 7-9h.p. Powerplus Combination, electr equipped, 3-speed, hand and foot clutch, so meter, tools: £140.—Simpson, 8, Argyll St., don. Gerrard 1004.

19 15 Indian Combination, 7-9h.p., 3 speeds, starter, clutch, large Millford sidecar, 3in. F.R.S. lamp, 2 generators; £120; exchange light 82, York Rd., Battersea.

I NDIAN 3/4h.p. Combination, 2-speed, clutch, start, wicker sidecar, just been overban electric lamps: £70, or nearest offer.—C. I Junction Rd., Eastbourne.

Junetion Rd., Lesstoon Re.

T.T. Indian, 1915 7-9h.p., clutch: £85, no c owner leaving for Russin, machine being hauled, new back tyre.—Marson, c/o Thacker, 20, St., Hull. T.A.: Sumption, Hull.

1920 Indian, hest sidecar, speedometer, dynamo ing, no mileage, splendid combination; view don, N.E.; £220, or best offer over raceived wit days.—Box 1,624, c/o The Motor Cycle.

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1016 7-9h.p. Indian, solo, 3-speed, hand an most magnificent machine; 95 gns., or neur offichange lower power.—85, Wiverton Rd., Sydenb

1916 7-9h.p. Powerplus Indian Combination trically equipped, low mileage, excellent tion, mechanically perfect; any time by appoin nearest £160.—Richard Moore, Sutton Bridge, W

19 20 Powerplus Indian and Millford Sidecar, new, done only 200 miles, guaranteed, and complete, fully insured, electric dynamo la and horn, spring frame, speedometer; 195 gns.— M., 40, New End Square, N.W.5.

F.O.C.H. have a 7-9b.p. Indian, 2-speed and T.T. bars, excellent order and very fast —Fair Offer Car House, 5, Heath St., Har (near Hampstead Tube Station). Phouse Har 3752. Hours 9-7, including Saturdays.

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INDIAN 1917 7-9h.p. Powerplus Combination, condition, kick start, disc wheels, dynamo.) electric born, speedometer, tyres almost new, en in excellent condition, not ridden during part £145; seen by appointment.—Walker, 6, Carlto Maida Vale.

10 15 7-9h.p. 2-speed Indian Spring Fram bination, electric and acetylene lightin wheels, brand new back tyre, all good, the overhauled, little used during war; owner new ride through flying accident; £110, nearest Harrison, Hayle, Corowail.

his Powerplus 7-9h. h. Indian, kick start, 3 speeds, new accumulator lightling, hand and foot clutch, exhausts, good tools men the problekeid and filton, all like new, ride 50 miles to mechanical filton, all like new, ride 50 miles to Graver cany time; &105.—237, Iffoy Rd., Oxford. (501) ORTY Indian Combination, late 19. Powerplus, spring frame, hand and foot clutch, indian light, Riazon, torped aidean; Ramelin in 19. powerplus, spring trame, hand and foot clutch, in light, Riazon, torped aidean; Ramelin in 19. condition; alfoy; see hy appointment—A. Harti-Holmleigh, 24, Hedbridge Lanc, Wanstead, Essex [4998] Indlan.

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7 2-speed 2-stroke. Orders booked for carly de livery.—Rothwell and Milbourne, Cowleigh Girage 3:1mge, [6186]

6. HENLY and Co. are London and District agents for the lvy motor cycle.—Full particu-91, Gt. Portland. St., W.1. Mayfair 4084. [0022

ON, Villiérs 21th.p. 1915%, single speed, long ex-haust, excellent condition, accessories: 35 gas.— 4631 rd., Paddington, W.9.

James.

w 1920 James. 2-stroke, 2-speed; £65.—Harris's [X5096]

NOR Oak Motor Mart.—James, early delivery.— 129, Brockley Rise, S.E.23. [4482 JES, all models.—Order now for early delivery, -Egertons, Northgate St., Ipswich, [764. IES 1919 2Mh.p., 2-speed, good condition: £55.— Pepper, 14, Temple St., Birmingham. [X5117]

p. 1915 James, 3-speed, kick start: £75.—
Maudes' Motor Mart, 100, Paris St., Exeter.
[5086]

IES 1917 31/h.p. Twin, kick start, 3 gears, good is new; owner going abroad,—Cross, Upper 18, Sussex.

O James 5-6h.p. Combination, Easting screen, just delivered; best offer over £165.—Box 1.710, [4650

ES 4½h.p. Combination, 1915, externally and aternally absolutely as new, any trial; £85,-41, on Rd., New Malden. [4735

ES 1918 44h.p. Combination, Canoelet sidecar, imps, horn, speedometer, etc; £110.—Philpot. orge's St., Cauterbury. [5022]

UCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4, 44/h.p. James and sidecar, 1916, 3-clutch, and K.S.; £125.

ES 2-stroke 2-speed, good condition, exchange ith cash, combination; sell nearest £40.—Parti-Coretaker, Albany, Newquay.

SS 1920 5-6h.p. De Luxe Combination, just de-rered from works; £158; first cheque secures.— s Garage, Gunnersbury, W.4. [4747 James 4½h.p., Sandum sidecar, gold medal ager London-Edinburgh; to clear £125; owner ing car. Munt, Eastcheap, Letchworth. [4264] 188 2-stroke, 2-speed, 2,000 miles, new August, 18, perfect condition, tools complete; appoint £50, or offer.—Exe, 38, Belsize Park Gardens,

38 1916 41/h.p. Combination, Canoelet sidecar, ans, mechanical horn, low mileage, splendid n, owner going abroad; £100.—Sherlock, Stoke lough.

1916 James, 2-speed, 2-stroke, lamps, born, ls, etc., everything in perfect condition, very ed. £55, or near.—Furgerson, Ashlings, Clover-Ongar.

8 41/h.p. Combination. 3-speed countershaft f, clutch, kick start, etc., sylendid turnout, in condition: £115; seen on appointment.—3, Wigan. [4305

S Combination, 414h p. engine. 1918, 3 speeds, leh, kick start, 5 lamps, Klaxon, tools, the tft in excellent condition: £95; after 5-47. ld., West Dulwich.

James 4½hp. Combination, only done 1.500, 000 solo, new condition, screen, apron, grid, spare inner, Lucas lamps; £135—Box to The Motor Cycle.

3 1919 5-6h.p. De Luxa Combination, screen, oge carrier, leg shielde, Lucas lamps, spares, 1,1500 miles, perfect; 2165, no offers.—Davies, Lings Bromley, Lichfield. (4586)

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8 James Combination, 4½h.p., all enclosed ain cush drive, 5 speeds, countershaft, ick starter, mileage 1,000, condition as new, sories; £118.—72, Longridge Rd., Earl's oudon.

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JAMES Combination, big single, 5-seed, kick start, off-chain artive, Milliod concluding sudern, actually supported by the concluding sudern, actually supported by the concluding sudern, actually supported by the concluding order; 285.—Champ, clo Chanti, Kay and Cost, Engineers, Saltstand, Warwick.

6 h.p. Twin J.A.P. Combination Sparkbrook, 1916, little used; what offers?-20, be Beauvoir Rd., 1721

1914 8h.p. J.A.P. C.B. Combination, perfect throughout, exchange lightweight, 2-speed, £50, or sell; £95.—Sealy, Templecombe. [4879] STECIAL T.T. Racing J.A.P. 90 bore, 1914, Bosch, Senspray, re-enamelled Indian red, lamps, and horn; expert examination invited; £53... Wellington, 40, Lowlands Rd., Harrow.

Sh.p. J.A.P. Twin, complete with mag, and carlum-ctter, all good condition, bargain, 231; 3-speed Surmey-Archer gear box, all-chini, clatch, kiek starter and controls, new condition, £16.—Alexander, 94, For far Rd., Dundee.

J.E.S.

J.E.S., good condition, ride away; £17.—Hurst, New bury St., Wantage. [487]

J.E.S. Motorcyclette, better than a scooter, economical, reliable.—Enquiries invited by J. Blake and Co., Liverpool and Manchester.

Co. Liverpool and Manchester.

J. E.S. set, good order, new belt, £6; cycle, 24in., re-mainleld, back tyre new Hunlop magnum, £5; rendratyr, what offers?—Rev Senior, Fendrayton.

[X5193

J.H.

WAUCHOPE'S, 6, Shoe Lane, Fleet St., London, E.C.4.—7-9h.p. J.H. combination, 1915, M.A.G engine, Sturmey-Archer countershaft gear, clutch, and K.S.; £125.

Kerry

KERRY-ABINGDON, bought new in 1915, 3½h.p., hand-controlled clutch, spring lorks, etc., only heeu used 1,000 miles, and guaranteed good as new; and graftst deposit secures.—Box 1,705, c/o The Motor Cwele. Kynoch,

KYNOCH 31/2h.p., wicker sidecar, 2-speed, good condition; £40.—Crispin, Ellerhayes, Hele, Cullump Lea-Francis

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Lea-Francis, 1920, Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.I.

LEA-FRANCIS 31/sh.p. Twin, chain drive, 2-speed gent box, K.S., detachable wheels, good tyres; £65, bargain; room wanted.—40, Junction Rd., Kingsley,

Leafrancis 4h.p. J.A.P. Combination, June, 1919, F.H. Imps, generators, D.A. cylinder, new extra bear Discounting, spire over and tube, Klaxon, speed-ometry manurate October; 2149, offers; appointment, Southby, R.A. Collese, Greenwich.

DAN GUY, Weymouth.-1920 Levis 2-stroke, for immediate delivery. (4020 21h.p. Levis, 1916, lamps, born, perfect; £40 Parkstone Rd., Coventry.

EARLY Delivery Levis.—John Aldrich and Co., District Agents, Diss, Norfolk. [6632 L EVIS 1916 27th p., lamps, horn; £38; before 6.—
127, Malden Rd., New Malden. [4829]

19 20 Levis, just arrived from maker; will accept £60. —Manager, Hippodroue, Buxton. [4410

STROKE Levis, 1918, good running order; £45.-B.
E. Brighton, New York, Lincoln, 14333 CYRIL WILLIAMS for early delivery of Levis.— Chapel Ash Depot, Wolverhampton. [X8626]

LEVIS 214h.p. Popular Model, lamps and horn; £38.

-Philpot, St. George's St., Canterbury. [5020] EVIS 214h.p., new engine and mag., guaranteed perfect; £45.—Box 1,739, c/o The Motor Cycle. EVIS 214h.p.

5206 LEVIS Popular 21/th.p., 1916, excellent condition, nearly new Dunlops; £36,-41, Fore St., Heritford.

L EVIS 1916 21/h.p., semi-T.T., perfect condition.— Balcombe, Bisley Rd., Chobban, Woking, Suriev. 19²⁰ Levis Popular Model: list price in stock. Youngs, Heath Garage, Newmarket. Phone

Liverpool. France: France: Collaboration; by Liverpool. Burdett St., St. Michael's Liverpool.

LEVIS Motor Cycle, Popular model, in splendic condition, with lamp; bargain.—A. E. Bacon Wellington, Salop.

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Levis.

LEVIS 25(h.p., delivered November, 1919, only run 100 miles; 265, no offers.—Hayward Bros., Hawk-tone Rd., Rotherhithe. [4522

L EVIS 21/h.p., spring frame, 2-speed, free engine, chain drive, excellent condition; £55.-7, Primrose Hill, Chelmsford. [4895]

1 0 18 Levis Popular, lamp set, all as new, 120 n.p.g., climbs beautifully; ride away; offers.—135, Plashet Rd., Unton Park. [4191

LEVIS 21/4h.p., just overhanled, speedometer, lamps, etc.; bargain, £42; 7.15 or Saturday 1.30,—156, Grosvenor Terrace, Camberwell, S.E.5. [4335]

1.0 19 Levis 25kh.p., 2-speed, long nickel exhaust, all accessories, low mileage, fast and sporty, perfect condition; £62.—Write, Colquboun, Ruehton, Wye, [4188] LEVIS 21/4h.p., sporty solo mount, condition and appearance almost equals new, trial any time, Sundays excepted; 30 gns.—Hull, Chandos Rd., Buckingham.

I EVIS 2'4h.p. 1920 Popular Model, in stock.—Vivian Hardie and Lane, Ltd., authorised agents, 24, Woodstock St. (off Oxford St.), Bond St., W.1. 'Phone: Maylair 6559.

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LINCOLN-ELK, Bosch, B. and B., lamps, horn, accessories, take two anywhere; £40 cash.—Jackson, South St., Crewe. [4868] cash.—

LINCOLN-ELK 1919 41/h.p. Combination, lamps, tools, etc., as new; £120; after 2 Saturday or Sunday.—48, Upper Clapton Rd., Clapton, E.5. [4673

Lloyd.

LloyD'S 2-stroke, 2½h.p. Villiers engine, 2-speed and free, set of Lucas lamps; bergain, 246.—
Bacon, Wellington, Salop. (X5296

Martin.

10 14 Martín-Jap, stored eince 1915, long flexible aluminium exhanst, new oval tank, and specially lightened piston, very fast; 255, or close offer for quick sale; owner now no place to store.—Letters only, 86, Foxley Lane, Purley.

Martinsyde.

MARTINSYDE-NEWMAN.—Who is going to be the lucky person to be first on our waiting list for one of these splendid machines?—Julian, 84. Broad St., Reading. "Phone: 1024.

MARTINSYDE-NEWMAN Combination, 64. Broad St., Reading. "Phone: 1024.

MARTINSYDE-NEWMAN Combination, 64. Each rotation delivery with J., Blake and Co., the motor cycle experts, 110-112, Bolt St., Liverpool, Britain's premier motor cycle saloon; also at Biackfriats St., Marchiester.

Matchless.

CROW Bros., Guildford, West Surrey agents for this first-class outfit.—Matchless in name and quality.

MATCHLESS 1920 Spring-frame Combination, spare-wheel, lamps, just delivered; offers.—31, Cecil Av., Wembley. [4990]

19²⁰ Matchless, Model H, delivery in few days; £5 deposit paid; what offers?—Box 1,711, c/o
The Motor Cycle. [4649

19²⁰ Matchless, Model H.—To ensure delivery, send enquiries, Clapham (Motors), King George St.. Greenwich, S.E.10. [5094

19 20 Spring Frame Matchless, spare wheel, bood, lamps, spares, etc.; best offer over £200.—Box [X5189]

MATCHLESS Combination, 1920, unable to t delivery April, £10 deposit paid; what offer Box 1,741, c/o The Motor Cycle. [5] unable to take

MATCHLESS 1919 Victory Model, spare wh screen, and hood, as new; £170.—Stainton, Nansen Rd., Sparkhill, Birmingham. [X5 [X5344

MATCHLESS Combination, oldered October last, de-M livery promised about Mariel; deposit paid; no premium.—Box 1,622, clo The Motor Cycle. (4220 19 28 Spring Prome 8h.p. Matchless Combination, H. model, promised next week; offers wanted by letter.—A. Martin, 59, East India Dock Rd., Popler, London, E.

London, E.

MATCHLESS-JAP 8h.p., 1913, Gradua geor, Bosch,
Amac, accessories, good tyres, excellent condition;
675; seen week-ends.—Glengarry, Portsmouth Av.,
4428



HOME COUNTIES Agents for

Reading Standards

Note: -

The Chicago Show Model is on view in these Showrooms and well worthy of inspection.

NEW MACHINES IN STOCK.

ROVER, 5-6 h.p	Com-
GLYNO , 21 b.p., 2-stroke	Solo.
CLYNO, 21 h.p., 2-stroke	Solo.
P. & S., 2 h.p., 2-stroke	Solo.
COULSON-B., 23 h.p	Solo.
VERUS, 21 h.p.,2 stroke	Solo.

	OGGO MAUNINES.	
	TRIUMPH, 4 h.p	Solo.
	RUDGE, 31h.p	Solo
1919	DOUGLAS, 4 h.p	Solo.
1919	DOUGLAS, 4 h.p., blue sc	Com.
1919	LEA-FRANCIS, 3 b.p.	Com.
1918	SUNBEAM, 31 b.p	Solo.
	MORGAN - J.A.P. 3-	
١.	wheeler, water-cooled.	

We tender our apologies to the intending purchaser who studies these columns, and request bin to please bear in mind that all advertisement copy has to the the publication, and it herefore however the three publication, and it herefore however the three publication, and it herefore how the three publication and the state of the publication of the public

So far as we are concerned, we offer only machines we actually possess or expect to receive (by the date of publication) from the maunifacturers whose promises are made in good faith, but are governed by abnormal circumstances.

89, Gt Portland Street London.

MOTOR: CYCLES FOR SAL Matchless.

M-ATCHLESS, early 1917, M.A.G: enginess. acetylene lamps; Tan-Sad and bany time.—19a, Hardess St., Longhborough S.E. (Private owner), £165.

MATCHLESS Combination, the latest Mod-on; advertiser is entitled to immedial livery-from works, but unable-to clear, offers w AJL, 468, Harrow Rd., Paddington.

MATCHLESS Model H. Combination in dynamo lighting, spring frame and side screen and horn; at list price.—Clorke and Simu High St., Strood, Kent. 'Phone: Chatham 67

MATCHLESS New Spring-frame Model booked for rotational delivery. Demo model on view. Replacements for Motchless nall dates in stock.—Tassell, 1a, Bloomfield Rd stead, S.E.

MATCHLESS Model H Combination, dynaming, inly equipped. Book now for early -Authorised London agents, Virian Hardie at Ltd., 24, Woodstock St. (off Oxford St.), Bond S Thone: Mayfair 6559.

MATCHLESS-J.A.P. 1913-14 6h.p. Twin, overhead valves, engine recently thorough hunled by J.A.P., rspeed, complete with lam splendid condition, very fast; £70; any trisl.—246, Marsh Lane, Bootle, Lancashire.

19 20 Model H Matchless Combination for S about 1,500 miles, complete with all ac and tools, Cowey speedometer and born, all Luce and perfect engine, very fast; any trial; pricosh.—Barker,—19, Rookfield Av., Muswell Hidon, N.10.

MATCHLESS C.B. Combination, Model H.B. 1918, M.A.G. engine 201X 35028; 3-spee complete, with spare wheel, electric lighting, meter, spares, etc., original tyres still on, in running order; £175, or first near offer.—Station Rd., Letchworth. Phone: 42.

MATCHILESS Combination.—Book your orde Ross, 86, High Road, Lee, 8.E., for 1920 frame 8hp., Matchless combination. A model on view at above address. Deliveries gua-strictly as per order received. Retail price as n time of delivery. A. large assortment of secon motor cycles of all makes always in stock.

METRO-TYLER In Stock, immediate de Phone: 962.—Egertons, Northgate St., 1

NEW 1919 Metro-Tyler, 2-stroke, 25/h.p.; owner must sell.-21, Penfillia Rd., Bryn

METRO-TYLER, 1919, not done 200 miles and horn, better than new; £45.-Phily George's St., Canterbury.

METRO-TYLER, 1919, in splendid condition Pedley grips, very fast and sporting; 2-Lower Clapton Rd., Clapton, E.5.

NEARLY New Metro-Tyler, 1919, lamps, hornetc., low mileage, guarantee; any trial; 48 Raymaside, 8, Station Parade, Balhom.

METRO-TYLER.—Enquiries from Liverpot district invited by J. Blake and Co., 1 Bold St., Britain's premier motor cycle saloon. METRO-TYLER. 1919. specially fitted with 2-speed clutch, kick start. Amac, E.I.O long plated exhaust, just overhauled, splendid m £70.-1, Durham Villas, W.8.

1 O 18 Metro, 2-stroke, 2-speed, long plated disc wheels, enamelled red, smart little and fast, guaranteed good condition; £50-101, Springbank Rd., Hither Green, S.E.6.

19 19 Metro-Tyler, 2 speeds, disc wheels, gu November, now requires countershaft 1919 or 1: umph; buy sepanately or have deal with Metro Box 1,515, clo The Motor Cycle.

METRO-TYLER.—We can deliver from stock models of this super 2-stroke, list price, 2 or with dies wheels and long exhoust pipe, 27. City agents, Elee and Co., 15-16, Bishops, Camomile St., E.C.3. "Phone: Avenue 5548.

Minerva.

23 b.p. Minerva, coil ignition; seen running; £9.-Woods, 10, Barbot St., Lower Ed.

MINERVA 31/2h.p., mag., B. and B., new ty ning order; £20.—Richmoud, 21, Southbi

31h.p. Mincrya (late model), low Irame, Lycetts, B. and B., Fischer, fast sporty 235.—Sion Cottage, Riverside, Twickenham. MINERVA 31-h.p., coil ignition, B.B., n and tubes, new cylinder, rebushed, Inpuls well; bargain, £25.—Sargent, Weetern 1 hill, Sussex.

1h.p. Minerva, Indian red, countershafe gear kick stant requires new-pinion, lar-tyre and bet all brand new, take sideor any excellent condition throughout: £38; const weight exchange with cash.—Frank Wagstat Peterborough.

Moto-Reve

Ah.p. Moto-Reve Twin, good condition, smart 4 appearance: £24, or offer.—Coleman, Sheldon d., Chippenham. [4871

Motosacoche.

OTOR Cycle, Motosacoche lightweight, perfect imling order; 228.—Overton, Grayshott, Hindhead.
[4302] 11h.p. Motosacoche, Amae carburetter, new A aluminium Jootboards; £20.—58, High [5039

OTOSACOCHE, coil ignition, in nice condition, shifts and runs perfect; £19.-White, 62, High , Kingston.

New Hudson.

IEW HUDSON, 2-stroke, 2-speed; £65; just arrived.

-Jenkins, Cycle Agent, Northampton, 1X5220

9 16 4h.p. New Hudson Combination, speedometer, electric lighting, any trial; offers.—59, Blenim Rd., Walthamstow. [4908] im Rd., Walthamstow. [4998]
16 New Hudson, 2-struke, 2-speed, free, counters-shaft, lamps, good condition; £45.—195, Stonise St., Clapham Common. [4951]

[EW HUDSON 1916 5h.p. 3-speed Countershutt Combination, perfect order, wind screen, lamps, a, nearly new tyres; £125.—Thompson, 168, Arch-F Rd., Highgate, London.

r Rd., Highgate, London.

EW HUDSON 6hp. Coachbuilt Combination,
believed 1915 model, twin J.A.P. engute, 3-speed,
tch and countershaft, powerful and comfortable
fit, good running order; 80 gms; even by appointat only—Write, Capt. Mann, 13, Braton 86,
15 New Hudson, 4h.p., 3-speed, kick starter,
hand lever clutch, T.T. bars, big exhaust, new
ups, nearly new byres, new bolt, nechanical and
borns, recently overhauled, in excellent condit inroughout; £75,—Sladden, Shaltesbury Loo
cles. (492)

New Imperial.

h.p. Imperial-Jap, 2 speeds, new; 64 gas.—S. E. Porter, Whitchurch, Salop. (X5108 ROW Bros, High St., Guildford, have contracted largely for 1920 New Imperials. \ [X7946

ONOR Oak Motor Mart,—New Imperials, book now.—129, Brockley Rise, S.E.23. [4480 17 New Imperial, 234h.p., kick-start; £55; exchange combination.—16, Nutbrook St., Peckham S.E. (4538

16 25th.p. New Imperial-Jup, good tyres, lamps, perfect condition; trial; £47.-151, Kingston Teddingtoo. [5098]

EW IMPERIAL-J.A.P., 1916, 254h.p., 2 speeds, condition as new; any trial giveo; £46; after 6.— Brent St., Hendon. [4619

195 New ImperiaJap, 2-speed, excellent condition;
248, or nearest offer; owner buying car.—Rus19, Osbaldwick, York.
185103
W IMPERIAL War Model Combination, 8hp.
JAP. entine, good as new; £145.—Jones' Garage,
town, Monfgomeryshire.
(X5152

town, Montgomeryshire. [A5152]
p. W.D. New Imperial Combinations, immediate delivery; £145.—Maudes' Motor Mart, 100, Paris Exeter. Phone: 933. [5082]

55.—New Imperial 1920 6h.p. and sidecar, under 50 miles.—Clifford Wilson Mfg. Co., 70, Royal ital Rd., Chelsea, S.W.3. Tel.: Kens. 7113. [4979

W IMPERIAL 234h.p., 1916, 2-speed, perfect condition, very little used, accessories, spares; -Cleveland Hood, Nunthorpe, S.O., Yorks. [3610

W-IMPERIAL-J.A.P. 24h.p., 1918, perfect order, 2-speed, clutch, kick starter; £58, now £77/14; Bedford.—Box 1,655, clo The Motor Cycle. [4355] 16 New Imperial-Jap, 25th,p. 2-speed, complete with lamps and mechanical horn, just auled; £47/10.—2. Oak Villas, Station Rd., lyficet.

W IMPERIAL-J.A.P. Lightweight Combination, contressant gear box, kick start, hand controlled 4, sound and efficient, and looks nice; 58 gns.—trundel Rd., Croydon.

W IMPERIAL 1915 21/h.p. J.A.P., 2-speed, damps: 42 gas., or exchange with cash powerful cation; 5 days' guarantee given and required.—
War Hospital, Reading. [4965]

9 New Imperial, brand new, been used 200 miles only, 6-8h.p., 3-speed countershaft, chain guaranteed perfect and unscratched; £110, first t secures.—Box 1,599, c/o The Motor Cycle, [4859]

o Schp. New Imperial, solo or combination: immediate delivery from stock. Secure now for -Clapham (Motors), 119, King George St., steb.

V IMPERIAL-J.A.P., 70×76 mm., 2-speed, Claxon, acetylene head light, electric rear light, 916, in first-class running order; £45.—Adams. enmark Rd., Lowestoft.

24matr Rtt., Lowestoff.

§ New Imperial-Jap, 254h.p., splendid condition, very little used, electric acetylene lighting light, horo, tools, complete; £55.—H. Woods, Nornear Guildiord, Surrey.

[X5254]



FOR THE CONNOISSEUR.



THE CLASSIC

BRIEF SPECIFICATION. 3½ h.p. V twin engine.

3-speed countershaft gear-box, with clutch and kick starter. Chain-cum-belt transmission.

Adjustable foot rests. 26in. x 21in. Palmer cord tyres. Equipped with Lucas dynamo. Lighting set and horn.

Price, complete.

140 Guineas.

FARLY DELIVERIES.

SECOND-HAND MOTOR CYCLES IN STOCK

1919 JAMES, 2-stroke, 2 speeds (as

1919 RUDGE, 5-6 h.p., multi-gear, clutch and kick starter, with sidecar, £115 1920 SCOTT, 3²₂ h.p., Watford speed-ometer (as new), £120

1919 EXCELSIOR J.A.P, 23 h.p., 2 speeds, clutch and starter (as new), £70 1919 TRIUMPH, 4 h.p. Millford sidecar, Lucas lamps and horn, £130

1919 A.J.S., 6 h.p. combination, spare wheel, windscreen, Lucas lamps, Lucas horn, Watford speedometer, etc., not driven 100 miles, £230

1915 G.W.K., 4-seater, light car, dynamo lighting, detachable wheels and spare hood, screen, horn, speedometer, £240

Eastern Garage Co.,

Official Repairers to R.A.C., A.C.U., A.A. & M.U.

418, Romford Road, Forest Gate, E.7.

Telephone—490 East Ham.
- Telegrams—"Egaraco, London."

MOTOR CYCLES FOR SALE.

New Imperial.

19 20 New Imperial, brand new, still wrapped up, 6-8h,p., 5-speed countershaft, all-chain drive, etc.; £120, list price now £124, first deposit seemes.—Box 1,698, c/o The Motor Cycle. [4653

Box 1,598, c/o The motor eyers.

SEW IMPERIALS, A.P. 28th.p., 1916, 2-speed, lanns, horn, accessories, Tan-Sad nillion, little used, almost new; £50; after 2.30 Saturday, any time Sunday,—112, Warren Rd., Leyton, [4864]

N EW IMPERIAL Sh.p. 1919 O.B. Combination, only indden a new miles, complete set of lamps and spares, absolutely perfect; any trial; £160.Apply, Alderson, Rosslyn House, New Barnet (by appointment), [2901]

F.O.C.H. have a 25th.p. New Junetial, 2-speed, brand new; list price—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). 'Phone: Hampstead 3752. Hours 9-7, including saturalization.

New Ryder.

New Ryder.

New Ryder.

New Ryder.

September, 1919, Villiers-engined, 2-speed, 2-stroke, lamps, tools, large Klaxon, little used; £55, or nearest.—Montgomery, 60, Canon (X5282) St., Shrewshury.

Norton.

JACK HEALY, Cork, official Norton agent.—Rotational delivery. No premiums accepted. [6486]
NORTON, new, 3½ h.p., T.T., Philipson pulley, dehvered Dec.; £101.—Byrne, Lockites, Godalming.

NORTON 1914 3½h.p., very fast and in exce order; £68/10.—Dowell, High Rd., By

4 h.p. Norton Combination, 1915, completely equipped, electric lamps and horn; £105.—Edwards, 76, Hunterhouse Rd., Sheffield. [X5264

1920 T.T. Norton, Ace discs to match, ordered 5 months; transfer for highest offer over deposit paid (£5). Pool, Yaddlethorpe, Scunthorpe. [X5180] paid (£5).—Fool, Yaddlethorpe, Scunthorpe.

SPEED Norton, 1919, ridden 300 miles by expert.

Scuddition as new; what offers Immediate delivery.

Avorton, 193, Inaderdale Mansions, Maida Vule, (4894).

LATE 1919 Big Foor Norton, delivered November,

Inttle need, P. and H. Immps, Cowey horn, insured,

Tan-Sad; owner going abroad; £140.—Tidy, Avet.

1/thone: 350.

NORTON T.T., 1917 or late 1916, Philipson, lamps, horn, tools, spares, practically new tyres, perfect condition, and very just; 278.—29, Mayfield Rd., Mose-ley, Binningham. ley, Birmingham.

1920 Big Four Norton, ordered February, 1919, second on waiting list; advertiser will transfer order for £20, including £5 deposit paid.—Box 1.686, [4465]

NORTON B.R.S., 1916-17, stored till April, 1919, condition perfect, original dyres, Lucas lumps, 2 generators, horn, kneegtips, drip fee; £85; by appountment; Herts.—Box 7,734, c/o The Motor Cycle. [5201]

D19 Big Four Norton, enclosed chain drive, Grindlay steel, host by sideour with natent suspension and spring wheel, hood and wind sceen with adjustable side curtain, luggage grid, a comfortable and tast outfit, in pertect order; price £160.—Meriden House, 3, Meriden St. Coventry. N.S.U.

31h.p. N.S.U., 1912, 2-speed, clutch, lamps, horn; £38, offer.—Vincent, 14, Angell Rd., Brixton, [4559] S.W.9.

N.U.T.

JACK HEALY, Cork, official N.U.T. agent.-Rotational delivery. No premiums accepted. [6489] STANLEY RUSSELL, Newport, sole Isle of Wight agent for N.U.T. motor cycles; early delivery.

N.U.T., 1920, delivered Feb. 18th: highest premium purchases.—Balderston, Horwich Rd., Wymondham.

19²⁰ N.U.T., aristocrat of motor cycles; list price; in stock.—Youngs, Heath Garage, Newmarket. [0119

CHROPSHIRE.—N.U.T. sole agents for the county:
demonstration model in stock. Orders booked in
strict rotation for early deliveries.—James Garages,
Church Stretton. [2339]

W. SPARROW, Ltd., Osborne Garage, Yeovil, sole agents for Somerset, including 10 miles radius of Yeovil, for N.U.T. motor cycles; early deliveries. Write for particulars. [8395

19 4 27h.p., O.H.V. Twin N.U.T., 3-speed, appearance only fair but mechanically sound and a lovely little bus, as hot as could be wished for; \$557/10.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town, N.W.

N.U.T. 1920 Model 31th.p., Lucas dynamo lighting, delectric horn; 140 gns., complete.—Authorised London agents, Vivian Hardle and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.1. "Phone: Martin 6559. Book now for early delivery."

O.K. 1916 2-speed Lightweight; £45.—Holifax Motor Exchauge, Union St. South, Holifax. [4383]
19 15 O.K. Junior, 2½hp., o.h. valves, lamps, perfect; 440, or ofter,—Ward, 104, Pemdevon Rd., Crossian Company, 1988 (1988)

don.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B23

O.K. 3h.p., very fast, good condition, any trial; £35.—Rawlings, 114, Greyhound Lane, Streatham, Common. [5192]

O.K. Junior, brand new, 234h.p., 2-stroke, 2-speed; first cheque for £65 secures.—Birch's Garage, Wolverhampton. [4450]

O.K.-New 2-speed 2-stroke, Villiers, in stock.-Chandler, Reyre and Williams, Hitchin, Herts.

2 h.p. O.K. Junior, 1916-17, m.o.i.v., 2-speed, 2 lumps: trial, Thursdays excepted; £40.—Lic Quanenden, Offam, W. Malling, Kent.

O:K. Precision, 354h.p. fixed engine, new Hutchinson, drop bors, very fast, in new condition; £45.

-7, Hercules Rd., Holloway, London, N. [4211]

-7. Herenies Ed., Honoway, Louway, A.

O.K.-VILIGES, new 1920 model, 2'Ab.p., 2-speed;
One available for immediate delivery; 265.—
Prank Whitworth, Lid., 139, New St., Birminghamas,
Do net delay in ordering your O.K. Union, You will be disappointed if you do. We can give earliest deliveries.—Elhiott Bios. and Stevens, Cambuslaug, Ghasgow.

O.K. Juaior 21/h.p. 2-stroke, 2-speed, new October, 1919, cost £65; run under 600 miles, in splendid running condition; first offer 50 gns. secures.—Heskins' Garage, Portsea, Portsmouth. [X5175

O.K. 23(h.p., 2-speed, M.A.G. engine, new April, 1918, P. and H. head and rear lamp sets, mechanical horn, T.T. bars, Pedley grips, mileage 600, condition and appearance perfect? \$50, bargain.-20, Derby Rd. Crydon.

Omega.

19 20 Omega-Jap 25 h.p., clutch model; 72 gns.-S. [X5106

STANLEY RUSSELL, Newport, sole Isle of Wight agent for Omega-Jap motor cycles; early delivery, 15296 OMEGA-J.A.P., 2-speed, and medel de luxe, at 66 and 74 gus. respectively.—Stocked by Lloyd and Son, 29, Station St., Lewes. [1675]

Overstone.

1919 Overstone-Villiers 27/h.p., Albion 2-speed, Danlops, lamps, horn, etc., perfect order; nearest £58.-33, Vactoria St., Coventry. [X5337]

P. and M.

P. and M. Sidecar, as new: £22; consider exchanges.

-II. Rock, Cradley, Staffs. [X5184]

CYRIL WILLIAMS for early delivery of P. and M.'s.—Chapel Ash Depot, Wolverhampton. [X8624 M.'s.-Chapel Ash Depot, working drive; £55.-and M. 2½h.p., 2-speed, chain drive; £55.-Collier's Motones, Union St. South, Halifax. [4485]

P. and M., 1919, Watsonian sidecar, lamps, condition perfect; £102/10.—M., Leigh Place, Reigate.

P. and M. Combination, 2-speed, K.S., complete with lamps, periect older; £58.—White, 62, High St. Kingston.

Kingston.

19 31/h.p. P. and M. and C.B. Perfection sideour, hew Aug., garaged since Oct.; £120.—A. Reid, Fine St. Wiexham. [4591] King St., Wiexham.

P.M. 34/hp., 2-speed, F.E., recently overhauled, excellent running order; ride away; £35.—Thaxter, Seagate, Hunstanton. [4746]

P. and M. Late 1919 31/h.p. Combination, Mills-Ful-tord coachbuilt sidecar, Lucas lamps; £105.—Given, White House, Atherstone. [4186]

NEW P. and M., never ridden, received last week; seen any time by appointment; what offers;—Temby, Okehampton, Devon. [4590]

19 19 P. and M., indistinguishable from new, black and gold lines, all accessories by Lucas; £93.—A.M., 80, Church Rd., Barnes, S.W. [4584]

10 (August) 3½h.p. P. and M. Combination, sporting sidecar, electric lighting; £125.—Blenheim Motor Co., 15, Woodstock St., W.1. [4716]

P. and M. 3½h.p., late model, 2-speed, kick start, lamp, horo, toolbag, smart appearance, mechanically perfect; £70.—N.W. Garage, 143a, Abbey Rd., N.W.

19 20 P. and M. 3½h.p. Combination, Canoelet Sidecar, unscratched, under 30 miles, P. and H. lamps, Klaxon, etc.; £125.—Box 1,713, c/o The Motor Cycle.

P. and M. Combination, overhauled, in perfect condition, good tyres; trial given any time after 7 p.m., Saturdays 3 p.m.: £75 nett.—H., 81a, Hambalt Rd., Clapham Park, S.W.4. [4504

P. and M., late R.F.C. model, for renovation, complete with chain cases and all parts except contact breaker; bargain at £50.—Hubert Turner, and Co., 4-5, Crawford Passage, Ray St., Farringdon Rd., EC.

P. and M. 1919 3½h.p. Combination, delivered Rugust, cycle mostly used solo, new tyres, epares, etc., absolutely perfect condition, will ride 50 miles to purphaser; £120—Stokes, Shipcote, New Diggin-by-Sa, Northumberland.

COVENTRY MOTOR

LONDON ROAD, COVENTRY.

Telegrams - " Selection, Coventry,"

FOR SALE AS FOLLOWS, February 18th.

ZENITH, model H, 8 h.p. clutch, kick-start, solo. BAT-J.A.P., model No. 4, 6 h.p., solo.
HAZLEWOOD-JA.P., 6-8 h.p., combination.
QUADRANT, 4½ h.p. all-chain drive combination.
NEW IMPERIAL, 8 h.p., all-chain drive solo or

combination.

NEW IMPERIAL, model No. 1, lightweight.

EDMUND-J.A.P., spring frame, Enfield 2-speed

ALLDAYS ALLON de Luxe, z-speed, kick-start. HOBART-J.A.P., Sturmey 2-speed gear box, kick-

HOBART, 2-stroke, 2-speed, band-controlled gears CLYNO, 2-stroke, 2-speed, band clutch.
CALTHORPE, 2-stroke, Enfield 2-speed gear.
CONNAUGHT, 2-stroke (miniature model), 2-speed
kick-start

CONNAUGHT, 2-stroke (standard model) single

To the Trade

We are now fixing up AGENCIES throughout the Kingdom for

THE C.M.M. UNION:

BRIEF SPECIFICATION

Engine.—Union 23 h.p. 2-stroke.
Carburetter.—Brown & Barlow.
Ignition.—M.L. and C.A.V. bigh-tension waterproof magneto.
Frame.—Exclusive design, with a one-piece headlug, made from finest quality weldless steel

Handlebars.—Upturned pattern or semi-T.T. or or T.T. at option.

Forks.—Brampton Biflex.

Tank.—Special design, narrowed at back, finished

in best quality enamel, with green panel. Wheels.—26×21, with oil-retaining dust-proof hubs.

Tyres.—Dunlop 26×2}. Belt.—Dunlop.

Saddle.—Panseat, Lycett's, or Leatheries.

Mudguards.—Extra wide.

Toolbags.—Paunier type, with tool-roll and necessary tools. Gear .- Burman 2-speed.

Footboards or footrests at option.

Models.—Three. Single-speed, 2-speed, and 2-speed kick-start, hand-clutch.

MANUFACTURED IN COVENTRY, no! "Down to a Price," but "TO AN EXPERT'S IDEAL." IMMEDIATE DELIVERIES. LARGE OUTPUT.

COVENTRY MOTOR MART, LTD. London Road, COVENTRY.

"Selection, Coventry." Telegrams:

MOTOR CYCLES FOR SALE.

P. and M. 1920 P. and M. brand new, with brand from makers, also fitted £53 sidecar outfit, just rear sidecar lamp; £155 the lot, a great bargain, depost secures,—Box 1706, c/0 The Motor Cy.

21b.p. 1917 Military Model P. and M. and Si 2 absolutely first-class mechanical condition taked up to sell, discs, born, lamps, bags of s £82/10, or solo £77; any trial.—At B.P. G J.A.P. Specialists, 40, Murray Mews, Murray St., den Town, N.W.

DHCLON MOORE, 1917 and 1918 models, et tary stores, completely overhapled and anteed by us as new; 278: Moutgomery, Millor P. and M. sideous to suit if required at unker price—Maudes' Motor Mart, 100, Gt. Portlam Londov, W.1, and 100, Paris St., Exeter.

P. and S.
WAUCHOPE'S, 9, Shoe Lane, Fleet St. Leterns arranged.

P. and S. 2-stroke.—Several models in stoch immediate delivery.—The Commercial Road port. Co. (Birmingham), Ltd., 39-47, Hablane, Birmingham. Phone: Central 4250... Commerport, Birmingham.

Peugeot.

PEUGEOT 23/h.p., engine good, Bosch mag., low, 26×214 wheels, enamel and tyres good; trial.—Edwards, Brightwell, Wallingford.

DEGRECT SAMPLE, BIGGORGE, WHITESTONE B. and B. ce tetter, n.i. valves; £25; too heavy for own Sult, c/o White Hart, Buutingford, Herts.

PETGEOT Motor Cycle, Ch.p. twin, side-cylluders, ash spring frame, 2-specd, Simma B. and B. carburetter; £26.—Syd. Pearson (see Diameous).

19 18 Pope 7-9h.p., overhead valves, new mileage under 2,000, as owner has been abroad; or offers.—Sub-Lt. Binuy, Emmaunel College,

Precision.

PRECISION Enquiries Invited by J. Blake an the leading motor cycle experts, Liverpoo Manchester.

PRECISION Combination, T.D.C. engine, I gear, 1914; £58; would separate.—Williams, S. Rd., Amersham, Bucks.

Premier.

PREMIER 1916 41/4h.p., 3-speed, clutch, kick £65.-325, Essex Rd., N.1. (Bell.) PREMIER, 1915, 3 speeds, clutch, K.S., nev tyre; bargain, £55.-1b, Uganda St., Too

19 14 21/2h.p. Premier, 3-speed, clutch, di lamps, discs, etc.—14, Highnam Cres., Si

PREMIER 25/h.p., semi-T.T., perfect order, horn, etc., good tyres; 30 gns.-10, Baro Rd., Barnes.

PREMIER 3½h.p., Bosch, new tyre, tub original enamel, good running order; Woolsey, Gooderstone, Stoke Ferry.

PREMIER (late 1914) 21/4h.p., C.A.V. more been thoroughly overhauled, condition except. S. Marshall, Ltd., 33-34, Foley St., W.

Mayfair 5906. PREMIER Combination, 1913-14, 3½h.p.,
Bosch, Millford coachbuilt, screen, good
fine condition: £58; any trial.—50, Hambled
Southfields, S.W.18.

F.O.C.H. have n 2½h.p. Premier, Grado gear, good running order; £21.—Fair D House, 5, Heath St, Hampstead (near Hampste Station). 'Phone: Hampstead 3752. Hours

cluding Saturdays.

31h.r. Premier and torpedo wicker sideon 32 mag., Senspray confurcter, Armstrong gear, kick sturter, variable puller, tyres Dut new, complete with lamps, horn, etc., perfect order: inde away; first offer over £75.—Fra Baker, Rochford, Essex.

DREMIER 3½h.p., 3-speed, clutch, kick st. exhaust, tyres as new, P. and H. he Stewart speedometer, engine inst thorough hauled, excellent throughout, Mills-Fullord perfect, very smart, hood and screen, lamm, & high weight wanted.—Newman, School Houteridge, N.20.

Quadrant,

4 b.p. Quadrant Motor Cycle, free engine, ri-£20.—Copping, Floods, Ipswich Rd., Co-

3 h.p. Quadrant, dropped frame, automati spring forks, new tyres, splendid conditi -Trust, 1, Burrard Rd., West Hampstead 19 16 4½h.p. Quadrant Coachuit Combinatio II 3 speeds, kick elarter, speedometer, lon-perfect condition; £90.—Brown, 80, Goddard

B24 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issu

Quadrant.

[7AUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4, supply new Quadrants from stock, 1920 dots, for immediate delivery; sales £95, combinants £122'105.

9 16 Quadrant and C.B. Sidecar, B.S.A. 3-speed, Quitch, kick starter, Senspray, dissolved accepteme electric lighting, nearly new tyres, hoad, spares; 5; after 6.—Ford, 28, Dyson Rd., Leytonstone, E.11.

5; after 6.—Ford, 28, Pyson Rt. Leytonstone, E.1.; (TADRANT Aluminium Combination, 4½h.p., clutch, and a product of the combination of the combin

Radco 2¹,h.p. 2-stroke, nearly new; £35,-64, [5196] Church St., Edgware Rd., [5196] CANLEY RUSSELL, Newport, sole Isle of Wight agent for Radco nector cycles; delivery commenced. [5298]

ADCO Motor Cycle, lamp, generator, speeddometer, horn, 1918 model, good as new; £45, nearest r.—Berry, The Rookery, New Malden, Surrey, [5184

Reading-Standard.

EADING-STANDARD, the world's master motor cycle.—For earliest deliveries, order from J. ran-Ackroyd, Hvde Park, Leeds. [5105]

EADING-STANDARD 1917 10h.p. Twin, 3-speed countershaft, clutch, kick-starter, accessories; £85. oldsmith (adjoining Post Office), Cobham. [5004] oldsmith (adjoining Post Office), Coonam. [2004]
EADING-STANNARD Combination 10-12th.p., 3speed countershaft with clutch and kick-start, 3speed countershaft with clutch and kick-start, 3speed countershaft with clutch and kick-start, aspeed countershaft with clutch and kick-start, aspeed countershaft with clutch and kick-start, aspeed countershaft with clutch and kick-start, aproper leading to the countershaft with clutch and clutch a

Regent.

EGENT.-For earliest deliveries, order from J. Barran-Ackroyd, Hyde Park Corner, Leeds. [5106 ND postcard for particulars of Regent 5-7h.p. flat two to us. We can give earliest deliveries of these fines.—Eliott Bros. and Steveus, Cambuslang, arkshire agents.

Rex.

p. Rex, overhauled, in first-class running order and condition; £30.-146, Southfield Rd., Chis-

EX 5h.p. Twin, clatch, completely overhauled and new tyres; any trial here; £28.—Fry, Fellridge, t Grinstead. [4216]

EX 314h.p., mag., fixed gear, good tyres, small repairs needed; bargain, £20.—Ray, 20, Westow Hill, er Norwood, E. [4565]

EX Latest 8h.p. 1920 Combination; £180; order now for earliest deliveries.—Halifax Motor Exuge, Union St. South, Halifax. [4486]

EX 1914, sidecar, 6-8h.p., twin-cyl., 3-speed, clutch, Bosch mag, kick start, lamps, new tyres, luggage for fixed, in good running older, complete; £75—ney Garage, Cauden Town, Regent's Park, N.W.I.

SX 1915 Combination, 6h.p., 2-speed, handsome C.B. sidecar, hood, screep, powerful engine, excel-condition, lamps, horn, spares, tyres nearly new; or near offer.—Parker, 57, Earlsdon Av., US287

ORTING 31/h.p. Rex, disc wheels, T.T. bars, mag., B. and B., good tyres, new Avon belt, s, horn, etc., £27/10.7 1st Mabon clutch plates, s, 1912 Bouglas chutch pulley, exchange standard p pulley.—C. Houlston, 560, King's Rd., Pulley.

Rex-Jap.

14 Rex-Jap 6-8h.p. 2-speed Combination, coach-huilt, just overhauled (cost £15), screen, lighting opton, horm, tip-top condition; £85.—Harry, 18, lsor Av., Blackpool.

Riley.

LEY 25(h.p., splendid running condition, recently overhauled; £22.—137, College St., Nuneaton. [X5190

C 4h.p., 2 speeds, F.E., perfect running order: £30.-125, Church St., Croydon. [4846] Rover.

119 Rover 5-6h.p. Combination; £140.—23, Broomwater, Teddington. [5187

VER 3½h.p., single-speed, fixed engine; £25.— Snelling, Cowden Stu., Kent. [4427

VER New Combination in stock; immediate de-livery.-Marston, 31, Bridge St., Chester. [X5252 VER 31/2h.p., 3-speed, clutch, accessories; trial; 50 gns.—Bidder St. School, Canning Town. [4505] VER 5-6h.p. Combination, all accessories, vately owned at Norton's Garage, Knighton, Re

VER 1914 3½h.p., 3-speed, clutch: £65.—Brook-land, 19, Magnolin Rd., Straud-on-Green, Chiswick. [4768]

NEW MACHINES AT LIST PRICES.

ARLEY-DAVIDSON electric model, and Sidocar HARLEY-DAVIDSON, electric model, and Salecar, HARLEY-DAVIDSON, magneto model, and Sidecar HARLEY-DAVIDSON, flat I win sports model. OMEGA-J.A.P., 2-spred, and clutch. RABCO, lightweight, 2-speed.

ARIEL and Sidecar, 3-speed, 6 h.p. BLACKBURNE, 4 h.p., and Sidecar.

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Binks Carburetters.

We specialise in these, and carry a big stock.
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| New lightweight weatherproof Magneto . £5 2 6 New Chater-Lea 7-sp. Gear and Clutch £12 15 0 Easting Windscreens . £4 10 0 2 lp. p. Singer Dagine and Magneto . £6 0 0 Cameo Windscreens . £2 15 0 Cameo Windscreens . £2 15 0 Cameo Windscreens . £2 15 0 Cameo Windscreens . £3 17 0 Cameo Windscreens . £3 10 0 Ca

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MOTOR CYCLES FOR SALE.

Rover.

R OVER, believed 1916, Philipson, excellent condition, fast; £65,-20, Westminster Rd., Coventry

19 19 354, Rover, Combination, 3-speed (S52)e
Rovis, Wallingtond,
Revis.

1920 Rover Combination, 5h.p. twin; list price, in stork.—Youngs, Heath Garage, Newmarket, Phone: 214.

6 h.p. Rover Combinations, £146; immediate d liv ry.
-Mandes' Motor Mart, 100, Paris St., Exeter. Phone: 933.

1 h.p. Rover, 1913, 3-speed, reliable machine, overhanded, lamps, complete; £50.—Pendlet Wolseley Rd., Rugeley.

ROVER 3½h.p., with sideaenr, 12 months' wear, perfect condition, equal to new; £115.—Charles Clemoes, Benenden, Kent. [4376]

R OVER 1919, 3-speed, lamps, horn, Klaxon, under 2,000 miles, perfect; £110.—Edwards, 7, Exhibition Rd., South Keusington. [5058]

R OVER 3½h.p., 1914, and sidecar, 3-speed gear, £70.—Write, Colyer, Burnham, Claygate. [5046]

R OVER 1918, T.T., Philipson pulley, lamps, horn, speedometer, very fast, long exhaust; £85.—Edwards, 7, Exhibition Rd., South Kensington. [5059]

1920 31/h.p. Rover, T.T., h.c., Philipson, in stock, immediate delivery; £98.—Huddersfield Motor Supply Co., Ltd., 7, King St., Huddersfield. [4955]

ROVER, 1914, 3-speed, pedal start, clutch, condition as new, £67; Rover T.T. model, most powerful solo, as new, £60.—White, 62, High St., Kingston. [5972]

1916 3-speed Countershaft Rover Combination, over-hauled and new tyres, £16 worth accessories; £110.—Capt. Timmins, Heathlands, Runcorn. [4621 ROVER Motor Bicycle and sidecar for sale, 1914 model, in excellent condition.—Apply, Duley and Co., 58, Birch Grove, Acton. Tel.: Chiswick 241, [3437]

ROVER 1918 3½h.p., countershaft, little used, with new sidecur; £110, or would divide.—F. Lycett, Motor Cycle Gaiage, Market Place, Burslein, [X5266 1915 31/2h.p. Rover, countershaft T.T. bars, lamps, horn, etc.; £80; or consider exchange light-weight and cash.—171, Gulson Rd., Coventry. [X5340

19 19 Rover Combination, 53/6, p., conterfait, 5. speed, excellent throughout, with lamps, tools, horn, etc.; £120, no offers.—Skinner, 6, North Parade, [X5097]

19 19 Rover Combination, 3½h.p., 3-speed countershaft, fully equipped, delivered late September, mileage 500; £130.—Matthews, 81, Little Ealing Lave, [4610]

R OVER 3/sh.p. Combination, 3 speeds, Amac, speed-omster, hours, wind screen, higgage carrier, lamps, spares, tools—Poole, 3, Stanley Villas, Boundary Rd., Wood Green, N. (4842

ROVER 3½h.p. 1917 Combination, 3-speed counter-shart, lamps, horn, etc., thoroughly overhauled; £85, bargain.—Baker, Bramerton, 82, York Rd., South-end-on-Sea, Essex. [4744]

1920 Rover Combination, 5-6h.p., not done 100 miles, lamps, horn, etc., as new; £198; write, or call on Saturday after 3 p.m.-L. Webb. Larkfield, Chepstow, Mon.

19 13 Rover 3½h.p., 3-speed (new), enamel and plate good, new Dunlop tyre and belt, engine perfect, stored 4½ years; any trial here; £65, bargain.—Ford, Sotwell, near Wallingford, Berks. (X5255

L ATE 1919 35/2h.p. Rover Combination, 3-speed countershait, conchbuilt sidecar, small mileage, tyres uppunctured, 3 lamps, excellent condition; £135. no offer.—10, Thrale Rd., Streatham, S.W. [4772]

ROVER 315h.p., 1917, 3-speed, countershaft, K.S., splendid sporty combination, cigar shape sidecar, Lucas lamps, Klaxon, all spares, condition perfect, little used, carefully handled, insured; £105.—2. Thirlmers Rd., Muswell Hill, N. (4168

F.O.CH. have a 1919 31/h.p. Rover, 3-speed countershart, fully equipped, as new, negligible mileage,
—Fair Offer Car House, 5, Heath St., Hampstead
(near Hampstead Tube Station). Thous: Hampstead
3752, Hours 9-7, including Saturdhays:

Proven 3½h,p. 1916 Combination Sepreed chitch Rovers 3½h,p. 1916 Combination Sepreed chitch Proven Sepreed Combination of Sepreed Combination of Sepreed Combination 1200 - 4pply, 1 Broughton St. Queen's Rd. Batter-sea, S.W. belore 5.30 week-days, 12.30 Saturdays, 4166

ROVER 3½h.p., late 1916, Witsonian sideor, the hered absolutely sound, orethinded by makes have year reason miss; would divide combination; offers over 190, or cycle alone over £80, if letts; stamped envelope.—Box 1,629, c'o The Motor Cycle.

Royal Ruby.

8 h.p. Royal Ruby Combination, fine condition; £140. 49, Woodfield Rd., Ealing. [4790 JACK HEALY, Cork, official Royal Ruby agent.— Rotational delivery. No premiums accepted. [6490

MOTOR CYCLES FOR SALE. Royal Ruby.

ROYAL RUBY, 23/h.p. J.A.P., 2-speed, Tan-Sad; £50, or offer.-Wynians, Hulton, Essex. (1) [4207 WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 6h.p. Royal Ruby combination, 1918-19; £165. [5134]

ROYAL RUBY 21/2h.p. Villiers 1919, tyres new, lamps, horn, fine condition, seen any time; £48; bargain.—38, Mildmay Park, N. [4723

ROYAL RUBY, Villiers 2½h.p., 2-speed, new bushes, piston and connecting rod, Dunlop types, Miller lamps: £38.—Birrell, Ben Cragg, Ulverston. [4257 R UBY, new 1920 model, 2½h.p., 2-stroke Villiers; 48 gns., plus 5%; one available for immediate delivery.—Frank Whitworth, Ltd., 139, New St., Bir-mingham. (X5236

FOCH. have a late model Royal Ruby 2-stroke, Villiers engine, good order. Fair Offer Car House, 5, Heath St., Hampstead Incar Hampstead Thre Station). Phone: Hampstead 3752. Houre 9-7, including Saturdays.

Rudge.

CROW Bros., High St., Guildford, Rudge agents, supply at list prices. [X7948

RUDGE Multi 3½h.p., 1919, sidecar, lamps, born; £115.—Wale, 7, Queen's Rd., Nuneaton. [X5277 RUDGE New 1920 I.O.M. Model in stock: list proc.
-Edwards, 7, Exhibition Rd., South Kensington.
[5062

31h.p. Rudge, hand clutch, in perfect condition, any trial given; £40.—Roberts, Codicote, Herts. [5036

19 20 Rudge 7-9h.p. Twi Multi; list price; in stoc -Youngs, Heath Garage, Newmarket. 'Phone [0115

RUDGE, 1914, 3½h.p., clutch, lamps; iide away; absolutely overhauled; £48; atter 6.—22, Brent St., Hendon. [4618

19 19 Rudge Multi, August, 350 miles, lamps, horn, tools, etc.; delivery now; £95.-4, Leeland Rd., West Ealing. [4503

19¹⁶ Rudge Multi, new covers and belt, fast and re-liable; £65.—Apply, Johnson, 31, Vale Rd., Park-wood, Sheffield. [X5118

RUDGE Multi 1916 5-6h.p., clutch, Senspray, horn, very powerful, overhauled; £85.—Robertson, North Peterborough. [4903

RUDGE Multi 35/h.p., 1915, clutch, Senspray, new tyres and belt, lamps, horn; £68.—Robertson, North Peterborough. [4904]

RUDGE MULTI with Sidecar, 3%h.p.; £45, or near offer.—Apply Idris and Co., Ltd., Pratt Street, Camden Town, N.W.1.

RUDGE Multi 3½h.p., just overhauled, new tyres, belt, lamp, etc., ready to ride away; bargain, £60.—146, George St., Coventry.

R UDGE 31/2h.p. and Sidecar, handle-bar clutch, ad-instable pulley, lamps, Klaxon; bargain, £45.— 89, French St., Sunbury, Middlesex. [2860

19¹⁹ Rudge Multi, 3½h.p. engine, 15,390, lamps, born, spare belt, new condition; £97.—A. Ussher, Trinity College, Cambridge. [4692

RUDGE, I.O.M., 1916, excellent condition, fast ma-chine, usual accessories: £72, no offers.-W. E. Douglas, 37, Sheep St., Northampton. [4521

19 16 Rudge Multi 3½h.p., perfect, tyres as new, accessories: £72; call after 6, week-ends until 5.-18, Elliott Rd., Thornton Heath. [5016]

RUDGE Multi 3)2h.p., 1919, accessories, unpunctured, 50 m.p.h., 100 m.p.g., beautiful condition; £90, or offer.—Bomford, Sutton, Surrey. [4551

RUDGE I.O.M. T.T., 1916, Multi gear, lamps and horn, in splendid condition; any trial; £85.—Butterworths' Garage, 64, Mill Lane, Brixton Hill. [4424

WAUGHOPE'S, 9, Shoe Lane, Fleet St., London.—3½h.p. I.O.M. Rudge, 1919, £110; 3½h.p. Rudge, £75, [5136

R UDGE Multi, 1917, clutch, kick starter, excellent tyres, lamps, horn, whole equal new, and mechanically perfect; 75 gns.-48, Derwentwater Rd., Acton. [4939

19 19 Rudge Multi 5-6h.p. Combination, perfect condition, screen, lamps, apron, Klaxon, spores, Rudge sidecar: £125.—Godber, Lodsworth, l'etworth, Sussex (Selham Station).

RUDGE Multi, I.O.M., 1915, excellent condition; 265; exchange with cash for countershart Tri-umph. Also Buddury, 245.—195, Romioid Rd., Strat-tord, E. Thone: Stuttord 36.

T.O.C.H. have a 3½b.p. Rudge Multi, brand new; list price.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). "Phone: Hampstead 3752. Hours 9-7, including Saturdays.

Hampstead 3752. Heurs 9-7, meluding Saturdars. J. Lap. T. Rulac Multi, clutch good tyre, and held, white, excellent countries, 250; 3° Jup. Kudze trince 646; 1914 3° Jup. Rudge, properties, 1914 3° Jup. Rudge, Phillipson puller, new tyres and belt, excellent conduction; 246; all in good running order.—Shelden and Blake, Church St., Bigglewade, (555)



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MOTOR CYCLES FOR SALE.

Rudge

PUDGE Multi for sale, 1916, 3½h.p., very li purchased car; seen any time, 2 minutes from Sl lake Station.—Apply, letter or wire, P. Water Nuthurst, Shiplake.

July (Scholer) 3;5h.p. Radge Multi and Sport Stellers and Line Ste

Ruffells.

1h.p. Ruffles, 1919, Villiers 2-stroke engine, Alb 4 2-speed gear box, Dunlop tyres and belt, land as new, mileage about 500; any examination; £5 17, Borneo St., Putney. After 6 p.m.

R UFFELLS, 1919, 2-stroke, 25th.p., Albion 2-sn Villiers engine, C.A.V. mag., Amac carburet Dunlop tyres, beit, lamps, horn, run about 300 ms new; £60.—Rand, Longcross, Chertsey, Surrey. 4

19¹⁹ Scott, perfect condition: £120; mileage 2 appointment.—111, Cromwell Rd., W.7. [4 SCOTT 1919-20 Sporting Model, T.T. bars, disc whe lamps.—Parker's, Bradshawgate, Bolton [4] SCOTT 1920 Model, brand new; highest offer have immediately.—Woolliseroit, Wetherby. [4]

19 19 Scott, ridden from works only, like new; £1 -Scott, Wylie, 116, Paisley Rd., Renfrew. [4 SCOTT, 1919, very little ridden indeed, stored 2 menths.—Joyce Bros., Ltd., Farnboron

CCOTT, 1920, brand new, delivered February, 4095, Klaxon, usual tools; £128.—34, Grove Norwich.

SCOTT, 1915, new Binks (just been thoroughly e hauled (cost £15); £89, no offers.—151, North Rd., Clapham Junction.

SCOTT Combination, new engine, polished alumin sidecar, very smart; 100 gns.—Roebuck, Alexandra Park Rd., London.

£142/10.—Scott 1920 T.T. model, under 50 mile Clifford Wilson Mfg. Co., 70, Royal Hospital F Chelsea, S W.3. Tel.: Kens. 7113,

19 20 Scott 3¼h.p. Combination, torpedo side P. and H. lamps, Klaxon, under 50 mi 145 gns.—Box 1,714, c/o The Motor Cycle. [4 NEW Scott Combination, delivered Xmas, 1919, s anteed not done 100 miles; will accept best

SCOTT 34h.p., semi-T.T. handle-bars, Feb., makers guarantee, never ridden; £125.—Es brook, c/o Carlton Motor Co., Torwood St., Torq

19 15 Scott C.B. Combination, perfect condition bargain, £80, or offers; write for appointment to view.—Foard, 50, Gibbon Rd., Kingston-on-Than

COTT, 1913, stored since 1914, recently overhan Bosch mag, new P. and H. head lamp, Mec. and spare tyre, perfect; £45.—Mould, Mitte H.

SCOTT Combination, guaranteed late 1914, 2-sp. 334h.p., kick starter, clutch, coachbuilt side new semi-T.T. hàndle-bars; £85.—Colson, 22, 14 brook, E.C.4. (D)

COTT 1913, with replated and restored 1914 ff and forks, new crank case and caps, gear chains in perfect condition, one new tyre, heav set, and set of spare chains; £65.—Easte, 26, P.

St., S.W.

COTT Combination, 1915, perfect condition, cently overlapide by makers, complete lamps, generators, Klaxon, speedometer, spare of and sidecar apron; any trial; £85 for immediate —Lewis and Emery, 44, Petersham Rd., Richmon

SCOTT 1920, fast, sports model, T.T. bars, C speedometer and horn, Miller lamps, small mile condition perfect, tyres unpunctured; best offer £128; seen by appointment Wednesday, Saturday, Juy.—Cupt. M. S. Fryar, 7, London Rd., Toolo

Sheffield-Henderson.

SHEFFIELD-HENDERSON.-For earliest delivered from J. Barran-Ackreyd, Hyde

Singer.

C. BERRY.-31/2h.p. Singer and coachbuilt sic bargain, £28.-125, Canal Rd., Mile Eud,

11h.p. Singer Combination, countershaft, chain feet, accessories; 75 gns.-176, South F. Rd., W.5.

19 14 Singer, 31/2h.p., clutch model, all access new Dunlop; £50.—Pratley, Cottaga Phockley Heath, near Birmingham.

Ah.p. Singer, 1914, with large coachbuilt s.c., et shart years, hood, practically unscratched; 57 Fairview, Gordon Rd., S. Woodford.

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The Foreign rates quoted above anny late to tent the Services abroad, 2015, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 1915, 19

The T.T. Race in Doubt. Sa T.T. Race wanted in 1020? Several well-

known firms have announced their decision not to enter on account of the disorganisation of production which follows special preparations for an important race of this kind. But others are equally keen to compete. In another part of this issue we publish a letter from a well-known firm stating that after considering all points they have decided to race again this year. These conflicting opinions open up a wide field for argument and several important side issues. We quite appreciate the views of those manufacturers who consider that output is the most important factor at the moment, and in this particular we agree with them; but there are a great many potential motor cyclists who are looking to the sporting side of the movement to confirm their decision to enter the ranks, and the Tourist Trophy is the sporting event of the year. Most manufacturers have their order books full and require no more orders this year, but the T.T. is

an event which improves the breed, and much

knowledge has been gained as a result of war

experience, which needs to be put to the test

in a race.

Possibly some of our old-established and more conservative firms are not vet ready to compete with concerns who have started fresh with designs based on modern ideas, but at any rate the T.T., shorn of many of its old time and important adherents, would be an unrepresentative and unsatisfactory event, and the winning machine would be accorded undue prominence. Alternatives have been suggested before now, the most practical of which are a race for amateurs and a race for stock machines. Neither of these schemes is without its difficulties, and yet both have much to recommend them. A third suggestion is an Inter-'Varsity event, which, though it might be interesting, is unlikely to be representative, and would also exclude many sportsmen who desire to compete.

any case, it would be a thousand pities if the 1920 T.T. were abandoned on account of lack of support. If only a limited entry is received, we look forward to a race being held after such a long lapse of time.

Mirrors for Slow Traffic.

TOWADAYS, when it is desirable to speed up all forms of traffic to the highest points consistent with safety, any extraneous causes , of delay should be minimised or eradicated if possible. One of the most common sources of trouble in this respect is slow-moving and bulky traffic travelling in the same direction as the rider. It is hardly reasonable to expect the drivers of such traffic to keep permanently to the side of the road, since road surfaces nowadays are such that it is necessary to pick the best way. At the same time much of the trouble could be avoided if all heavy vehicles carried a good mirror in such a position that a clear view of the road behind could be obtained. Perhaps the worst offenders as regards obstruction are the big chars-à-banc which are frequently met on the roads during the finer months of the year. It is, of course, most difficult to obtain a rearward view from this type of vehicle, especially as a passenger is not infrequently packed in between the driver and the side of the body. The ideal solution of the question is undoubtedly a system of separate roads for highspeed vehicles; but, as the attainment of this ideal is not a likely event for some years to come, we must do our best to arrive at a practical and immediate substitute. The mirror, if properly placed and used, is undoubtedly the simplest scheme, and it is to be hoped that owners of heavy vehicles will make a point of seeing that their fleets are so equipped. Failing this, it is possible that legislation may effect what voluntary service might easily accomplish.

All this is apart from wilful obstruction, which when encountered should be severely punished; but this fortunately is not common.



Occasional Comments by "Txion"

The A.C.U. Pundits on Air v. Water.

O EADERS will remember that the A.C.U. judges rather patronisingly advised the trade to remember water-cooling, and held the Scott up to admiration. I am second to none as a Scott enthusiast-I own one, and I love it. But I regard it as a gourmand regards caviare. It is a delicacy for the fastidious owner. The Food Controller did not put caviare on the menu of his national kitchens, nor should I bill a 'bus with an expensive cooling system and a heavy petrol consumption as the machine for the million. If the A.C.U. judges are right in holding that motor cycles are still slightly under-cooled as a class, the cowl-cum-fan or the Hawley Morgan stunt is a cheaper and simpler method of gingering up cooling than any, water jacket. If we grant the A.C.U. premise, we may reasonably dissent from its conclusion. It is quite a straightforward job to box in a motor cycle cylinder and put a 50 m.p.h. air blast through the box when the machine is slowed down to 10 m.p.h. on Bwlch-y-Groes. wonder how soon we shall see this, and whether we shall be offered a 4,500 m.p.g. oil consumption along with it.

The Imaginative Engineer.

HEN I have saved enough money to start in the motor business, I shall base my staft on two £10,000 a year men. One will be a designer, whom I shall bribe to leave the Rolls-Royce Works. The other will be a poet—Bridges, Yeats, Frankau, or any songster who is prepared to exchange materialistic opulence in Coventry for wooing the Muses in Arcadia. Why a poet, do you ask, gentle reader? There is an ancient adage that evil is wrought by want of thought, as well as by want of heart. I do not think that the sage who first enunci-

ated this truth meant the kind of thoughtlessness led me which recently to chuck a 14in. wrench into my box of spare lamp bulbs. Here is a yarn which enshrines the pith of the maxim. A man paid £200 the other day for a _sidecar combination with detachable wheels. On the very first trip his back tyre picked up some chevaux de frise which a careless

lorry employed by the Disposal Board had dropped of the hard, high road. Giving Araminta a cigarette and box of fondants to play with, he whipped off the spawheel, and approached the back spindle, gaily whis ling the "Conquering Hero." But the mudguard who hinged, and the back wheel consequently could move extricated. Ten minutes later a passer-by mighave seen a motor cyclist with agonised—aye, convulsed—countenance tipping over and propping up 6 cwt. combination in precarious balance on its side car wheel, and using most unchivalrous language a rather peevish flapper who was disdainfully tryito slip a spare wheel into place. Finally, the rid attempted to prop up the monster with one hand, which directed Araminta's amateur tactics with the other crash, gentlemer! It was what a humore catalogue describes as a "combination de luxe."

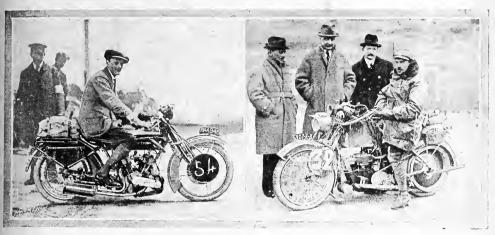
Cycle Car Production.

THEN we mere roadmen gabble glibly about na production of simple passenger machines, generally fail to realise the financial gramme involved. The other day I sampled the pa-of such a vehicle. There are precisely two and half of them in existence, viz., the test chassis, wh has accomplished rather less than a year on the ros the Show chassis, which to the best of my belief I never been run; and a pile of parts sufficient to co struct about half of a third machine. The expendit up to date has reached about £,12,000. The design concerned has fairly grandiose schemes, and ho to manufacture at the rate of fifty cycle cars per we Although the costs are only on a par with those o first-class sidecar combination, he is forced to bud for a capital of £300,000, of which approximat one-third would be used to acquire the necessary sho and plant, whilst the remaining £200,000 would se

as working c tal. Obvious there are- t very large sn in his path. the one hand; is necessary find a capita who believes the chassis st ciently to sta £,300,000 on s ing 2,500 annum. On other hand, t capitalist-whi found-has consider wheth the present to per of labour permit him carry out such



A SUCCESSFUL MORGAN. Driven by Mr. E. Chapman, this runabout gained sixth place in the recent Paris-Nice Trial.



ENGLISH AND FRENCH.

(1) Kaye Don (5-6 h.p. Zenith-Jap), who gained highest marks, and made the best individual performance in the Paris-Nice Trial.

(2) M. Brunet (3½ h.p. twin-cylinder Bleriot, with disc wheels) at the finish of the trial. He was the sole survivor of his team.

programme. There is, of course, another side to the medal. Orders for four years' output are already in hand. The interest on £300,000 at 10% is £30,000. Success would be assured if labour permitted 2,500 cars to be built in the first year, and if the public bought them at a price which allowed a nett profit of £12 per car.

The Champion Wobbler.

WHEN the machine, which I have described as a champion speed-wobbler, arrived at its factory of origin, it was duly tested by a staff expert, who avowed that my strictures on its misconduct were astoundingly mild, but did not commit himself about the causation. The machine was then stripped, and the frame proved to be half an inch out of truth, whilst the ball races in the head were found faulty, apparently owing to errors in hardening. Before long, I hope to reg. It on its steering, and also to let Lieut. Olechnovitch know whether it conforms to his principles as regards the steering axis and centre of gravity.

Good Steering.

HAVE said enough about bad steering in the last twelve months, so let me balance the impression by saying how very beautifully the Scott steers. If Anthony Hope ever writes one of his swashbuckling novels around my district, he will certainly christen it "Greasitania." Since the Armistice I have principally ridden two machines, one of which steered beautifully at high and medium speeds, but was too light at a crawl; whilst the other jigger took two hands all the time, and when the mud was drying round a corner made me wish I had three. By contrast, the Scott can be ridden hands off on decent going at any speed of which it is capable, and one hand feels perfectly safe on ordinary grease, whilst two rob the genuinely formidable surfaces of their usual anxieties.

It is always a testimonial to the steering of a 'bus if you can afford to take a hand off the bar on grease for adjusting purposes. I have known machines with which it was wise to reserve such adjustments for a dry patch of road. Some of our correspondents talk very contemptuously about people who have qualms about their steering, whether at speed or on grease; they would be more merciful if they had to tackle certain layouts' which I could name.

About Air-cooled Cars.

LL motor cyclists are naturally interested in the novel application of air-cooling to engines which are larger than our own, fitted to slower vehicles, and intended to be run with their vehicles stationary more boldly than we dare run our engines under similar conditions. There are now quite a number of these small air-cooled cars either in or approaching the production stage, most of them being well over 1,000 c.c. The best known are the A.B.C., Palladium and H.F.G. flat twins, the C.A.R. threecylinder radial, and the Enfield-Alldays five-cylinder radial. The most interesting facts about these engines are that all except the Palladium are of the o.h.v. type; Dr. Gibson says that an L-headed cylinder transmits approximately 18% more heat per b.h.p. to the cylinder walls than an o.h.v. type, and that all of them rely on forced draught. All these engines employ fans of considerable power, e.g., one of the fans creates a 50 m.p.h. air blast when the engine reaches 2,000 r.p.m., and most of them adopt "cowling," i.e., the air blast is concentrated upon the cylinder walls by aluminium plates, jacketings, or These big engines seem to be doing deflectors. They can climb astonishingly well in road work. all our most ferocious test-hills. They can stand unlimited "blinding" with a following wind. Moreover, a sample tested by our sister journal The Autocar registered an oil consumption of 2,250 m.p.g.



THE 1920 T.T. RACES.

Will They be Held? The A C.U. Secretary's Views.

HE news that several famous firms in the motor cycle world have decided to refrain from entering for the International Tourist Trophy Races, despite the fact that the Manufacturers' Union decided to sanction the support of the event by its members, may make our readers wonder whether the race will be held at all this year. The event is one of so great importance, and has so keen an interest displayed in it, that for weeks beforehand it is the chief topic of discussion in most families in which there is a motor bicycle.

To gather some idea of the actual position, we sought Mr. T. W. Loughborough, the secretary of the Auto Cycle Union, who possesses all the geniality and energy that secretaries are traditionally said to display. We did not beat about the bush, but promptly asked our victim, "Well, will the T.T. Races be held

this year?'

"It is, perhaps, a little early to say," replied Mr. Loughborough. "Personally, I think they will. So far, only one firm, the Triumph Cycle Company, has actually told us that it will not support the T.T., and this fact may induce the smaller makers to come in."

"You think, then, that we may have the races, after all, and you may get a fairly small and easily managed entry, which may result in a sporting and enjoyable race? In our opinion, the 1914 entries were large enough to be unwieldy."

For Private Owners Only?

"Let me see," replied the Secretary, turning to his records, "in 1314 there were 161 entries for the Senior Race, and that entry was, as you say, distinctly unwieldy. You remember 1912, when the trade refused to support the T.T., there were then seventy-four entries (forty-nine Senior and twenty-five Junior), and the result was one of the best races ever held in the Isle of Man. I cannot help thinking that the present enormous demand for motor cycles is an artificial one. Many of the numerous orders firms have received are repeat orders: what I mean by this is that an agent needing, say, three machines, places the order for them to several different firms, in the hope that one may be able to deliver. So the trade may not be so busy as it at first appears.

"Have you," we asked, "thought of running this

year's T.T. for private owners only?"
"This point has not been raised, so far," replied Mr. Loughborough. "Of course, the existing T.T. Races are open to private owners, but we have had no idea at present of catering for the private owner only. In fact, we have already received several trade entries, and among these some from America; and if the Americans enter, I am wondering if the British firms will be content to abstain from racing."

Mr. Loughborough had then to leave to keep an appointment; but he gave us quite a hopeful impression for the future of the 1920 Tourist Trophy Races.

Views of the Trade.

It will be noted that Mr. Loughborough told us that so far he had received intimation from one firm only that it would not compete. There are others who have also decided not to enter, and below we give extracts from letters we have received on the subject. The first letter is from the makers of the A.B.C., who, almost everyone thought, would support the race. Their withdrawal, therefore, came as a surprise and a disappointment.

Sir,-We endorse the views expressed by the Triumph Motor Co., Ltd., in reference to the Tourist Trophy Race. Like them, we have been greatly exercised in our minds as to the course to be adopted in regard to this year's event, and we have, after considerable thought, come to the conclusion that it will be to the general interest of the motor cycling public if we decide, as we have done, not to

enter for this event this year.

This decision has been reached with great reluctance on our part, as we were looking forward to a most sporting our part, as we were obtaing forward to a most sporting event, in addition to which we fully appreciate the value of competitions generally in stimulating the interest and development of motor cycles. The main reason that has led up to this conclusion is that we feel that in view of the multitudinous distractions of one sort or another, practically speaking, since the Armistice, the most important and essential thing to do, both from our own individual point of view as well as that of the industry in general, is to produce.

At the signing of the Armistice the market was, of course, in a state of starvation, after four and a half years of, virtually speaking, no production, and it is in much the same condition now, as owing to the many disturbances in the past fifteen months very little has been done in the industry towards supplying this starved market.

We would like to emphasise here that this does not imply

that we are not going to take an active part in competitions generally for the coming year. On the contrary, but practically all the other competitions do not involve anything like the upset in the factory that this Tonrist Trophy does. THE SOPWITH AVIATION AND ENGINEERING CO., LTD.

Alan R. Fenn, Sales Manager. The B.S.A. Co. has been regarded as another aspirant for T.T. honours, and, to our personal knowledge, a great deal of preparatory work had been done on the T.T. machines. According to the following letter, the moulders' strike is responsible for withdrawal of support.

Sir,-At a recent meeting of the directors of B.S.A. Cycles,

SIT,—At a recent meeting of the directors of B.S.A. Cycles, Ltd., it was decided that the company would not enter any B.S.A. motor cycles for the 1920 Tourist Trophy Race. Owing to the upset caused by the moulders' strike, the works have been considerably disorganised, and full effort will now be concentrated on trying to increase output of standard models.

A Beardmore-Precision in the Junior Race would have been an interesting entrant, but we are

The 1920 T.T. Races .-

advised that the 1920 T.T. will not be contested by a F. E. Baker production.

Sic, -I regret to inform you that it is not the intention of my company to enter for this year's races. This is not on account of any objection to the races themselves, but sheer inability to handle any other problems than those of the reconstruction of our business.

. For F. E. BAKER, LTD. Frank Baker, Director.

Messrs. Humphries and Dawes, the makers of the O.K. motor cycle, blame the moulders' strike.

Sir,—It was orginally our desire and intention to compete in the T.T. this year, and our plans were therefore made accordingly.

We feel, however, that the moulders' strike having affected production so seriously that to devote time and materials to the preparing of machines suitable for the T.T. would be further to retard the ordinary manufacture.

In fairness to our agents, we do not feel justified in doing this, and therefore have decided-much as we should like to

-not to compete this year.

HUMPHRIES AND DAWES, LTD.

The following makers have also written stating that they will not enter for this year's event.

Rudge-Whitworth, Ltd. (present holders of the Senior

Trophy).

Josiah Parkes and Sons, Ltd. (Union).

Calthorpe Motor Cycle Co.

Bayliss, Thomas and Co. (British Excelsior). New Imperial Cycles, Ltd.

Bradbury and Co., Ltd.

London and Midland Motors, Ltd. (Kingsbury).

Enfield Cycle Co., Ltd. (Royal Enfield).

Chater-Lea, Ltd.

Zenith Motors, Ltd. Many have advised us that they have not vet decided whether to enter for the race or not. Among these

may be mentioned:

S. A. Newman, Ltd. (Ivy). D. F. and M. Engineering Co. (Diamond). Butterfields, Ltd. (Leyis).

Wooler Motor Cycle Co. E. A. Radnall and Co. (Radco).

New Hudson, Ltd.

Clyno Engineering Co. Henderson Motors, Ltd. (Sheffield Henderson).

Veloce, Ltd. (Velocette). Quadrant Motors.

Tyler Apparatus Co. (Metro-Tyler).

In the next column we give a letter from the Hendee Mfg. Co., who intend to support the race.

Indians Definite Starters.

Sir,—The Hendee Mig. Co. find themselves in a very similar position to that of the company who intimated that they would not compete in this year's T.T. Race, but not-withstanding that we also, to a great extent, added to our reputation by winning first, second, and third places in the 1911 Tourist Trophy Race, and quite irrespective of any inconvenience we may be put to in preparing machines for the race and sending a certain number of our staff to the Isle of Man during the practice and progress of the race, we feel that we have an obligation to perform in the interests of thousands of riders of Indian motor cycles. We believe that every British motor cyclist is a sportsman, and as such takes a great interest in seeing the motor cycle of his choice prominent in all the classic sporting events, particularly the T.T. Race.
We feel sure that if we were to withdraw from competi-

tions altogether, the name Indian, as applied to motor cycles, would soon become a "back number," and second-hand

Indians would greatly depreciate in value.

Therefore, we consider it advisable, and feel sure that all motor cyclists will uphold our decision, to enter Indian motor cycles in the 1920 race in the Isle of Man.

We can only hope that other manufacturers who have in-timated that they would not support the T.T. Race this year will carefully reconsider the matter and take the same view of the situation that we do.

> HENDEE MFG. Co. W. H. Wells, Manager.

Messrs. Hanwell, of Northampton, the makers of the Cedos motor cycle, the Paragon Motor Mfg. Co., and Cashmore Bros. (Alecto), have also written stating that they will support the race-

Such is the position to day. Quite a number of manufacturers appear to be neutral, and no doubt their decision rests largely upon the attitude of the trade generally. Among these we have the Scott Motor Cycle Co., who have made considerable preparations towards competing, though their previous decisions are likely to be influenced to some degree if a representative entry were not obtained.

The Douglas, Norton, James, A.J.S., Brough, Sunbeam, and several other important firms all have some. fast new T.T. machines. The Ariel, Matchless, Nut, P. and M., Abingdon, Harley-Davidson, American Excelsior, Campion, Omega, Verus, B.A.T., Scale, Hobart, Rex, Duzmo, Martinsyde-Newman, Humber, Royal Ruby, Invicta, Allon, Edmund, Connaught, Blackburne, Coulson, Cleveland, Hazlewood, Ixion, Beaumont, Lea-Francis, L.M.C., Rover, Wilkin, Metric, and Sparkbrook are all possible entrants.



NEW AND IMPROVED MODELS.

Visit to the Motor Cycle Section of the British Industries Fair.

ESPITE the increased prices, compared with those ruling before the war, the public interest in motor cycles is greater than it has ever been, cycles is greater than it has ever been, and demand, both Overseas and at home, considerably exceeds supply. One has only to stop in a city street with a good class outfit to realise that the interest bestowed by the people who gather round is more than curiosity.



Rear portion of the improved A.C. Junior, which now has a two-speed epicyclic gear.

The alert motor cyclist, wherever he goes—in tram, train, or 'bus, in café or theatre-may overhear snatches of conversation concerning motor cycles between people who are potential buyers, but who have not yet owned a machine. There is no doubt that the motor cycle is as yet only in its infancy as regards its scope, and when conditions are more normal, the number of riders will be vastly increased.

Keen Interest Shown.

An example of this interest on the part of the non-motoring public was manifested at the Birmingham Section of the British Industries Fair, where upwards of a hundred manufacturers connected with the industry exhibited their products to buyers from Overseas. We were par-ticularly struck with the fact that buyers interested from a business standpoint in other goods were personally interested in motor cycles. Thus one may regard the British Industries Fair as something more than an exhibition for booking orders. It is an exhibition of British products for the benefit of Overseas visitors. The man who visited this country to buy, say, pumping machinery may be the potential buyer from an Overseas agent of a Britishmade motor cycle, and for this reason motor cycle exhibitors will never have concrete evidence of the good results of

The fact that there were so many exhibitors in the Motor Cycle Section seems to point to an appreciation on the part of the industry of the value of overseas trade. Yet we were told that several "salesmen" had instructions not to accept orders owing to outputs having already been allocated. In these cases the exhibits obviously are arranged for propaganda purposes. In other cases, goods are exhibited which are scarcely suitable for overseas requirements, but, taken generally, no doubt the Fair may be regarded as a success from a business point of view.

Coming, as it has, almost immediately after Olympia, the exhibition had a limited interest to the British motor cyclist, because there were but few new designs in either complete machines or their accessories. But to the overseas visitor there is much that is new, and must make a strong appeal.

Improved Models.

We observe that two more of the supporters of the stand-to-ride type of scooter have succumbed to the popular

demand for seats. New models of the Mobile Pup, with a saddle, and the Autoglider, with a seat, were exhibited. In the former case the seating accommodation is provided by a saddle of the conventional type, otherwise the machine is unaltered; but the new Autoglider, in our opinion, is much refined by the reduction in height of the steering column. The rear wheel is enclosed in a neat case, on the lid of which a comfortable seat is fitted in an ex-

ceedingly neat manner. Beneath this is a compartment for small parcels. Undoubtedly, the scope of the Autoglider which, with its spring frame, is so far the most serious attempt to provide a runabout machine for shopping and such purposes, is considerably increased by these additions. It is now also made as a light delivery vehicle-a development of the seat type passenger machine, with a slightly larger box over the rear wheel. This box has a capacity of three cubic feet, and, in addition, has space on the top of the box for extra parcels. The Skootamota, which is already well known to our readers, is exhibited by Messrs. Gilbert Campling, Ltd., and in-addition to the complete machine an engine was shown in section.

The Macklum scooter, recently described in The Motor Cycle, is also on scribed in The Motor Cycte, is also on view, but the particular model exhibited has a Verus $2\frac{1}{4}$ h.p. engine, in place of the larger Union engine which was fitted on the model we described.

Well-known Exhibits.

Among the many firms exhibiting the Among the many firms exhibiting the same machines as those which appeared at Olympia may be mentioned the A.J.S., Rudge, James, New Hudson, Subbeam, Beardmore - Precision, Saltley - Villiers, Matchless, Bradbury, Royal Enfield, Humber, Sun, and Levis. Engine unit makers are represented by the Villiers and Dalman, while several other manufacturers' goods were to be seen on stands not beaving their years. not bearing their names. Among these we noticed the Hobart and Acme motor cycles, Grindlay, Cooper, and Willowbrook sidecars.

Two new lightweights on conventiona lines—the Federation and the Victory marketed by the Co-operative Society



A new sidecar design by Messrs, Calland and Lee.

and Wineberg and Co., of Birminghar respectively—are also exhibited.

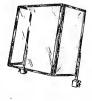
Messrs. Auto-Carriers, Ltd., have in proved their new commercial vehicle which now embodies a two-speed epicyclear. In this machine simplicity has be closely studied. The small four-strooverhead valve engine is built integrated. overnead varie engine is blut the with a short axle casing, containing worm-driven gear between the two st disc wheels. The "chassis" is a single tube and the steering is on the "tur table principle.

New Sidecars.

Several new sidecars made their detat this "show." Among these we notid a smart little sporting model suitafor 3½ h.p. and even smaller machines, is known as the Stanford Classic, it has an adjustable seat. The price is £ Calland Lee, Ltd., of Stalybridge, his count side as with the statement of the statement o

a coupé sidecar with celluloid windo



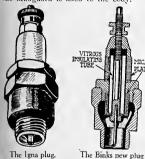


(Left) A new motor cycle signal which costs Zls., manufactured by the Remoline Co., 4, Denman Street, S.E., at 21s.

MOTOR (YCLE

New and Improved Models .-

a new model described as the Luxurette, hinged roof, rear locker, dctachable scat hinged roof, rear locker, detachable seat and back cushion, and a long "prow," imitating the bonnet and radiator of a car. The price of this elaborately equipped attachment is £49 10s., which, naturally, restricts its market; but at more popular prices the makers have several other types from £25 10s. to £31 10s., the latter being a full touring model with detachable seat, large rear locker, and four-point attachment with quickly detachable fittings. In all types the mudguard is fixed to the body.



in section. Burbury and McKenzie sidecars are also shown.

New Accessories.

Sparking plugs are now made in so many types that the advent of a new make or model fails to create the same amount of interest it did a few years ago. Nevertheless, the new model Igna is a nevelty, inasmuch as it is a steatite plug, one of the few produced in this country, and of a type regarded as the nearest approach to ideal before the war put an end to the importation of a famous

plug from Germany.

Another nevelty is the new Binks plug, which carries a twelve months' guarantee. The most interesting features of this plug are its tubular vitreous insulator surrounding the central electrode, and the fact hat the whole insulated body of the plug is readily detachable, as are the mica usulating sections. It is, in fact, quite a novelty in plug construction. Binks three-jet damping carburetters and silencers are also shown. Practically every well-known plug is being exhibited, while, as usual, most makers of lubrication. ing oils are in evidence, as were such



The Forward endless belt, in which the bearing pins are of hardened steel, and remain stationary in the leather pads

known firms as Jos. Lucas, Ltd., J. B. Brooks, Ltd., County Chemical Co., and the Elephant Chemical Co.

Nicholsons, of Newcastle - upon - Tyne, among other specialities, are showing a flexible quick drying black enamel. Surridges, of Lendon, display Holdtite patches and other rubber accessories, and some very neat aluminium sidecar and tail lamps.

Windscreens.

The number of detachable windscreens for sidecars now on the market shows that few sidecars in the future will be seen which are not so equipped. Even

the sporting model must new have a small screen for the protection of the passenger. Easting, Cameo, Raper, and a new three-fold screen marketed by Standford, are among the windscreens which appear to attract a large amount of attention from the Overseas visitors. Tan Sad seats also received their full meed of attention. A new type of seat for motor cycles, distinct from the patterns previously illustrated, is on show. This takes the form of a pan seat suspended on laminated springs fixed on a frame, which is secured to the carrier. Gwyn's meter cycle repair bench is another speciality, which will no doubt find its way abread in large

quantities if the interest shown in it is any criterion. The convenience of this stand, which permits a single person to place a metor cycle in a raised position for repairs or adjustments, should make a strong appeal to manufacturers.

Electrical Equipment.

Messrs. Ward and Goldstone have a very comprehensive exhibit of electric lamps and equipment for motor cycles, as have also Messrs. Greenwood and Batley, Ltd., whose Bi-pol system of accumulator construction considerably increases the scope of electricity for metor cycle lighting. We hope later to go into this system more thoroughly than present space will permit.

Amongst their display of specialities the Forward Co. show a clever link belt primarily designed for fan or dynamo drive. The outer links are of leather joined by what is, to all intents and pur-poses, a series of forward belt fasteners. By this means the rollers move in the inner link and not in the leather.

Much machinery was on view, and the stampings and castings to be seen cannot fail to attract those interested in the manufacturing side.

Altogether, one may say that the meter



LONDON-LAND'S END TRIAL.

Some preliminary details appeared in he issue of the 26th ult. concerning the onden-Land's End trial. Entry forms re new obtainable. The starting point, s previously stated, is the Berkeley trms Hotel, Cranford Bridge, and the tart will take place at midnight. Breakast will be served at Bridgwater, where ne hour will be allowed. The same Launceston.

Gold medals will be awarded to cometitors who are not more than fifteen imutes early or fifteen minutes late at ny point of the journey, while silver edals will be awarded to competitors

who are not more than fifteen minutes early or thirty minutes late at any point on the journey.

Motor bicycles

which are competing for the Jarrott Cup, sidecar ontfits, and three-wheeled cycle cars entered for the other cups offered, will have to make a non-stop run over a fifteen mile section in which Porlock and Lynton Hills are situated. Other competitors, if Porlock Hill is considered by the officials to be not in suitable condition, will be allowed to take the lower road, the gradient of which is not so severe.

Petrol and food stops will be arranged at Cranford Bridge, Marlborough, Bridgwater, Barnstaple, Launceston, Trure.

Entries close by first post on March 13th, and should be sent, together with entry fee (£1 10s. for every class of vehicle permitted in the trial) to the trials hon, sec. for the event, Mr. H. G. Bell, 77, Stapleton Hall Road, Strond

Bell, 77, Stapleton Hall Road, Strond Green, London, N.

The competition is open to members only. Those who are not members of the M.C.C. must apply to the secretary, Mr. Southcomb May, 34, Gower Place, London, W.C. Application forms and entry fees must be received by him not later than March 13th.

OBSTRUCTIVE VEHICLES SHOULD HAVE OBSERVATION MIRRORS! See p ge 256).

REFLECTIONS on the PARIS-NICE TRIAL.

Some Observations upon the Four Days' Trip across France, described in "The Motor Cycle" Last Week.

A N analysis of the results shows that of the sixty-nine competitors who started from Montgeron, twenty-five used sidecars, there were two cycle cars proper and two Morgans, while the rest were solo mounts. Of the forty-five survivors, only one cycle car (a Morgan) arrived to time, while twenty-three sidecars and twenty-two solo machines came through the trial.

H. O. Wood, the famous Scott T.T. rider, who with his brother C. P. and Guy formed the winning team, made a fine performance, and the only fault with his machine at the finish was that the speedometer had worked loose. The other Scotts were also in splendid condition.

Moriss, the sporting driver of the Matchless sidecar outfit, who retired at Fontainebleau, came on to Nice by train. Delauné, the other Matchless driver, came through without trouble, except among the hills round Nantua. Here curious atmospheric conditions caused bad earhuration and overheating; at least that was the explanation given by Mde. Delauné. Possibly inferior petrol, which is rather common, caused the trouble.

On the whole the route was fairly well marked, but the nature of the arrowing was poor, as it was difficult to see which way the arrow pointed. The arrowing failed badly at one place, La Fère, about 50 km. from Marseilles. Here Rutherford, H. O. Wood, and several others temporarily went astray.

The Atlas Garage, Nice, where the machines were stored at the end of the trial, was ideal for the purpose. The scene witnessed after the descent from Mont-Agel was of a kind never witnessed in England. The competitors drove in under their own power and in any order. They had all been riding in a bunch, so after three minutes' exhibition of trick riding the place was full. The effect was curious in the extreme: first, dead silence, the clatter of the exhaust of the first man, then a terrific din, a mass of laughing motor cyclists—twisting, turning, and manœuvring for a place, and then all was quiet once more.

Several of the competitors took part in the two previous Paris-Nice Trials. Of these, Douglas Hawkes, the driver of the A.J.S., was one, and Oblin (6 Enfield se.) was another. The last time we saw the latter was at Evreux on August 3rd, "1914, the day after the French Army mobilised. He was then a D.R. mounted on a Clément and wearing a Zouave's uniform.

The keen desire of the Harley-Davidson riders to carry off the team prize was observant to all, and it must be confessed that they put up a fine performance. French and American riders were in the saddle. Verpault's score was the best of the sideear competitors, and fourth in the general classification. The second passenger machine was the Morgan Run-

SUMMARY OF RESULTS IN THE PARIS-NICE TRIAL.

Number of Starters (69): Solo, 40. Sidecars, 25. Cycle cars, 4.

Number of Finishers (43): Solo, 22. Sidecars, 20. Cycle car, 1.

Team Winners: Trade: Scott (C. P. Wood, H. O. Wood,

W. L. Guy). Club: Moto Club de France.

1010 Club at France.

2.—350 c.c., W. M. Greenwood (Cannaughl) . 141-95

3.—500 c.c., Barthelemy

(Rover) 150.8 4.—750 c.c., Kaye Don

(Zenith) 154.92

7.—Sidecars (500 c.c.), Guignet (G.L.) . . 125.52

, 8.—Sidecars (750 c.c.), W.

D. Hawkes (A.J.S.) 135-52

,, 9.—Sidecars (1,000 c.c.), Verpault (Harley-D.) 146:13

about, fitted with water-cooled M.A.G. engine, owned and driven by E. Chapman.

Ridden by Maurice Greenwood, a 1914 Connaught with a 293 c.c. two-stroke. engine, and having an Armstrong threespeed hub gear, made the best performance of the lightweights. Greenwood had the identical machine at Grenoble in 1914 for the International Six Days Trial. His only stops on the Paris-Nice trip were for a puncture and to change a plug—truly a magnificent performance.

Kaye Don is deserving of congratulation upon his top score. His twin Zenith finished in fine order, the J.A.P. engine being still in fine fettle for the La Turbfe hill-climb, and keeping remarkably clean. He used Avon tyres and belt (the latter untouched throughout) and one of the new Amac carburetters.

Motor cyclist protest meetings have now been extended to the Côte d'Azur, for once again the competitors found themselves unable to agree with alleged results. The Continental Daily Mail—which ought to know better—announced, even before the judges had met, that the U.S. had won the great race '(sic), closely followed by the British competitors! Actually an all-British team—the Séott—won comfortably, and the top score was by another British rider and machine, K. Don (Zenith). In the meantime, the British riders had gathered together "to protect their interests, obtain fair play, and credit where it was due."

British motor cyclists thought they knew what potholes were. They didn't—until they arrived in France!

Petrol is obtainable almost everywhere in France at prices approximating to those ruling in this country. It is, how ever, advisable, when touring to carry a spare tin, since, owing to the lack of distribution facilities, there is a scarcity in some country districts, particularly down south.



In the Rhône Valley on the third day of the Paris-Nice Trial, the most difficult stretch on the whole route.



PARIS-NICE. F. Gompertz (G.L. sidecar), one of the G.L. team which took fourth place in the trade team prize results. Guignet, another of this team, rode through the trial with a

Newman, mounted on his 3½ h.p. Sun-eam, with Mrs. Newman on the carrier, id Jesse Baker (Scott) set off for Algiers, iter the Paris-Nice trip.

The Motosacoche rider Agnero, who ade fastest time (7m. 17s.) in the La urbie hill-climb, had his machine tuned perfectly, and he handled it splendidly.

The train journey home is not likely be forgotten by Paris-Nice riders. erths beforehand on the wagons-lit.

The lay press reports, per Reuter, nusing to people "in the know." hey actually asserted that lorry loads spares and food followed the Britishers the "race" 11

RI

ESULTS	ACCORI	DING	TO	CLAS	SES.
	CLASS 1				
A. Dubost	(Motosolo (Motosolo	o) :	: :		127.2 93.7
	CLASS 2	. 350	C.C.		
W. M. Gre Colombel L. Horton O. Rigal	enwood (C (Douglas) (New Im New Impe	perial)		:	141.95 138.72 129 118.32
T. Buther) eam)			150.8 139.97 135.6 117.17 98.97 98.90 62.4
	CLASS 4	750	C.C.		
Debay (R. G. Hill (T Sermeus (y (Scott) (Scott) od (Scott) riumph) over) 'riumph) Sunheam)			41	154.92 149.3 144.5- 139.6 136.6 133.8 109.04
CLAS	S 7.—SIDE	CARS	(500	C.C.).	
Guignet (e. P. W. Wi Rex Mund L. Psalty A. Galien	G.L.) nite (Sunh y (Rover) (Rover) (Benoit-G			: ::	125.52 125.30 95.6 79.4 51.62
	S 8.—SIDI				
W. D. Ha E. G. Fer Moret (G. Lacour (G F. Delaun: F. Gomne	wkes (A.J. y (Dongla L.) ay (Stucch rtz (G.L.) (B.S.A.)	(S.) (s)			135.52 132.7 131.13 128.8 87.05 85.7 70.3

	CLASS 9.—SIDECARS	(1.000	CCI	
_				
1.	Verpault (Harley-Davidson)		146.13
2.	Bonnard (Harley-Davidson)			137.97
3.	Oblin (Enfield)			133.7
	Etave (Indian)			132,34
	Collot (Harley-Davidson)			130.90
	Mulliman (Harley-Davidson	1)		120.49
	Pletsier (Harley-Davidson)			112.1
	Delauné (Matchless)			105.9

CLASS 11.-CYCLE CARS (1,100 C.C.). E. Chapman (Morgan) ..

RECOMMENDATIONS FOR NEXT YEAR'S TRIAL.

The Organisation.

Next year it would be better for the whole of the organisation to be undertaken by a responsible sub-committee of the Union Motocycliste de France, with the assistance of the local clubs. The local clubs at the various controls did their work splendidly, but supervision by a responsible body is certainly necessary. The publicity part might well be left in the hands of M. Gaston Sweets, editor of Motoryclisme, who carried out this part remarkably well.

Given a responsible body to draw up the rules, to see that distances are not too long, and that they are correct, next year's Paris-Nice trial should be a far greater success than it was this year, and it is undoubtedly a popular event among British riders.

Over the Alps Another Year.

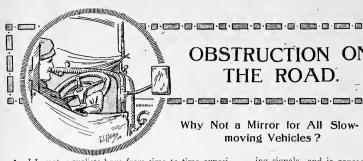
We can quite understand that it was for the sake of la publicité that the competitors were taken through Marseilles, but we think it was really unnecessary to do so. Motor cycles will never be popular where there are bad roads, and as the entrance to and exit from Marseilles resemble the Whitechapel Road or the Black Country, it is not much good torturing riders by making them traverse such abominable surfaces. Far more people in the billy districts, where pedal cycling is too much like hard labour, would be interested in motor cycling than those living in districts where the roads are such that this form of locomotion is a torture instead of a pleasure, consequently why should not the route des Alpes be used next year? It would be far more severe from the competitors' far more severe from the competents point of view—no longer, and far more enjoyable both for competitors and officials. The route would be as before to Lyons, and then via Grenoble, Barcelonette to Nice.

The Time of Year.

There is no doubt whatever, in our opinion, that the Paris-Nice trial was held far too early this year, and it was a great mistake to make it coincide with the pre-Lenten festivities at Nice. This resulted in the most appalling muddle as regards the allotment of rooms and hotels, and accommodation was next to impossible to obtain. Next year the trial should take place in March, when many of the Alpine roads will be free from enow and the hotels will be comparatively free to ac-Next year the trial should take commodate the passing visitors.



NOT AN ACCIDENT. Among the many competitors in the Paris-Nice Trial who had trouble in consequence of the atrocious road surface was Major Empson He had to refit a new rear spring to his AV., the photograph depicting the operation of fitting. He was complimented by many competitors on his plucky and successful completion of the run-



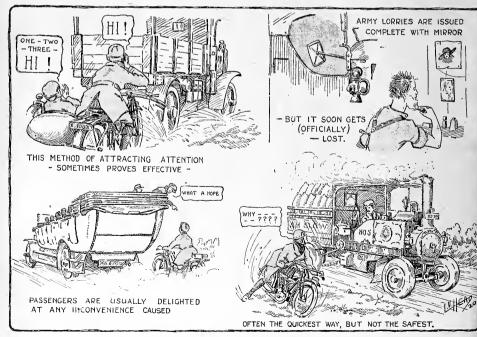
OBSTRUCTION ON THE ROAD.

Why Not a Mirror for All Slowmoving Vehicles?

LL motor cyclists have from time to time experienced considerable trouble when overtaking heavy lorries and chars-à-bancs, especially on narrow and tortuous roads. With this in mind, our sister journals The Autocar and Motor Traction have inaugurated a movement which has as its object the compulsory fitting of mirrors beside the driving seats on all such vehicles.

If this object is achieved, there is no doubt that it will contribute largely to the convenience of all road users, as under present circumstances one may easily find one's self compelled to travel many miles at the rear of a comparatively slow-moving lorry, simply because the driver is unable to hear any normal warning signals, and is consequently unaware that anyon wishes to overtake him.

In many cases the trouble is merely due to the driver of the lorry being unaware of the motor cyclist' presence; but often, we fear, a good deal of de liberate obstruction takes place, and no mirror car correct such road behaviour. This occurs particularly in the case of chars-à-bancs, and anyone who ha toured the famous holiday resorts, such as the Lak-District, Derbyshire, and North Wales, will recollec instances when he has been deliberately held back by some huge vehicle seating thirty or more passengers and cheerfully maintaining its position on the crown o the road, despite the full knowledge of the whole o



Obstruction on the Road .-

its occupants that someone wished to overtake them. We have very strong recollections of tours in the Lake District, which, as far as the main road portions of them are concerned, have been completely spoilt by the attitude of char-à-banc passengers, who mostly travel this way from the densely populated manufacturing districts of South and East Lancashire. It is no uncommon thing, for instance, on the road between Kendal and Windermere, to be deliberately held back, choking in the dust thrown up by one of these monsters of the road, and subject for miles on end to the cheap wit and sarcasm of a crowd of boisterous holiday-makers. Protests of any kind are quite unavailable; and usually the only means of getting forward is to take one's courage in both hands, as it were, ride into the ditch, and at the risk of one's own life endeavour to scrape through, with a vision of the thundering wheels of the vehicle within inches of one's side. Such tactics, however, are almost impossible to the sidecarist on the narrow roads peculiar to districts famous for mountain scenery.

Conductors at the Rear.

If all such vehicles were compulsorily fitted with observation mirrors, there would then be little excuse for the driver being unaware of the presence of overtaking vehicles, and in that case it would be possible to determine more readily whether the obstruction was wittingly or unwittingly caused.

It will be recollected that Army lorries were all squipped with observation mirrors, although it must be admitted that this accessory more often adorned the liver's billet than the bracket provided for its support!

We would support the plea that vehicles above a certain size and weight—and these limits should be made to include chars-à-bane, 3 ton lorries of the W.D. type, and steam waggons with trailers—be compelled by law to carry, in addition to the driver, a conductor at the rear of the vehicle who should be provided with means of communication, such as a bell, as was done on lorries in France:

Advantages to all Concerned.

While such an arrangement would no doubt be unpopular with all concerned with the actual running of heavy road transport vehicles, it would do much to relieve congestion on the roads; and, after all, the adoption of such a scheme is only logical, since it cannot be expected that the driver of a vehicle capable of from twelve to eighteen miles an hour should remain permanently on the near side of the road, as, of course, the difficulty of perpetually correcting the steering, when off the crown or the road, is fully appreciated.

The obvious necessity for drivers of slow-moving vehicles to know what is happening behind needs little or no emphasis. It is to be hoped, therefore, that the commonsense nature of the plea that all slow-moving vehicles be provided with mirrors will appeal to owners of such vehicles. If mirror reflectors are not fitted voluntarily, it is clearly but a matter of time before the authorities compel such a course or one even more stringent.

Mirrors should also be a compulsory fitting on all vans or motors cars, irrespective of their possible, or usual, speed, which, owing to their construction, interfere with the rearward view of their drivers.

Research to Improve the Motor Cycle.

Government Grant to a Motor Cycle and Lightweight Car Research Association.

A.C.U. to be Represented on the Council.

THE motor cycle and cycle car industry is to have a research association of its own. With a view to helping British industries, some three years go the Government granted a sum of one million ounds to assist various research associations in imroving British post-war industries.

The motor industry was given careful consideraon in this respect, and, as some twenty research assoiations dealing with other trades were formed, it was roposed to form one representative body to undertake search into all problems appertaining to the producon of motor vehicles. Certain prominent figures in ne motor cycle world at once saw a vital objection to iis scheme, as car interests have been known to subigate those of the two and three-wheeled motor shicles. They felt that a separate research associaon for motor cycles and cycle cars was absolutely ssential if these types of machines were to be accorded roper scope for improvement. The scheme was remously advanced by Major Watling, the general anager of the Cycle and Motor Cycle Manufacturers' nd Traders' Union, Ltd., and Sir Frank Heath scientific Research Department) was prevailed upon to ke definite action. It was shown that those specially iterested in the evolution of the motor cycle type f vehicle could run a research association of their

own, and, as an outcome of the negotiations, the Government has promised that, if the C. and M.C.M. and T.U., Ltd., will find a minimum income of £3.500 for five years, it would make a grant of a similar amount.

The establishment of such a research association will give motor cycle manufacturers and users a status they have never hitherto possessed, and the official offer was readily accepted.

Individual Motor Cyclists to be Represented.

At a meeting of the General Committee of the A.C.U., held in Southport on the 20th ult., Major Watling said that the British Motor Cycle and Lightweight Car Research Association, as the body has been titled, will be conducted by a council representing every interest tending towards the improvement of motor cycles and their general efficiency under all conditions. The opportunity was presented for the individual motor cyclist to be represented by the Auto-Cycle Union, and it was unanimously decided to appoint members of the Auto-Cycle Union to the Council.

By these means every A.C.U. member would thus have an opportunity of participating in any decisions that were taken.



The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coveniry, and must be accompanied by the writer's name and address.

BRAKE CONTROL.

Sir,-I should like to say a few words upon the 8 h.p. Sunbeam brake control. At present this machine is fitted with a Bowden wire from the left foot-operated pedal controlling the brake drum on the right-hand side of the machine.

Although this system works fairly well in practice, I think this machine c uld be made as nearly perfect as present-day machines go by using a right foot control and a straight-pull" rod.

Though Bowden wires give excellent service, a simple rod, my opinion, is to be preferred. F. R. ROYSTON. in my opinion, is to be preferred.

ELECTRIC LIGHTING ON MOTOR CYCLES.

Sir,-We have read with interest the article by "W.D.S." in The Motor Cycle of February 12th, and are pleased to note that he recommends solo riders to use dry batteries, but we think that when "W.D.S." states that for sidecar outfits a dry battery is not desirable, he means, and rightly, that the three lamps—head, side, and tail—should not be taken from one battery. The method adopted by us is to have a separate dry battery for each lamp, the dry batteries being of the Volex flat form. The separate units are fitted in a metal container, on which is mounted a switchboard, with connectors, and carried in the bottom of the sidecar.

We are not exaggerating when we state that many thousands of these batteries have been sold for motor cycle lighting, and in actual service they last, according to the method of use, from nine to eighteen months, without the necessity of renewing the batteries.

Of course, the battery can be renewed in a few minutes, and the advantage of this multiple unit system is that, should one of the batteries give out, the lamp illuminated from this battery can he connected in a minute or two to

the terminals of one of the other battery units.

WARD AND GOLDSTONE, LTD. TAXATION.

Sir,-May I add my word to the many protests I see you are receiving re the proposed taxation of motor cycles and sidecars. I am one of the many who have only one day a week on which to take out my wife and family, and cannot substitute another if that is a wet one. I therefore only expect to do 1,000 or 1,500 miles in the season, and should under the proposed changes be paying what the man with means and time to use his cycle often should pay for himself. HAROLD WILLIAMS.

Sir,-I have been greatly interested in the many letters appearing in The Motor Cycle on the question of taxation,

and, so far, the majority seem to favour a tax on fuel.
Writing on this subject in your issue for February 19th,
'Nemo' says, "Petrol consumption indicates mileage."
Now, there is a big variation in the "mileage." which it is Aow, there is a big variation in the "mileage" which it is possible to get per gallon from different machines of practically the same weight and power, e.g., my present machine, a twin two-stroke, will under the best conditions do about 70 m.p.g., whilst my last machine, a big single four-stroke, of rather greater horse-power, would, under like conditions, and these would not be a great difference. do 150-140 m.p.g., and there would not be a great difference in their respective weights. With the above-mentioned machines one rider would pay just about twice as much in tax as the other over the same distance supposing a fuel tax were in force.

correspondents. SINGLE AND TWIN.

This is a point I have not seen mentioned by any of your Carlisle.

Sir,—I am glad to see you assert openly in *The Motor Cy* of February 19th that a fuel tax is the fairest and mo satisfactory method of increasing the revenue. This undoubtedly the case, unless the small mileage man to pay for the large mileage one. By far the va majority of motor cyclists are, like myself, men who cov 2,000 miles per annum and under, and a flat tax according to weight or cubic capacity would be most unfair to small users, who would be compelled to pay while their machinwere lying idle in their sheds.

Further, taxation per machine should be abolished alt gether, and a fuel tax alone substituted. It is absurd think that a scooter or motor-assisted bicycle should pethe same rate as the 8-10 h.p. sidecar outfits and tricars.

Devil's Bridge.

LOW MILEAGE.

Sir,-I have read with great interest the letters published in The Motor Cycle concerning the proposed tax on motor and motor cycles, and am in sympathy with the feeling expressed therein. This tax would be unfair to the majorit of riders. I ride a 4½ h.p. sidecar outfit to and from m work as a carpenter, using sidecar to carry my tool-kit, et

Five thousand miles is stated to be the average mileage per year on a motor cycle. I do not average more that per year on a motor cycle. I do not average more that 1,500 miles per year, and do not ride.100 miles, per year fe pleasure. This proposed tax is putting the last straw of the back of the already heavily-taxed motor cyclist, especially the man who uses this means of locomotion to get this work.

The tax on petrol is, to my mind, the fairest method t adopt, and so make those who use the roads most pay mos Why not make all users of roads help pay for their upkeep and not throw the burden on the unfortunate motorist? Bude.

MOTOR FUEL.

Sir,-Your leading article on the price of petrol is worth of the serious consideration of every motor cyclist. I are a fraid the industry is going to be crippled by the hig price of fuel. Now, when the American exchanges are going against us, it is more than ever desirable that we should import less and produce more. As you say, the best solution is a mixture of benzole and alcohol. This would make an excellent fuel, and incidentally deliver us from the thraldom of the petrol "ring."

The great difficulty, however, in the way of alcohol fur is the conservatism of the Excise authorities, who are jealous of every drop of unduty-paid spirit. But surel this could be overcome, and the mixture rendered sufficiently unpulatable. The mixture of alcohol and benzole could be made on the distillery premises, under the supervision of the content of the supervision of the content of the supervision of the content of th of the serious consideration of every motor cyclist. I ar

unpalatable. The mixture of ancount and tempor made on the distillery premises, under the supervision the Excise officers, much the same as methylated spirit! done at present.

TYRCONNEL.

Donegal.

PLUG TESTERS.

Sir,-Recently I have seen advertised in various moto

wecklies instruments known as plug testers.

I fail to understand how these can actually test whether the plug is sparking, as the advertisements usually give sketch of the instrument with one of its terminals on the plug terminal and the other on the main metal body the plug. As the latter is in contact with the cylinder which are of course an earth return, would not the circu be from plug top, through tester, and to earth via plup plug body, and cylinders, thus missing the points altogether If this is so, there is little advantage, if any, over the old "screwdriver and listening" test.

Camberwell.

PUZZLED MECHANIC.

[The principle of the S.A.B. spark tester recently described in our columns is based on the fact that the resistance of a plug alters according to its condition, whereas that of the tester remains constant. Therefore when testing a plng in good order, the current going through the tester to earth will be full, and the tester will show a deep blue efflorescence in the tube. If a plug is faulty through imperfect insulation or soot, part of the current will be correspondingly weak, or intermittent. In the case of a badly cracked or sooted plug, the whole of the current will follow the easiest path to earth through the plug, and therefore the tester will show no light whatever.—Eb.]

THE MACHINE FOR SPORT.

Sir,-With reference to "T.T.'s" letter regarding the Sir,—with reference to 1.1.s fetter regarding one imachine for sport. I cannot understand him wishing for a machine which must be pushed through traffic and nearly konk out when turning a sharp corner. I have owned three

such machines, and would never ride another.

My present machine is a 1914 three-speed New Hudson, and it surpasses the T.T. machines in acceleration, although its maximum speed is slightly lower. I agree with "T.T. that it is an art in itself to get good acceleration out of a high compression T.T. machine. A very fine art indeed. I should advise him to try a well-tuned single-geared, four-cylinder 5 h.p. F.N. He will then know what terrific acceleration means.

I heartily agree with the writers of the two or three letters recently inserted in your paper regarding the excellent service given by F.N. machines. I owned one for eight years, and during that time the only replacements, excepting years, and during that time the only replacements, excepting tyres, brushes, and plugs, were: One crankshaft, one inlet pipe, four inlet valves, two exhaust valves, and a set of piston tings, yet when I sold the machine in 1919 it was still good for a 6 to 48 m.p.h. which is not so bad for a motor bicycle eleven years old. 'FELIX B. SLADDEN.

Sir,-I have read with interest letters appearing recently In your correspondence columns on the above topic, and am sorry to see that so many sportsmen in the exuberance of their joy for the type of machine of their fancy (or purse) sling mud at other, and probably better, kinds than their own, and of which they have no experience.

I have owned and ridden many types of machines during the past ten years, all purchased and sold through the exclusive medium of your advertisement pages, commencing with a fixed gear Minerva, later riding a fixed gear T.T. Triumph, which was a very good Iriend. I have also owned countershaft three-speeders (the hub gear I would never touch) and have

obtained splendid sport out of all.

My present and best 'bus, however, is a 5-6 h.p Rover with J.A.P. engine, all-enclosed chain drive (Coventry noise-less front and spring link rear), three-speed gear, and hand and foot controlled clutch. With 28 × 3 tyres this machine is easily the finest all-weather mount I have possessed. acceleration and smoothness in running singles are nowhere

in it, and I have finished with them. All-helt drive as on the T.T. machines is an abomination in wet and snow, the latter especially. I have come to a standstill on hills in a snowstorm with belt-slip, so I have finished with belt drive

for good also. Chain-cum-bels is certainly better.

My chains are noiseless, and perfect after 5,000 miles. The drive is as sweet as any belt, and neither rain nor snow touches or affects them. The speed is all that could be desired. It is seldon necessary to use the clutch or gear box when riding solo, the occasions when they arise being invariably to solo, the occasions when they arise being invariably megotiate tricky or dangerous places at a speed in conformity with the safety of others, and, as I write, I think of a steep dip, a head, and a rise of 1 in 6 on a main road, and also a 5 in.p.h. speed limit covering it, which "T.T." in all the glory of his high gear and compression will fail to comply

T.T. machines are good in their way, and provide some really fine sport, but the modern mount can do all that they can and more, and methinks it is chiefly the mystic letters, bars, and skull cap that still attract so blindly the supporters of the antiquated fixed gear machine.

J. H. LEWIS, Lt. R.G.A. (S.R.)

DISSOLVED ACETYLENE.

Sir,-I notice "Ixion's" remarks re dissolved acetylene in your issue of February 12th, and quite agree that the main difficulty with this illuminant is the scarcity of exchange depots. Moreover, the makers of the "D.A." cylinder appear, so far as I can see, to be making no effort to increase their sales with the help of advertising.

to increase their sales with the help of advertising. There is, to my mind, in spite of the high price (I paid £3 15s. for my outfit, by the way, plus about 1s. 6d. for extra tubing—not £5, as stated by "Ixion"), a great future before these cylinders, were the matter tackled in the proper way. In spite of the difficulty in replacing exhausted cylinders, I very much prefer this system of acetylene lighting to the old messy generator. I may add that I have found it, generally speaking more reliable than the I have found it, generally speaking, more reliable than the generator system.

A further difficulty, I may point out—a difficulty which, however, larger sales would no doubt eliminate—is the experience one sometimes has of being supplied with an exchange cylinder that has been in stock a long time and has become partly exhausted.

The cylinder itself is somewhat bulky when fitted to a solo machine, but it fits under the seat of the sidecar without any trouble.

Bradford.

PISTON RINGS.

Sir,-We observe in the January 22nd edition of The Motor Cycle an article on the "Fitting of New Piston Rings." We should like to point out that some of the contentions in that article are onen to criticism.

We do not know quite what is meant in the second paragraph, where it is stated that the radius of the ring in its free position should be nearly a mean between the radius of the ring when slipping over the piston and the radius when the ring when slipping over the piston and the radius wine in position in the cylinder. This statement is indefinite, inasmuch as the radius (of curvature) of a concentric piston ring is a variable quantity from the joint to the back of the ring, both in its free state and when it is sprung

open for the purpose of putting over the piston. The only position when the radius of a concentric ring should be a constant quantity is when it is closed in the cylinder. We take it the closed in the cylinder. intention of the remarks on the radii is to bear out the statement that the stress in the ring when it is put over the piston should be about equal to the stress in the ring when it is closed in the cylinder. This should be so, and the most practical method of ensuring its being so is to make the gap in concentric rings four times the thickness. Space will not allow us to give the proof of this, but we may mention that the whole subject of design of piston rings is under consideration by the British Engineering Standards Associa-tion, Sub-committee "W," to whom



Although the moulders' strike had a decided effect in retarding the output of engines, many firms were quick in getting into their stride again. The photograph shows a group of finished scooter engines manufactured by T. G. John, Ltd.

we have had the pleasure of submitting memoranda on

The statement that the gap in a concentric ring in its free state should be four times the thickness has been endorsed

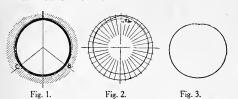
by the sub-committee.

It is stated in the article that the pressure of concentricings on the cylinder walls is not uniform. We may say rings on the cylinder walls is not uniform. there is no ground for such an assertion, neither is it correct to say that eccentric rings give a more uniform pressure. To say that "without question, eccentric rings properly designed, are superior to the concentric type, and should be used, if possible, where an engine is being tuned up for the best possible results," is entirely fallacious. This can be seen from the following argument.

If a concentric piston ring is made by merely cutting a gap out of a circular ring blank, such a ring when fitted in the cylinder takes the form shown in fig. 1. A space obtains between the cylinder and the ring on each side of the joint as far as B and C. The horns of the ring and the points B and C bear hard against the cylinder, while the back of the ring between B and C bears with uniform pressure. (See Dr. Prescott on "Piston Rings," Automobile

Engineer, September, 1919.)

But uniform pressure is required around the whole circum-ference. How is it to be obtained?



The first solution of the problem was attempted by varying the thickness of the ring. The amount of variation can be mathematically derived, as has been done by Dr. Unwin, and the result is shown in fig. 2. To produce rings of this shape is impossible commercially; and, moreover, if they could be produced, such thinness at the joint would allow the gases

produced, such thinness at the joint would allow the gases to pass and defeat the whole object of piston rings.

The commercial eccentric ring is therefore a compromise between fig. 1 and fig. 2, so to speak, and, as may be expected, by no means solves the problem, and leaves much to be desired as regards fitting in the cylinder and giving

The alternative solution to the problem is to vary the radius of curvature of the piston ring when in its free state while retaining even thickness. The correct shape can also be mathematically derived, and is shown in fig. 3. The curve is an involute of the two small waves of the cycloid shown in position in the diagram. (See Dr. Prescott's article.)

Commercially the best way of making concentric rings to conform to this curve is by internal hammering. A fine saw cut only is inserted in the ring, and by means of graduated hammering on the inside of the ring, decreasing from a maximum at the back to a minimum towards the joint. a maximum as the back to a minimum towards the joint, the ring is expanded to the necessary gap and "spring." If properly carried out, the hammering effects a permanent expansion of the ring coincident with the temporary expansion of a perfectly circular ring pulled apart by the points, so, conversely, the result of closing a properly hammered ring is the obtaining of a perfect circle.

Hence, where roundness in the cylinder, uniformity of pressure, and rapid bedding-in are concerned, the internally hammered concentric ring is far superior to the eccentric

ring.

For these reasons, apart from being cheaper to produce and other advantages, the concentric ring is used to-day by all the leading manufacturers, and the eccentric ring is becoming extinct. (The writer knows only of one motor

cycle manufacturing firm using eccentric rings.)
With regard to the width of rings, we are in agreement with the article on the whole. One great disadvantage of narrow rings must not, however, be lost sight of, and that is, due to their not presenting as much wearing surface as wide rings, they wear more rapidly in the cylinder, and the space at the joint is liable to grow to large proportions in a short time. The average practice is to make the width of rings approximately one and a half times the thickness. Rings for car and cycle engines should not, as a rule, be less than square section. Users must not be led too much in the direction of narrow rings by the example of aircraft engines. It should be remembered that the life of a piston

ring on these engines rarely lasted more than a few days.

With regard to the space at the joint to be left in fitting, we recommend this never to exceed one-four hundredth part of the diameter, i.e., .0025d. Rings other than the top one on the piston need not have so much clearance as this. It may be stated that this figure is taken from current practice of motor manufacturers. It is less than half the amount arrived at in the article, possibly because the expansion of the cylinder was not taken into account.

PROPOSED STANDARD DIMENSIONS OF PISTON RINGS

1	Diameter			Width.	Thickness.	Gap
in. Above 13 up ,, 1 16 ,, 24 ,, 26 ,, 3 15 ,, 4 15 ,, 4 15 ,, 5 15 ,, 5 15 ,, 5 15	to and in	cluding	11.4 12 12 12 12 12 12 12 12 12 12 12 12 12	in. \$\frac{1}{36} \big(.0937) \$\frac{1}{36} \big(.0937) \$\frac{1}{36} \big(.125) \$\frac{1}{36} \big(.125) \$\frac{1}{36} \big(.1875) \$\frac{1}{36} \big(.1875) \$\frac{1}{36} \big(.1875) \$\frac{1}{36} \big(.250) \$\frac{1}{36} \big(.3125) \$\frac{1}{36} \big(.3125)	in. .060 .070 .080 \$\frac{3}{2}\$ (.0937) \$\frac{1}{2}\$ (.125) \$\frac{1}{2}\$ (.1406) \$\frac{1}{2}\$ (.1562) \$\frac{1}{2}\$ (.1718) \$\frac{1}{2}\$ (.1875)	in. \$ \$ \$ \$ \$ 75 - 12 \$ 10 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 110 \$ 1

We do not know how the dimensions appearing in the article are arrived at, but we may say that the proposed standards at present under consideration by the British Engineering Standards from 2in. to 6in. as above.

If eccentric rings be made at all they should be made the same thickness at the back as concentric rings of the same diameter, and the amount of eccentricity should not exceed one-fifth the thickness. Under those circumstances, the thickness at the back of both types of rings being the the thickness at the back of both types as a whole, against same they will exert the same pressure, as a whole, against the cylinder wall. We say "as a whole" because the pressure of the eccentric ring will surely vary from point to point round its circumference. No logical reason exists to-day for round its circumference. No logical reason exists to-day for making eccentric rings, however. In the above table the widths have been given to the

nearest convenient fraction of an inch to approximate to one and a half times the thickness, but it should be remembered in determining the width of rings between the limits of one time the thickness and two times the thickness experience is the ruling factor.
THE BRITISH PISTON RING CO., LTD.

WANTED-A LUXURIOUS SIDECAR.

Sir,-I read "Xenos's" letter of the 19th February with sorrow. I thought that amongst ourselves, at any rate, it caused no finger pointing to run one type of motor because others were beyond our means. If he can afford a car, others perhaps cannot, and they make the best of what is possible. I do not run a cycle car because I cannot afford a car, but I run a $2\frac{1}{2}$ h.p. two-stroke because I cannot afford even a cheap combination. I only hope that "Xenos's" friends will not think he runs a "Blank" car because he cannot afford a Rolls-Royce. Would he stop motoring if they did, I wonder? Stockport.

BOOKS AND MAPS FOR MOTOR CYCLE BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle.

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Containing over 400 useful "wrinkles" and helpful bints in regard to motor cycles. Sixth Edition. (Second Reprint.) net. post. 2/3

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A reliable system for tracing motor cycle faults and
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"THE MOTOR CYCLE" ROAD MAPS

England and Wales, Scotland, London (showing
roads into and out of London and avoiding London).

Mounted on linen. Set of three, complete in case,

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd , 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a slamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Finding the C.C.

I shall be obliged to you if you will kindly tell me (I) how to find the cubic capacity of an engine from the bore and stroke. (2.) I have heard it expressed that the width of a valve seating should not be too great. Why is this so?-ENQUIRER.

(I.) The cubical capacity is found by the following formula: $D^2 \times .7854 \times S$ tollowing formula: D² × .7854 × S × N, when D equals the diameter of the cylinder, S the stroke, and N the number of cylinders. (2.) Because the wider the seating the greater the tendency to cause gas friction. A seating

Electric Lighting.

Having a small 8 volt 3-4 amp. shunt-wound dynamo, I propose to run side, rear, and head lamp off it. I wish to get 30 c.p. at the head lamp, using a 6 volt halfwatt lamp (i.e., consuming 21 amps.). watt lamp (i.e., consuming 2; amps.). (1.) What size accumulator shall I need? (2.) Will it matter if the charging rate? (5.) Shall I need a cut-out, a voltmeter, and ammeter? I have a 40 amp. 4 volt accumulator. Can I connect a low accumulator. Can I connect a low amperage 2 volt accumulator, say 2 volt 10 amp., and, if so, will the accumulators run down together?— R.J.W.L.

You do not say whether your small dynamo is one of the special types made for motor cycle lighting which include some device for regulating the output to compensate for variations in speed, or whether it is just the ordinary shunt-wound machine. We are inclined to think you mean the latter, and, it so, it will not be possible to use it in the manner suggested. The output of a shunt-wound dynamo varies very greatly with the speed at which it is driven, and has to be cearefully regulated for motor work by one of the various methods that have been devised. However, if our assumption is wrong and you have a regulated machine: (I.) A 40 ampère-hour tout accumulator will be the best. Obtain another 40 amp.-hour 2 volt cell and add it to your present accumulator. It would not do to use a 10 amp.-hour cell with the 40 amp-hour. (2.) It will not matter for ordinary use if the charging rate is less than the discharging rate-rather an advantage, in fact. (3.) You will require an automatic cut-out and ammeter. A voltmeter is not necessary, and is often misleading. As an alternative, if your dynamo is an ordinary shuntwound machine, and you could find some

means of driving it, such as a small motor off the town mains, you could make a satisfactory accumulator lighting set by keeping the battery charged at home and putting it on the machine when required.

Motorising a Tricycle.

Will you please recommend to me one or two of the most suitable makes of engine to fit in the frame of my cycle? f require the following points in any engine I buy: (1.) Free engine, for starting by handle or kick-start. (2.) starting by handle or kick-start. (2.)
A range of speed (if possible) from 5
to 25 m.p.h. (3.) Good hill-climbing
capacity. I weigh about 11½ stone.
The tricycle, complete, weighs 59 lb.
Any engine of about 3½ h.p. would do
well, I should say, if of good design
and workmanship.—H.E.B.

It will be quite impossible to fit a 35 h.p. engine in an ordinary cycle frame, and we do not know of any power unit suitable other than usual cycle attachments. Free engine clutch and handle or kick-starting cannot be applied satisfactorily to such small engines, the reserve of power not being sufficient to enable them to take up a load from a standing start.

IMPORTANT DATES.

Mon, March 1st, to Tues, March 16th-Lyons Fair.

Lyons Fair.

Wed., March 3 d—

I. of A.E. Mee'sing at the Institution of
Mechanical Enginee's, Storey's Gate
St. James's Park, S.W.1.

Sat., March 6th— Glasgow Western M.C C., Open Reliability Trial for Pa'mer Trophy.

Fri , April 2nd— M C C. Lond n-Land's End Trial.

Fri. April 2nd-Inter-club Meet at Richmond, Yorks.

Fri., May 21st-M.C.C. London Edinburgh Run.

Tues., June 15th-Junior T.T. Race, Isle of Man.

Thurs. June 17th-Senior T.T. Race, Is'e of Man.

Mon., July 5th. to Sat., July 10th-Scottish Six Days Trial. Wed, and Thurs., July 7th and 8th-Arbuthnot Trophy Trial.

Wed. July 7th—
Union Motocyclist de France et Automo-bile Club de l'Ouest, Grand Prix Race for Motor Cycles and Cycle Cars. Mon., July 12th, and Tues, July 13th-Irish End-to end Trial.

Sun., July 25th, to Aug. 1st -International Six Days Trial in France. Sun., Aug. 1st, to Wed., Aug. 4th-Anglo-Dutch Trial.

Mon., Aug. 23rd, to Sat., Aug. 28th-

Various Adjustments.

I have a single-cylinder 4½ h.p. Precision, and, as I have been troubled with various things, I should be grateful for your advice on the following matters:
(I.) I took my engine down, but find I cannot withdraw the central timing pinion to get off the crank case cover. How can I take it off? (2.) By doing above I, naturally, had to upset valve above 1, naturally, had to upset valve timing. Can you please say how 1 am to retime for speed purposes? (3, What is the exact timing of spark for speed? (4,) I am greatly troubled by the heads being knocked off my exhaust valves. Is there a remedy? (5.) At present I can touch about 20 m.p.h., but on attempting to exceed that speed I find the engine races. Sturmey-Archer hub gear requires cleaning? If so, how can I clean it? The belt has the proper amount of play, so the engine racing is not caused through the belt slipping. (6.) I find about Iii. of my piston, including the bottom ring, has got smashed to pieces, and the fragments were scattered all over the crank case top and inside the crank case, and yet the machine kept running. Could that have the effect of making the engine race, as in query No. 5? (7.) Is my machine capable of taking a sidecar and a pillion rider anywhere?—R.W.

(1.) To remove the central timing wheel from the crankshaft, unscrew the conicalheaded screw in its centre; it should then he possible to lever the pinion off the shaft. (2.) Retime the engine as follows: Rotate the flywheels until the piston reaches the top dead centre of its stroke, and then insert the cams so that the exhaust valve is just closing, and the inlet about to commence to open. Rotate the engine again one complete revolution: the piston will now be at the top of the compression stroke. Retard the ignition control two-thirds, set the contact breaker so that the points are just breaking, and connect the mag-neto drive. (4.) Exhaust valve breakages are due either to overheating of the engine or unsatisfactory material in the valves themselves. You should not experience the former trouble with the timing as given above. (5 and 6.) Apparently the racing of the engine is due to clutch slip. The broken piston would certainly not have anything to do with this. (7.) This engine with three-speed gear should take a sidecar, and also an extra passenger, almost anywhere where the driving wheel can grip.

READER'S REPLY

Alevon Spares.

This may be of use to your correspondent "J.B." The address of the Aleyon Motor Cycle Co. is Courbevoie, Seine, France; they also have show rooms in Paris-Rue de la Grande Armee, I think. I recently obtained a new cylinder and fittings, and quite cheaply, too, so I think they could supply others. - E. W. B.

EXPERIENCES WANTED.

"H.F.H." (Herne Hill).-Paragon two-stroke.

two-stroke.
"C.J.W.T." (Sheringham).—Binks carburetter on T.T. Rudge Multi.
"A.R.K." (St. Leonards).—Dismantl-

ing and adjusting Sturmey hub gears.

RECOMMENDED ROUTE.

BEDFORD TO HARROW.-R.B.

Bedford, Elston, Luton, St. Albans, Watford, Bushey Heath, Wealdstone, Harrow. Approximately 40 miles.

BIRMINGHAM TO EXMOUTH .- O.L.

Birmingham, Bromsgrove, Worcester, Tewkesbury, Gloucester, Bristol, Bridg-water, Taunton, Wellington, Cullompton, Exeter, Exmouth

LONDON TO GLOUCESTER.—F.B.S.

London, Uxbridge, High Wycombe, Stokenchurch, Oxford, Eynsham, Witney, Northleach, Cheltenham, Gloucester.

Ealing to Wivelsfield.—G.F.C. Ealing, Acton, Westminster, Brixton, Streatham, Croydon, Purley, Merstham, Redhill, Earlswood, Balcombe, Haywards Heath, Wivelsfield.



A Popular Lubricant.

We have been informed that, with one exception, the competitors in the Paris-Nice Trial used Castrol oil.

A Useful Diary.

We are in receipt of a neat pocket diary from Messrs. J. Blake and Co., 110-112, Bold Street, Liverpool, which contains much information of interest to the motorist.

A.A. Popularity.

The membership of the Automobile Association has recently passed the 100,000 mark, which is a figure never previously attained by any motoring organisation. Among the new members is H.R.H. the Prince of Wales.

Acetylene Lighting.

In the article entitled "Acetylene Lighting at its Best," which appeared in our issue, dated January 22nd, Mr. R. Creak Davis, the author, who has had a considerable experience of night riding, expressed the opinion that the best method is to light all three lamps of a sidecar outfit from one large generator, with which opinion we agree. Messrs. F.R.S. Lamps, Pershore Street, Bir-mingham, now inform us that they are marketing a new set on these lines, which gives a sustained light for eight consecutive hours with one charge. The price is £8 8s. complete, ready for fixing.

Allon Motor Cycles.

Messrs. Alldays and Onions, Ltd., inform us that they are compelled to increase the prices of their motor cycles, the de luxe model now being priced at £85.

Catalogues Required.

The North London M.C.C. are deirie North London M.C.C. are desirous of forming a library of makers' catalogues for the use of members. Lt, 'A. W. Day, Park Crescent, Finchley, N.3, who has charge of the arrangements, will be pleased to receive lists at the above address.

Petrol-proof Enamels.

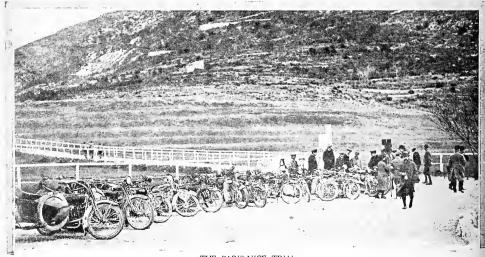
We learn that enamels in gold, black We learn that enamels in gold, black and aluminium are now marketed by Messrs. Balcon and Samuel, Ltd., 35, Paradise Street, Birmingham, who claim that they are quite unaffected by petrol, spirit, acid, or heat up to 250° F. These enamels also dry in a few minutes, and should be of considerable use to motor cyclists.

Leg-guards and Shields for Triumphs.

The combined leg-guards and undershield for Triumph machines, marketed by Forfield Motors, Learnington, which were described in our issue for February 12th, are now known as the Invincible, and the price has been fixed at £4 10s. Messrs. Higgins and Collow, of Coventry, are the designers and manufacturers, and Forfield Motors the sole selling agents.

Increased Prices.

The Tamplin Engineering Co. informs us that it has found it necessary to increase the price of its cycle cars by 10% upon all deliveries on and after February upon all deriveries on and after February 21st. Having made arrangements for trebling the output, the company expects this price-to remain firm until September next. Ariel Works, Ltd., have also in-creased the price of their productions



THE PARIS-NICE TRIAL At the summit of Mont Agel competitors were entertained to tea by the Nice Golf Club. Our photograph shows a group of competing machines outside the golf club house.



Times to Light Lamps

GREENWICH		TIME -			
Mar.	4			6.12	p.m.
,,	6			6.16	٠,,
25	8	***		6.19	,,
22	10	***		6.23	,,

"The Motor Cycle" Spring Number.

On March 25th the issue will be a special Spring Number, greatly enlarged, and containing features of interest to actual and potential motor cyclists.

First Three Entries for the T.T.

D. S. Alexander, H. R. Harveyson, jun., and F. W. Dixon have already entered for the T.T. They will ride Indian Scouts, the machine for which C. B. Franklin (himself a prominent T.T. rider) is responsible. Franklin is now permanently stationed at the Indian factory.

104 m.p.h.

On February 17th, at Dayton Beach, Florida, U.S.A., a motor cyclist uamed Leslie is credited with riding a mile on a Harley-Davidson twin in "54s.39, which equals a speed of 168.4 kilometres (104.6 miles) an hour. This time, if confirmed, beats the record made by Jack Booth, the Anstralian. Leslie rode two miles in Im. 12s.65, five miles in 5m. 2s.32, and a kilometre in 21s.64.

Indians for Sale.

From the Advertisement columns of cars and motor cycles in a big provincial daily paper:

Easter Checkers Required.

Any members of the M.C.C. who would like to assist on the occasion of the Jarrott Cup trial, to be run during the Easter week-end, should communicate with Mr. W. H. Wells, c/o the Hendee Manufacturing Co., Ltd., 366-368, Euston Road, London, N.W.I. A few rooms have been engaged at the Wellington Hotel, Minchead, near one of the most interesting parts of the comrse, in which Porlock and Lynton Hills are situated. Volunteers are required to help at the controls.

Air Service for T.T.

If the T.T. races are held this year, Messrs. J. Blake and Co., the Liverpool motor cycle agents, will inaugurate an aeroplane service between Liverpool and the island for the convenience of the A.C.U., competitors, and manufacturers generally requiring spare parts. No charge will be made. Messrs. Blake have already acquired a three-seater Avro aeroplane for this work and also for the convenience of Mr. J. Graham Reece, M.A.E., the principal of the concern.



THE T.T. AND THE TRADE.

COLMORE CUP IRIAL.

OBSTRUCTION ON THE ROAD.

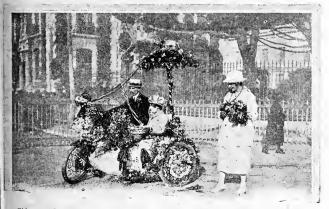
Police Trap.

A police trap is working at Banstead, at nine o'clock on Monday re-rnings, presumably with the idea of catching weekenders. It is worked in two places, from Borough Heath cross toads and from the Wheatsheaf corner. The trap is, of course, worked to catch motorists coming into London.

Second-hand Prices.

The total number of machines offered for sale is about the same, but the prices asked are, in many instances, slightly higher. It is only reasonable to assume that, with the approach of the Easter holidays and the possibility of better weather, the present high prices will be maintained. Delivery of 1920 models is slowly improving, and the prices of these machines is steadily increasing, which fact alone will tend to cause a greater demand for second-hands.

Lowest and highest
A.J.S., 1914, 6 h.p., sidecar
Ariel, 6-7 h.p., sidecar £155 £175
Allon, 2-stroke, 2-spred
Bradbury, 4 h.p., single-speed, solo £35-£65
4 h.p., sidecar £45-£145
B.S.A., 4t h.p., 3-speed, sidecar [110-£125]
Calthorpe-Jap, 27 h.p., 2-s peed
Clyno, 2-stroke, 2-speed
" 5-6 h.p., 3-speed, sidecar £98-£126
Douglas, 2 h.p. W.D
, 4 h.p., 3-s pecd, sidecar £100-£160
Enfield, 3 h.p. twin, 2-speed £60-£80
6 h.p., sidecar
Harley-Davidson, 3-speed, sidecar £125-£185
Humber, 3! b.p. flat twin, 1918
Indian, 1914, 7.9 h.p. 2-peed sidecar £75-£95
" 1919, 7-9 h.p., 3-speed, sidecar £110-£155
James, 2-stroke 2-speed
" 41 h.p., sidecar
Levis, 21 h p. single-speed
" 2 h.p., 2-speed
Matchless M.A.G. and Victory models s'car £165-£175
New Hudson, 2] h.p., 2-stroke, 2-speed £46-£65
New Imperial. 23 h.p., 2-speed
Norton, 31 h.p., T.T £78
., 4 h.p., 3-speed, sidecar £105-£160
P. & M., 1919. 3 h.p., solo
,, 1919, 3½ h.p., sidecar
Rover, 1918-19, 32 h.p., T.T
" 1914, 3½ h.p., 3-speed hub, sidecar. £67-£70
, 1918-19. 3 h.p., 3-sp. c/shaft, s'car £110-£135
Rudge-Multi, 3½ h.p
" 5-6 h.p., sidecar
Scott, solo
., sidecar
Sunbeam, 1915-18, 33 h.p., solo 6100-6115
,, 3 h.p., sidecar£115-£170
Triumph, 31 h.p., single-speed
" has a speed a schaft cilegar fox-617-
h.p., 3-speed c/shaft, sidecar . £98-£17 ₂ 2! h.p., 2-stroke
9 t = nountambott cidnoor (20a
n on.p., countersnart, sidecal



Sidear outfits are not the best of vehicles to decorate tastefully, but this photograph, which was taken during a battle of flowers at Nice, shows that charming effects can be obtained if trouble and care are taken.



A procession of competitors on Sudeley Hill during the Colmore Cup trial last Saturday.

Petrol Prices Petition.

It is desirable that as many petition forms as possible should be in the hands of the A.A. before the 17th inst.

"The Motor Cycle" Index.

Readers wishing to purchase Indexes and Binding Cases for the volume of The Motor Cycle, dating from July to December last, can obtain these from our publishers, Messrs, Iliffe and Sons, Ltd., 20, Tudor Street, London, E.C. The price of the Index is 4d., and the Binding Case 3s. 10d. (post free).

The Colmore Cup.

The trials organising secretary of the Sutton Coldfield and North Birmingham Sutton Coldneid and North Birmingnam A.C. wishes to express his thanks to the Cheltenham M.C.C. for their help on the occasion of the Colmore Cup Trial. Mr. F. Corbett, of Steel's Garage, kindly undertook the arrowing of Gamble's Lane and the hairpin, and also

arranged the luncheon at Cheltenham.

Scottish Trials.

We understand that the Scottish Six Days event will this year be organised by Messrs. Ackman Smith and L. B. C. Cunningham, who have generously and voluntarily offered their services for this purpose. Several new features will be embodied this year. About midway in the trial, competitors will be allowed to change tyres, and every effort is being made to eliminate the element of luck.

Essex M.C. Open Hill-climb.

An open hill-climb will be held on Saturday, the 27th inst., at 2 p.m. sharp. The hill will be chosen and made known to competitors in accordance with regulations, and will be within easy distance of London. In addition to members' events, the following open events will take place: there will also be open classes for machines of 250 c.c., 500 c.c., 750 c.c., and 1,000 c.c.

An Amalgamation Foreshadowed.

We hear a rumour that an amalgamation is about to take place between several firms in the motor cycle trade for the purpose of producing a cheap utility type motor cycle at a price which will enable American competition Overseas to be met. It will be an all-British production

The B.M.C.R.C.

Subject to the necessary repairs being completed in time, Brooklands track will be reopened to the public on Easter Monday, with an interesting programme, under the auspices of the above club.

HAVE YOU SIGNED THE PETROL PRICE PETITION?

The A.A. petition to the Premier protesting against the present prices of petrol is already a huge success, but the larger the number of signatures secured the greater will be the weight of the petition, and we ask every reader, not only to send in his own name, but to secure the signatures of as many motoring friends as possible.

EVERY SIGNATURE COUNTS!

Four sprint races (about three miles) for the following classes of solo motor cycles will be held : Two-strokes, not exceeding 300 c.c., and all types not exceeding 350 c.c., 500 c.c., and 1,000 c.c. In addition, two All-comers' Handicaps (about 84 miles), for solo machines and three-wheelers (including sidecars), will be contested. Mr. Alec Ross is presenting a trophy for men who have served, or are serving, in H.M. forces. Prospective members should communicate with the scoretary of the British Motor Cycle Racing Club, Mr. T. W. Loughborough, The Mill House, Warlingham, Surrey.

A.C.U. NOTES.

Annual Meeting.

The annual general meeting of the Auto-Cycle Union will be held at the First Avenue Hotel, Holborn, London, on Saturday, March 20th, at 3 p.m., and will be open to all members.

Scooter Trial Postponed. .

In view of the present manufacturing difficulties, readers will not be surprised to learn that the A.C.U. has decided again to defer the promotion of the scooter trial.

Important A.C.U. Decision-Advisory Committees to be formed.

As is well known, the A.C.U. exercisescontrol over all open motor cycling competitions in England and Wales. From time to time various alterations are made in the regulations for, and also in the method of, running such competitions, to enable the Union to judge impartially and to legislate as may be required by the general advance of the pastime. The Union has now decided to arrange for the formation of two Advisory Committees, to which points may be referred when necessary. The Cycle and Motor Cycle Manufacturers' and Traders' Union Ltd., is to he asked to nominate five of its members, and the Institution of Automobile Engineers to nominate two of its members, who together will form Advisory Committee A, and the General Committee of the Union will nominate a certain number of licensed competition riders, whether connected with the trade or not, to form Advisory Committee B.

A Tourist Trophy Week.

A gala week in connection with the T.T. Races on June 15th and 17th is heing arranged by the Isle of Man local authorities. Should the races be held this year, the T.T. week would un-doubtedly see the largest number of visitors to the island.



Rising Sun proved the worst hill of the trial. G. Dance (3) Sunbeam sc.) who climbed easily and well

GREASY ROADS CAUSE MANY FAILURES.

A SHORT sporting course, a fine day, an early start, and good organisation. All these helped to make a success of the Sutton Coldfield and North Birmingham A.C.'s Colmore Cup Trial. On arrival at the "George in the Tree" at Berkswell we found a busy scene in progress. A goodly company of cars, official and otherwise, lined both sides of the road. Competitors were husy with hot tea and final adjustments. Club officials seemed to be everywhere, and Messrs. Tom Silver and Alec Ross were preparing to get the men away to time.

A Representative Entry.

The entry comprised almost every well-known make of machine, and amongst the most interesting we noticed that Albert Milner's Diamond was fitted with a steel cylinder and inclined overhead valve gear, the rockers being carried in an aluminium bracket bolted to the cast iron head. Greenwood's single-cylinder Sunbeam and sidecar had the experimental M-L lighting set incorporated with the magneto. R. Monk, who drove the Premier three-wheeler, had the designer as his passenger, and carried a map of the course in a neat metal case with rollers top and bottom, so that the appropriate section with route and times could be turned into position at will. The A.B.C. team—F. A. Applebee, E. A. Colliver, and E. Porter—arrived by train looking very spick and span. The flat twin Harley-Davidson, the Henderson, and N.U.T. machines also attracted much attention. Punctually at eight o'clock, the first competitor, W. B. Gibb, was sent away. This well-known Douglas rider bestrode one of the new sloping top tube 24 h.p. Levis two-strokes.

Trials in the Midlands are confined by lack of hills to two or three well-known routes with, occasionally, slight modifications. The Sutton Coldfield and North

Birmingham Club went straight to the point and took their competitors through Keuilworth, Warwick, and Stratford-on-Avon to the Cotswold range. Up Saint-bury Hill (where the flexibility test was held), round the hairpin bend at the top, and down Willersey, thence to Winch-combe, up Sudeley, and on to the lunch stop at Cheltenham, ria Andoversford and Reclgate. After lunch the features were

SHORT HISTORY OF THE COLMORE CUP TRIAL.

Organised by the Sutton Coldfield and North Birmingham A.C., this competition was first held in 1911, when there were forty-six starters. In 1912-13-14 there were 104, 200, and 244 starters respectively. In the latter event 125 competitors made non-ston runs.

PREVIOUS WINNERS.

1911 .. W. D. South (33 Scott).

1912 .. Frank Smith (5-6 Clyno sc.)

1913 .. W. B. Gibb (23 Douglas).

1914 .. Norman Lea (31 Lea-Francis).

the ascent of Gambles Lane (Rising Sun), the Sudeley hairpin, and the ascent of Willersey Hill.

The course, which was the same as that used for the 1913 Colmore Cup event, is so well known that little arrowing was needed, though all dubious turns were clearly and ethicently marked. As far as Saintbury Hill the course is so flat and easy that there was little of incident to report, though patches of treacherous grease, especially near Mickleton, were sufficiently dangerous to cause the solo riders to exercise caution.

The sky was still overcast as the competitors swung left in Saintbury village to tackle the first hill.

The Acceleration Test.

Saintbury Hill was in very fair condition. True, it was greasy, and, in parts, there was loose metal. The average machine has improved so much since it was last included in a trial that, as a test hill, it could not have occasioned much anxiety; this year, again, the organisers elected to hold a flexibility test on the hill. To our mind the Sutton test on the mil. To our mind the Satton Coldfield A.C. could have found a place more suitable, as the test proved very little regarding the capabilities of the various machines. On the lower part of the hill 100 yards had been measured off, to cover which the competitors had to take about 34 seconds; the end of this slow test marked the beginning of the fast stretch of 100 yards. The difference between the two times was supposed to show the flexibility of the machines, but, as it happened, it merely illustrated the ability of the various drivers. Especially was this the case with the solo riders, who displayed real skill in slow riding and in retaining their seats on accelerating for the fast stretch. In some cases the machines slithered all over the road in the grease, and it is safe to say that the machines which had the greatest accelerative powers depended en-tirely upon the skill of their riders to prove the fact. In this test there were quite a large percentage of failures, due, in most cases, to the state of the road.

F. A. Applebee (A.B.C.) probably gave the star performance in this test from a spectacular point of view. He covered the slow portion at a speed little more than the limit for balancing purposes, and when he accelerated he skidded first to one side of the road and then the other, saving himself from falling by



both failed on the upper stretch, the atter having punctured

atter having punctured.
On the whole the climbs were good.
Albert Milner (Diamond). H. R. Guest
(Hoskison), R. W. Duke (Triumph),
Blake-Marsh (Triumph sc.), R. E. Pugh
(Levis), Porter (A.B.C.), Sealey (4½
B.S.A.), Strange (James), Gill (Alecto),
Reg. Brown (3½ Sunbeam sc.), W. Hassall (Norton), Walker (3½ Norton), H.

Watson (4 Norton sc.), J. W. Stokes (6-7 Ariel sc.), H. F. S. Morgan (Morgan), H. Davies (6 A.J.S. sc.), H. Stretton-Ward (8 British Excelsior sc.), Sadding-ton (5-6 James sc.), Chawner (3½ Sun-beam sc.), H. Boyton (James sc.), and L. H. Brown (6-8 Rex sc.) all made fast

H. Harper (8 Matchless sc.) stopped with a slipping clutch, H. Nokis (Mar-

Sudeley was greasy and deeply

(Top) Sealey (B.S.A.) and Harper (Matchless sc.)

(Bottom) Ashby (Connaught) and Stretton-Ward (8 British Excelsior).

loe) paddled, and C. F. Field Hoskison) was slow, and skidded a little.

Quite a number elected to play for safety, by making a steady, slow, and sure climb. Among

slow, and sure climb. Among these may be mentioned: D. H. Smith (5\frac{3}{2}\) Sectt), Dance (3\frac{1}{2}\) Suntbeam), R. G. Mundy (Levis), W. R. Preston (Sunbeam), Mackay (Scale two-stroke), T. Busby (Verus), Clulee (Allon), F. Porter (Levis), W. R. Urwin (Levis), Bird (Verus), P. Newman (Ivy), Poole (4\frac{1}{4}\) B.S.A.), Petty (4 Norton sc.), Bladder (3 New Imperial sc.), and B. Davis (4\frac{1}{4}\) B.S.A. sc.).

[G. Kubn's Levis literally sang with

G. Kuhn's Levis literally sang with a very musical note up the hill, and



Two competitors in the flexibility test on Saintbury.



Lane (4) B.S.A.) and a Morgan at a pretty spot near Saintbury. J. L. Stocks (6-7 Ariel sc.) climbing Sudeley

accelerative powers were prohably lled only by the A.B.C. machines. lled only by the A.B.C. machines, uning sharply to the right at the nit of Saintbury, the competitors taken down Willersey, which ed a difficult descent owing to the ions state of the hill. Thence on inchcombe and Sudeley.

Le descent of Willersey gave the saichance of seeing what they would be surrount at the final test of the

to surmount at the final test of the noon, and it must be confessed that tate of the surface was not encourag-

bb made light of the hill. Watson ne (4 Blackburne) came up steadily. V. Glendinning (8 Blackburne and climbed well, but had considerable I slip; this, however, was common all passenger machines. C. A. eand (4 Harley Davidson) came up power in hand, but the rear cylinder

seems to be rather in the mud. H. Johnson $(3\frac{1}{2},N,U,T_*)$ made a good ascent, as did J. E. Greenwood $(3\frac{1}{2},Sunbeam s..)$, but R. Charlesworth (5 Zenith) got into our R. Charlesworth (5 Zenth) got into a rut and charged the bank. At a second attempt, however, he ascended at a fine speed. F. J. Watson (6.7 Ariel sc.) came up well, and R. M. Brown (4 Norton sc.) made a good steady climb. It was noticeable that he had a box on the carrier, and extra weight in this position is a good plan for any passenger machine when there is plenty of power in hand, as it mitigates wheel slip. W. A. Fell Smith's 7-9 Harley Davidson outfit was missing badly as it passed us, but there was no question of lack of power even under these circumstances. J. C. Walker (23 Edmund-Jap) climbed steadily, but unfortunately skidded and fell near the top of the hill. T. W. Milner (4 Norton) made a good climb, and was followed by

J. N. Roberts (21 Verus), who was

of the Roberts (22 Verlus), who was forced to get off and run.

H. R. Guest (23 Hoskison) made an exceptionally good climb. O. G. Smart (8 Sanbeam sc.) failed to get over the last bit of the hill. Sub-Lieut, Jameson, R.N. (10 Henderson) was badly haulked by Smart, but made a good climb, having plenty of power in hand, as might be expected of a 10 h.p. four-cylinder solo machinė.

There followed a succession of cometitors who mostly made good ascents. petitors who mostly made good ascents. The outstanding features were Albert Milner's o.b.v. Diamond, which has a crisp, clean exhaust note, E. A. Colliver, whose A.B.C. came up at a great speed, Geoffrey Davison (single-geared Coulson), who came up very well, but whose engine appeared to fail quite suddenly just round the last bend, E. Porter (A.B.C.), who like Colliver made a first climb. who, like Colliver, made a fast climb;



The cross gulleys on Rising Sun caused trouble. H. Riley (Enfield sidecar) has just crossed the last and worst of the series.

The Colmore Cup Trial .-

W. Hassall (3½ Norton single-geared); G. Kuhn (2½ Levis), who made a wondertr. Runn (2½ Levis), who made a wonderful climb for such a small machine; J. B. Blake-March (4 Triumph sc.), whose performance was extremely fine; G. W. Walker (3½ Norton single-geared), who was hadly baulked at the top; W. L. Danskin (3½ Rover sc.), steady and good; and F. Porter (2½-Levis). Failures which were more than anything due to the surface included Lt. Evans-Greaves. which were more than anything use to the surface included Lt. Evans-Greaves, R.N. (3½ Lea-Francis). R. E. Pugh (2½ Levis), Stanley Gill (3½ Alecto), C. F. Field (2½ Hoskison), R. C. Chawmer (3½ Sunbeam sc.), and A. E. Mackay (Scale).

Taking the performances as a whole, perhaps the most noticeable points were the sporting climbs of the single-geared

Norton carrier to help obtain wheel grip, J. N. Roberts (Verus) turned right round on the grease, and Riley (8 Enfield sc.) failed owing to repeated front wheel skids Greenwood (3½ Sunbeam sc.) climbed steadily and without undue wheel slip, and Milner (Diamond) made a good perand Milner (Diamond) made a good performance on the lower slopes, as did Jameson (Henderson), Eric Williams (3½ N.U.T.), F. Arbuckle (3½ Humber), Tom Peck (3½ Ariel), E. Newey (Ariel), G. Dance (5½ Sanheam sc.), H. Smytheman (5 Ivy), D. H. Smith (3¾ Scott), R. W. Duke (4 Triumph), J. B. Blake-Marsh (4 Triumph sc.), T. Busby (2½ Verus), whose stand was trailing, L. Sealey (4½ B.S.A.), and G. A. Strange (3½ James). At the top of the hill there were many failures, largely owing to the fact that much wheel taken and the total space available no more than the width of the av

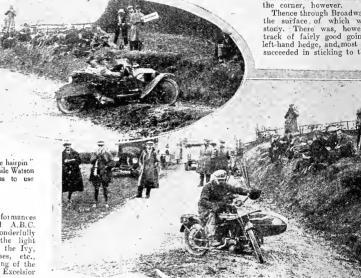
country lane. The driver of the Premier Run smartly used his reverse gear, and smartly used ms reverse gear, and point was debated whether such v be regarded as a stop. L. H. E (6-8 Rex sc.) found his wheelbase was long to get round, so he charged the and simply reversed by running ba

The Competitors' Waterloo.

When such exponents as W. B. (Levis)—to that point prime fave for the trophy—found it necessar put his foot down, it will be apprecent that it required more than average and luck to get round without putt foot to the ground.

Rather more than half the numb starters were successful in negoti

Thence through Broadway to Wille the surface, of which was rough storiy. There was, however, a ne track of fairly good going close the left-hand hedge, and most solo riders succeeded in sticking to this made



Denley cuts "the hairpin" with his Morgan, while Watson (4 Norton sc.) has to use his full lock.

Nortons, the fine performances of the Levis and A.B.C. machines, the wonderfully steady climbs of the light two-strokes, such as the Ivy, Verus. Allon, James, etc., and the steady pulling of the James, Enfield, and Excelsion sidecar outfits.

From Sudeley to Cheltenham the roads were mostly greasy and treacherous, and the two-hour hunch stop proved a welcome rest.

After lunch there were but a few miles to cover before the pièce de résistance— the ascent of Gamble's Lane. A crowd gathered at the top, but, in spite of the fact that the gradient at the foot is not so severe, the greasy surface was so treacherous that the lower slopes were certainly the most trying part for all but the lightweights.

Those who had previously shone mostly retained their reputation, particularly among the smaller machines, which seemed to hold the road in the grease

infinitely better than the heavy brigade. Failures and "footing" on the grease were almost too frequent to mention. Seymour Smith (3 Ivy) had trouble with his gears at the foot of the hill. Charlesworth slid into the ditch repeatedly, but finally got away after receiving assistance. R. M. Brown's passenger leaned over the

slip on the lower stages had unduly heated up the engines. Amongst these were McKeand (4 Harley-Davidson), Glendenning (8 Blackburne sc.), Walker (Edmund), ning (8 Blackburne sc.), Walker (Edmund), Milner (Diamond), Roberts (Verus), Harper (Matchless sc.), Smytheman (Lwy), Monk (Premier three-wheeler), Blake-Marsh (4 Triumph sc.), Busby (Verus), Denley (Morgan), Gill (Alecto), Porter (Levis), Ashley (Connaughi), Nokis (Marloe), Walker (Notton), P. Newman (Lwy), Livum (Levis), Heather (B.S.A. sc.), and Brown (8 Rex sc.).

The Hairpin.

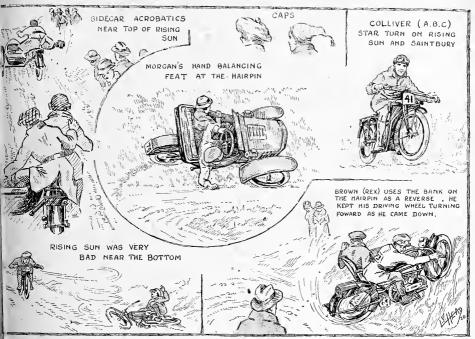
After leaving Rising Sun the route lay along the main road to Winchcombe, from which town arrows directed the competitors into Sudeley Park for the hairpin bend test and back again on to the main road at a point already passed.

The hairpin bend is a very sharp V, formed where two narrow tarm tracks converge. As the course was arranged, a very sharp right-hand turn had to be

ascents. The grease proved too inuc ascents. The grease proved too mu many, and the stones were the Wa of others. Stanley Gill (Alecto) ra side his mount. D. H. Smith (3a fell in the stones. F. W. Ap (B.S.A.) fell. W. Hassall and (Walker, on their single-geared No made very sporting attempts; the far skidded and fell on the very last bal and the latter failed just below him Kuhn made a fine climb, but momentouched the ground with his foot. S. Morgan made a fast ascent, his S. Morgan made a fast ascent, his wheel shooting out stones, but J Denley, had been suffering from a trouble. R. C. Atcherley (4 Triu fell after a phieky struggle. Beed (8 Dot sc.), going well, shave A. W. Thrush (4 Triumph sc.) if failed. D. Heather (B.S.A. sc. If failed, as did L. H. Brown (8 Res. The best climbs which we noted made by P. Newman (3 Ivy), T. [1] (23 Connaught), H. J. Stretton (British Excelsior sc.), and the 5-6 im (British Excelsior sc.), and the 5-6

Colmore Cup Trial .-

IMPRESSIONS OF THE TRIAL



driven by H. Boyton, H. H. Sadon, and G. Stobart.

e remainder of the run home was At the finish there was some talk of ig out the performances on Gambles owing to the state of the surface. would be many to welcome this stion, though it would be hard on who made clean ascents, and the was quite climbable with careful

official results will be announced week.

LIST OF STARTERS.

Tom Peck (3½ Ariel)
F. W. Apuiebee (4½ B.S.A.I.)
F. W. Apuiebee (4½ B.S.A.I.)
G. Bance (3½ Sunbeam)
E. A. Colliver (3 A.B.C.)
Bert Kerslaw (2½ Verus)
H. Harper 46 Matchless sc.)
H. Sunthenan 15 1vyl.
R. Monk (7.9 Premier manbeut.)
H. Sunthenan 15 1vyl.
R. Monk (7.9 Premier manbeut.)
H. B. Sunbeam.
H. Sunthenan 15 1vyl.
H. S. Matchless sc.)
H. H. Sunthenan 15 1vyl.
H. B. Lesten (40 Sunbeam.)
H. F. Harper (24 Levis.)
H. B. Delber (24 Levis.)
H. B. Delber (24 Morzant.
L. Scaley (4½ B.S.A.)
H. B. Delber (8 Morzant.
L. Scaley (4½ B.S.A.)
H. S. Matchless (1½ Notion.)
H. S. Matchless (1½ Notion.)
H. S. Matchless (1½ Notion.)
H. K. Walter (3½ Notion.)
H. K. Walter (3½ Notion.)
H. Kolke (Marloc.)
H. Nokle (M

C. F. Field (2%, Hoskison).
H. H. Saddiagton (5 James sc.)
H. C. Chawter (34 Struken sc.)
J. H. Walker (4 Trimmph).
H. Doneskin (35% Rover sc.).
H. D. Walker (4 Trimmph).
H. Doneskin (35% Rover sc.).
H. J. A. Hoult (6 Matchiess sc.).
C. G. Smith (Norton sc.).
H. J. Willis (10 Reading-Standard).
F. A. Watchen (35% Smitheam sc.).
F. H. Brown (8 Rex sc.).
F. H. Brown (8 Rex sc.).
A. W. Sims (6-8 Acme sc.).
A. W. Sims (6-8 Acme sc.).
A. W. Sims (6-8 Acme sc.).
A. H. Edward-Cox (two-stroke Pearson-Sopwith).
A. Hal'am (2% "Retired."

tNCIDENTALLY.

A new two-stroke was seen near Willersey. It is said that a well-known firm is experimenting in this direction.

H. J. Willis, who rode a 10 h.p. Reading-Standard (solo), drove consistently, but at the finish he fainted. His first fear on coming round was that he was behind time.

Mr. H. F. S. Morgan emulated his per-formance of 1913 in the Sudeley Park hairpin. He rode up the bank with his left front wheel and saved his machine from turning over by forcing it back to the normal with his hand on the ground. He did not stop.

The modern two-stroke is no longer a toy. Some of the best climbs of the day were accomplished by Levis, Ivy, and Hoskison two-strokes.

THE RICHMOND MEET.

On February 21st representatives of the On February 21st representatives of the York, Barnsley, Hartlepool, Northern, Ilkley, Hull, Wakefield, Linthorpe, and Leeds Clubs, also of the N.E.A.A., A.C.U., and N.M.C.F.U. discussed arrangements for the 1920 meet, which will take place as usual on Good Friday, and it was decided that a prize (probably a cup) will be awarded to the club with the greatest percentage of paid up members present, taking mileage also into account. Competing clubs must ad the hon. assist. sec., Mr. A. K. Proc 28, Gillygate, York, of their total num of paid-up members on or be of paid-up March 27th.

Manufacturers will be asked to s new models to the meet, and prizes. be awarded to the smartest outfit also to the most novel and ingenidea which is incorporated on any mo cycle present.

SUSPENSION OF THE CLYNO BY THE A.C.U.

AST November the A.C.U. suspended the Clyno Engineering Co., Ltd., for a breach of the regulations of the Competitions Committee. We have received the following letter from the company explaining how the misunder-standing which led to their suspension

HE annual meeting of Northern motor cyclists and the rallying of clubs, which takes place at Easter at

Richmond, promises to be even more popular this year than ever.

As the earliest of club rallies, this meeting has always been reported and illustrated in The Motor Cycle, and

although the lack of new models rather

hampered its success in 1919 it was attended as well as could be expected.

arose, and we are glad to note that the matter is now at an end: Sir,-It would appear that considerable misunderstanding seems to have arisen in reference to the Clyno 1,800 miles trial which was advertised in your paper some

The trial in question, as was indicated in the motor cycling press at the time, was undertaken as a result of the C. and M.C.M. and T.U. Ltd.'s decision that no trade representative should compete in the Scottish Six Days Trial.

Exception was taken to the advertisement on the ground that it was a breach of Open Competition Rule No. 107 of the Auto Cycle Union, which prohibits any manufacturer from taking part in any unauthorised trial and obtaining extensive advertisement therefrom. The A.C.U.

requested that the advertisements should be withdrawn at once, and that an ex-planation should appear in the Press.

In view of the fact that this request

was made to a London representative of the company, the matter did not receive serious consideration until official notification was received by the directors in Wolverhampton, when steps were at once taken to meet the A.C.U. to discuss the matter.

In the meantime, the Competitions Committee of the Union had passed a resolution to suspend the Clyno Engineering Co. No reason, however, was publicly stated. On the company objecting to this procedure, and requesting that the question might be fully discussed, every facility was at once granted them, and a representative of the company was enabled to discuss the matter with the Competitions Committee. At this meeting it petitions Committee. At this meeting it was submitted by the company that the use of the word "trial" in the advertisement did not imply that the trial has been officially observed. It was admitted that the Committee were perfectly justi-

fied in interpreting their own rule in sense that it was intended to be re but it was suggested that the rule sho be revised so that no doubt of the in: pretation could arise.

The Chairman then stated that Committee were satisfied that the was sufficiently clear, and that if company were now prepared to ackn ledge that the wording of the adverto believe that it referred to the ac trial, and that the company had th fore-although not knowingly-tr gressed the rules of the Union, then Committee would at once terminate suspension.

We write, therefore, that this understanding as regards the A.C Competition Rules may be explai and would add that in our opinion A.C.U. has not only given every fat for clearing up the misunderstanding, has acted rightly with a view to guarding the interests of the metallic and the control of cycling public.

CLYNO ENGINEERING CO., LT

Bedford and District M.C.C. The date of the next meeting has been altered to March 13th. All members please note.

Motor Cycling Club.

It is desired to emphasise the fact that members who have changed their addresses during the past four years should immediately notify the hou. secretary, Mr. Southcomb May, 34, Gower Place, London, W.C., as to their present

Bath and West of England M.C.

The twenty-four-hour reliability trial to Land's End and back is arranged for to Land's End and back is arranged for the 12th and 13th inst, and is open to motor cycles, sidecar outfits, light cars, and cars. Entry forms will be received by the secretary, Mr. C. B. Newman, 20, Stall Street, Bath, up to the first post' on Monday next.

Inter-club Hill-climb.

The contest between the Ystalvfera M.C.C. and the Neath and District M.C took place on the 21st ult. at a selected hill near Crynant. New Imperial and Douglas machines proved winners in the lightweight class, and the 500 c.c. class was won by a Norton machine, which made fastest time of the day.

CLUB NEWS.

North London M.C.C.

An informal lecture will be given by An informal fecture will be given by Major Dixon Spain, A.C.U., at the Orange Tree Hotel, Friern Barnet, at 7.45 p.m. For the 14th inst. a paperchase has been arranged, and on the 28th inst., a run to Stevenage will take place.

Ealing and District M.C.C.

A feature of the half-day trial for the Longman trophy was the excellent show-ing of the "single soles." True, the True, the winner was Malone on a big twin sidecar; but second, third, and fourth places were won by Tilt, Sharatt, and Boya respec-tively, all mounted on solo Triumplis.

The Public Schools M.C.C.

The opening run will be held on the 20th inst., and all members are desired to attend if possible.

The secretary, Mr. H. A. Browning, Loftus Hotel, Earl's Court, London, S.W.5, will be glad to hear from prospective members.

Rochester, Chatham and District M.C.

On the 7th, 14th, and 21st inst. short runs will be held, starting from the Esplanade at 10 a.m. The opening run to Tunbridge Wells will be held on the 28th inst., starting at 9.45 a.m. Members are requested to make arrangements for their own luncheons.

Launceston and District M.C.

Several sporting events arranged for the future, including a stop run to Truro on Easter Monda speed contest on April 29th, an reliability trial to Exeter and back Whit-Monday. Mr. Maurice Prout, (thorne, Launceston, will be please give any information.

York and District M.C.

A very comprehensive programme been arranged for 1920, including York-Edinburgh-York event, which hoped to hold on August 2nd. On 'Friday the opening run (to Richr Meet) will take place, and all men are earnestly requested to partici Cups have been kindly promised by President, the Palmer Tyre, Ltd.; Mr. C. S. Russell. Besides these medals are also given.

Birmingham M.O.C.

The opening run will take place o The opening run will case place 27th inst., when all motor cyclist invited to attend. Further partic will be announced later. The Victor trial will be held on April 24th, for the premier awards will be the Victor than the Duke cun and a cum for cup, the Duke cup, and a cup for weights, in addition to gold and



News .-

Cambridge University M.C.C.

n Inter-University (Oxford v. Camge) hill climb will be held on ch 7th, which, it is hoped, will attract msiderable number of entries.

· Bargoed and District M.C.

Ithough recently formed, the club is ressing repully. The president is F. E. Richards, J.P., and several ential gentlemen are nominated as presidents. It has been decided to ate to the A.C.U. The hon, sec. is C. A Stephenson, 92, Gilfach Street, goed.

Proposed Mansfield Club.

is proposed to form a club for Mans-and district, and with this object iew, a general meeting will be held he Masons' Arms, Leeming Street, sfield, on Wednesday, the 10th inst., p.m. All motor cyclists and cycle owners are invited, and it is hoped all old members will be present.

Glasgow Western M.C.C.

particularly sporting route has been ted for the Open Reliability Trial, held on Saturday, 6th inst., for the er Trophy. Rest and be Thankful, other well-known hills, are included, e also others which have not yet been ded in any trial of note. Entry s may be obtained from the trials tary, Mr. J. Bell, 250, Great Western . Glasgow.

Penzance and District M.C.

enjoyable run to Helston took recently, being the first event of recently-formed club. About twentynembers attended, and the enthu-shown augurs well for the coming It is proposed to hold club runs ridays and Saturdays, to organise etitions, and to arrange occasional es on technical subjects. The hon. Mr. J. S. Paul, 95, Market Jew , Penzance, will give all informa-to interested motorists, and it is considerably to increase the premembership total of sixty.

Future Club Events.

Apr. 5 .- Launceston and District M.C. Non-stop Apr. 5.—Learnceston and District M.C. Non-stop Run, Apr. 5.—Leads and District M.C. Run to Starton Hill-climb. Apr. 10—Edinburgh and District M.C. Opening Run.

Apr. 10.-Luton and S. Beds. A.C. Reliability Trial.

Trint Apr. 9.—Edinburgh and District M.C. Reliability Trial Apr. 24.—Luton and S. Beds. A.C. Hill-climb. Apr. 29.—Lunnecston and District M.C. Speed Trial.

New Birmingham Club.

A new club is being formed for the Edgbaston Harborne, and Bearwood districts, and all motor cyclists are invited to attend a meeting which will be held at the King's Head Hotel, Hagley Road, at 7 p.m. to-morrow. The temporary hon. sec., Mr. J. C. Ireland, Connemara, Lordswood Road, Harborne, will be glad to hear from any prospective supporters.

Wellinghorough and District M.C.C.

A new club is being formed, and all prospective members are requested to apply to the hon, sec., Mr. S. A. Light, 14a, Cambridge Street, Wellingborough.

Derby and District M.C.

This club, which is open to owners of motor cycles and light cars, has now been reorganised. The hon, secretary, Mr. L. Farmer, 11, Wheeldon Avenue, Derby, will be glad to furnish all particulars to prospective members.

Edinburga and District M.C.

This club has a very comprehensive programme including several hill-clinus and speed events, in addition to the usual strenuous one day trials. Messrs. McGregor and Cunningham are working out a new formula, which will be re-ceived with interest.

Luton and South Beds. A.C.

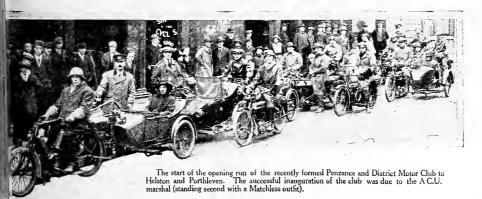
The Club Handbook, which includes an attractive list of events for 1920, and a complete summary of the Club Rules, is now ready. Any interested motorists should communicate with the hon. sec., Mr. G. S. Davison, 16, Bute Street, Luton.

Leeds and District M.C.

Mr. Mitchell's run to Appletreewick took place on the 22nd ult., and was much enjoyed by all participants, including several ladies, who rode solo machines. Members are requested to note that the run on Easter Monday will be to Staxton hill climb, and not to Bridlington, as printed on the fixture

Bedford and District M.C. and L.C.C.

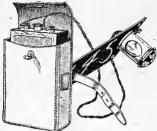
A meeting was held on the 21st ult., when the usual business was transacted. An excellent programme of events is assured, and three Silver Challenge Cups are already promised. It is hoped to have these on view at the next meeting, which will take place on Saturday next, at the Rose Hotel, High Street, Bedford. Local motor cyclists are invited to communicate with the hon, sec., Mr. H. H. Berrie, Goldington, with a view to joining the club.



A HAND ELECTRIC TAIL LAMP.

EVERY development of electric lighting is being watched with the greatest interest by motor cyclists. Even if the tail light only is lighted by electricity a certain amount of trouble is saved, and a particularly neat tail lamp outfit has lately been introduced by Messrs. Vernon Wright and Co., Fulwood House, Holborn, London,

The tail lamp itself is intended to be bolted directly on to the number-plate, on



The Bipol accumulator and tail lamp.

to which it throws a white light, while it displays a red light to the rear. Considerable interest, moreover, is attached to the battery, which is made by the well-known firm of engineers, Messrs. Greenwood and Batley. It is an accumulator known as the Bipol, and is a very excellent substitute for the ordinary dry cell, combined with a much greater capacity. It can also be stored indefinitely, without deterioration, and, when charged, can be kept for three months without fear of loss of current or of sulphatting.



The Bipol accumulator, showing the wooden plate into which the paste is pressed.

The accumulator is unspillable, as the electrolyte is absorbed by means of glass wool. The paste is carried in wood frames, without lead grids, and the complete accumulator is 25% lighter than the ordinary pattern.

compete accuminator is 20% lagree than the ordinary pattern.

The type supplied for a tail lamp is 2 volt 5 ampère hours, and this lights a 2 volt .3 ampère bulb. A set is now made for scooters, with a 4 volt head lamp bulb, and later on complete motor cycle lighting sets will be placed on the market

It is interesting to learn that large quantities of these batteries are being supplied for the hand lamps used by the Metropolitan police.

MOTOR CICLE

A CHEAP FIRE FXIINGUISHER.

IT is not often that a fire extinguisher is required by the average motor cyclist, but when it is required it is wanted badly, and if one is to hand it repays the outlay its in-

stalment has involved. The majority of fire extinguishers are too ex-pensive to receive the consideration of the motor cyclist, who would be prepared to pay up to about half a guinea for such garage equipment. Mr. H. Bullough, of 46, Market Street, Manchester, is marketing the Viper fire extinguisher, which retails at 8s. 6d., and consists of a tube 20in. x 23in., filled with a powder having fire extinguishing proper-ties. We are told that it instantly extinguishes paraffin, petrol, benzole, electrical and other fires that cannot be con-quered by water, but it contains no acids likely to damage fabrics, machinery, or electric wiring. The extinguisher should be suspended from a strong hook in the garage wall.



The Viper fire extinguisher.

AN INGENIOUS MOTOR

CYCLE STEERING LOCK.

THE Dakin steering wheel lock was referred to in our Show Report, but

neans of securing a motor cycle from thett in so far that when it is in use the machine cannot be run or wheeled. A boss, so shaped that it can be conveniently placed against any portion of the steering tube of the frame is sweated on to the tube. Then a hole is drilled

and tapped to take the main lock portion,

which contains a fixed ring on which letters and figures are inscribed, and a

sliding locking pin, from which steel pegs

protrude to engage with slots in the other two lettered rings. This member is then

screwed in position with the lettered rings

in place, and to secure it finally a cap

we have lately been enabled to see the lock in pieces, and are, consequently, able to describe it to our readers. It is quite ingenious, and should be a certain

locking pin. On screwing up the tightly a split ring is forced into a gro inside the main body, with the resthat it is securely locked, rendering impossible to withdraw the lock from head.

It is, of course, also necessary to a the inner tube inside the steering colum IT to lock the steering column it is ne sary to rotate the cap in a clock direction, and then break the comb tion of letters. On the cap being screwed the pin is withdrawn and machine is ready to be driven as but before doing this the owner she again break the combination of lett thus preventing any possibility of the control of the province of the course is sold by Messrs. Herbert Dakin, Ltd., 31-33, High Holt London, W.C.1.

SPARK PLUG TESTER

A N ingenious device designed to a the spark to be actually seen to compression has been patented. The Davis, of Sutton Coldfield, arbeing manufactured and placed on market by Messrs. Davis, Osborn, Clarke, of 46, Hunton Road, Erdin Birmingham.

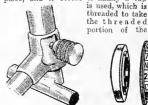
Briefly, the device consists of an c vation window embodied in a T sl fitment which screws into the spa plug hole and receives the plug i



The Davis spark tester.

tested. A mica window is in axial ment with the plug in order that patterns wherein the spark occurs the body of the plug may be a observed. With a short fitnee charge fires every time; but, with one, about every fourth time; the mediate misses, enabling the for character of the spark to be seen.

Made in solid brass and a var heights to suit all engines, the pri been provisionally fixed at 6s. to a according to size and pattern.



The Dakin lock, adapted to a motor cycle head,



Components of the Dakin lock. Reading from left to right: The main boss, two loose lettered rings, the main portion of the lock, locking cap.

MISCELLANEOUS ADVERTISEMENTS.

'ERTISEMENTS in these columns 12 words 8/-, and 3d. for every adword. Paragraphs of under 8 words arged double rate. Each paragraph is separately. Name and address must ited. Series discounts, conditions, and terms to regular trade advertisers will d on application.

Orders and Cheques sent in payment for ements should be made payable & Co.

E & SONS Ltd., and crossed_ Notes, being untraceable if lost in should not be sent as remittances, vertisaments in this section should be

nied with remittance, and be addressed nces of "The Motor Cycle," 20, Tudor ondon, E.C.4, or 19, Hertford Street, To ensure insertion letters should

d in time to reach the offices of "The Cycle," by the first post on Friday previous to the day of issue.

ters relating to advertisements should number which is printed at the end of ertisement, and the date of the issue it appeared.

oprietors are not responsible for clerical

IMBERED ADDRESSES.
convenience of advertisers, letters may be
to numbers at "The Motor Cycle" Office.
is desired, the sum of 6d. to defray the cost of is desired, the sum of 6d, to defray the cost of and to cover postage on replies must be added extisement charge, which must include the hoo, of o' The Motor Cycle.' Only the number in the advertisement. All replies should be foo. 000, c/o "Notor Cycle," 20, Tudor Street. He to Box Number advertisements containing thould be sent by registered post, but in all such ubisable to make use of the Deposit System. Old motor cycles offered to reale under a box it is unusual for these to be sold without first eight with landing purchaser, advertisers will shess by embodying in their advertisements on of the district in which the machine be seen and tried.

P DEPOSIT SYSTEM.

P DEPOSIT SYSTEM.

10 besitate to send money to unknown persons perfect safety by availing themselves of our em. If the money be deposited with: The analysis of the safety of the days, and if a sale is effected we remit the allowed for a decision after receipt of the days, and if a sale is effected we remit the amount itor, and ench party to the transaction pays way. For all transactions up to £100, at 1/1 is charged: on transactions over £100, at 1/2 is and under £

SPECIAL NOTE.

de who reply to advertisements and receive no to elt enquiries are requested to regard the is a ladication that the goods advertised have be disposed of. Advertisers often receive so and es that it is quite impossible to reply to t host.

MOTOR CYCLES FOR SALE.

- A.B.C.

hat offers? Delivery promised in March,-en, Dalriada, Worthing. [5642 posit paid December, 1918; what offers.— 13. Higgindale Rd., S.W.16. [6247

to, diggingate ma., S.w.10. [024].
st place agents' list; £10 deposit March,
what ofters for option?—Box 1,940, c/o
Tycle.

(6307) S. deposit paid March, 1919, London agent; very snon; what offers option?—Soulkov-toria St., S.W.1. -A.B.C. Skootsmota; deliveries have now aced; 49 gns.-From the Lancashire ageots, the Motor House. Tel.: 1288. [3496]

WAUCHOPE'S WISDOM.

FE do not claim any superabundance of this all-valuable faculty, but there are a few things we have learnt in the motor business, which learnt in the motor business, which renders dealing with us particularly satisfactory to buyers of motor cycles and light cars. We have, in course of our history, been "up against" many difficulties, arising from a multitude of causes which the average person uninterested in motor manufacturing and distributing organisation knows nothing of. In recent-days, for instance, there have been very abnormal difficulties resulting from the protracted moulders' strike, and the many problems of the change-over of the manufacturing concerns from war to peace production.

cerns from war to peace production.

Wauchope's have always devoted special intelligence to such matters, and the net result is that we can offer every-one requiring a motor cycle or a light car very exceptional advantages. Foresight in placing large contracts for every well-known new machine long before the present difficulties arose en-sures us deliveries which most other firms cannot at present hope for. Our clients, old and new hill rection immediate advantage with the top of the desired production of the present hope for the firm and the will rection mediate advantage of the desired production of the first of the motor cycle or light car of your choice it is Wauchope's reaple are

In these days a great many people are on the lookout for a good second-hand machine. Those who have already dealt with Wauchope's know that our stock of second-hand motor cycles, sidecars, and light cars has always comprised an attentional pages of chains. sidecars, and light cars has always comprised an exceptional range of choice. Even to-day, when second-hand, as well as new machines, are most difficult to obtain, we have ready for immediate delivery a very large stock of motor cycles and cars. Whether your requirements are a sole motor cycle, a sidecar combination, indeeds a constant of the complete of the compl away.

Give us a call at our well-known premises in Shoe Lane, or, if this is inconvenient, write or 'phone your requirements to us without delay, Wauchope's offer you their best atten-tion and exceptional service at all times.

Wauchope's

9, Shoe Lane, Fleet Street, London, E.C.4.

'Phone: Holborn 5777.
'Grams: Opificer, Fleet, London.

MOTOR CYCLES FOR SALE.

A.B.C.—Second place on agent's list; £10 deposit paid; any offers for option? Delivery promoted June, 1920.—T. Phillips, Caledonian Rd., Glongatnock, [5398]

A.B.C. - Book early and prevent disampointment. Specification and full particulars will be sent of application.—The Spadding Motor Co., Ltd., Spadding distributing agents for Lincolnshire.

Abingdon.

Abingdon

19 14 Abingdon King Diek, 4h.p., 2-speed, clatch,
Bosch, good sidecar machine; £45.—2, Appaia,
Rd., Roman Rd., Bow.

A BINGDON King Diek, new 1920, 3½h.p., 3-speed,
with sidecar, complete; £150.—Frank Whitworth,
Ltd., 139, New St., Birmingham.

(X5745

A BINGDON King Diek Big Single, perfect throughout, out, only used 4 months, Bosch, B.B., new P.H.
lighting set, mechanical born, suit speed merchant;
£46/10; worth £65.—11, Stanley Parade, Ealing Rd.,
wembley.

3 18

A.J.S., new 2 weeks ago, ridden 500 miles; £245.— Box 1,877, c/o The Motor Cycle. [5678 A.J.S.-Early delivery of new 1920 combination.— Official agent, Moss, Weut. [XS434

A Official agent, Moss, Weill,

Jack HEALY, Cots, Official A.J.S. agent.—Rotational

delivery. No premiums accepted.

CROW Bross, High St., Guildford, A.J.S. agents
since 1912, accept no premiums.

[X7943]

19 20 A.J.S. Combination, never been used.—J. Smith and Co., 16. Hampstead Rd., London, N.W. [6331

A.J.S. Combination, 6b.p., fine condition: £120, or near offer.-13, St. James Rd., Kingston, Surrey.

A J.S. 4h.p. 1915 Combination, excellent condition, new Henderson sidecar; £130.—Tyson, 16, Church Walk, Ulverston.

Walk, Ulverston. [561]

916 A.J.S. 6h.p. Combination, speedometer, hamps, Earle St., Crewe. [145.—Lovut and Morse, 48, Earle St., Crewe. [5766]

A.J.S. 1920 New Combination, pever been ridden, Wanted, light car.—Write, Motor, Penhawger, Sidmouth, Devon. [5574]

J.S. 1916 and C.B. Sidecar, interchangeable and Spire wheel, pericet order; \$130.—15, Prince of Wales Rd., Kentish Town.

A spare wheel, perfect order; £130.—13. Prince of Wales Rd., Kentish Town. [6319]

A J.S. 4h.p., 1915, overhauled, perfect condition, usual accessories; 2.75; with sidecar, £255.—288. Kilburn Lane. (Bus No. 6.)

WAUCHOPE'S, 9. Shoe Lane, London.—Matchless combination, 7-9h.p., 1917, M.A.G. engine model, od, steen, accessories; £190. [6324]

A J.S. 1919 (October) 6h.p. Combination, lamps, spare wheel, wind screen, tect., as new; £195.—1, Havelock St., Forest Hill, S.E.23. new; £195.—1, Havelock St., Forest Hill, S.E.23. [6094]

AJS. Combination, lamps, norn, tools, sparser, and oil accessories, in good running order, 525.—Hornby, 107, Higher Bridge St., Bolton. (X5778)
A JS. 6hp. and best Milliord sideora, Lucas lamp, bought brand new August, 1919, done 1,000 miles; £145.—Reynolds, Waterbeach, Cambs. (620)

A.J.S., 1916, and coachbuilt sidecar, spare and inter-changeable wheels, perfect condition.—Drug Stores, 15, Prince of Wales Rd., Kentish Towo. [6235]

Stores, 13, Prince of Wales Rd., Kentish Town, 10230
A.J.S. Combination, 1918, newly enamelled and plated,
Oryti Williams, Chapel Ash Depot, Worterhamption,
Oryting Williams, Chapel Ash Depot, Worterhamption,
A.J.S. Combination, 1919, Lucas lamps and leona,
Oversize tyres, all accessories, perfect condition;
2210.—Cyril Williams, Chapel Ash Depot, Wolverhampton.

A J.S.-Exeter Motor Cycle and Light Car Co., Ltd., Bath Rd., Exeter, and 28, Tavistock Rd., Ply-month. Sole agents. Now booking for earliest de-liveries. (1995)

WAUCHOPE'S, 9, Shoe Lane, London.—A.J.S., combination, 6h.p., spare wheel and tyre, detachible wheels, 1918 approximately, accessories, complete; 2195.

A.J.S. 6h.p. Combination, delivered 1919, military model, all-black, lamps, horn, wind screen, spare wheel, splendid condition; £170.—Poole, 31, Wigan Rd., Bolton. [6158

A J.S. 6h.p. Combination, November, 1919, complete with spare wheel, lamps, and tools, perfect condition; owner ordered abroad—Apply, Lt. Le Gallais, let Royal Sussex Rgt., Ramillies Barracks, Aldershot.

Ch.p. A.J.S. Combination, late 1914, stored during war little used, and in excellent condition throughout, 4 lamps, Klaxon, tools, any examination; £130.—Stone, 280, Gloucester Rd., Horfield, Bristol.

A.J.S.

19¹⁴ A.J.S. and tandem sidecar, Lucas accumulator electric lighting, speedometer, detachable back wheel; £120.—19, Werrington St., St. Paneras. Seen Muswell Hill by appointment. Phone: Museum 1980.

5-6h.p. A.J.S. and Very Nice Coachbuilt Sidecar, Countershaft gears, clutch, kick-start, all law ps, Klaxon, etc., excellent running order; £87; no offers.—Seen, Whitehorse Garage, Whitehorse Rd., Thornton Heath, S.E.

19:5 A.J.S. 6h.p. Combination, interchangeable wheels, hood, screen, lamps, horn, and tools, spare tyre and tube, 2 spare chans, just re-chamelled and plated, perfect condition; £140.—101, Pattison Rd., Plumstead.

A J.S. combination, 1919-1920, absolutely as new temperat about £40 extra, as electric legiting set, disc wheels, big electric Apollo born, boat side curtains, petrol carrier, triplex wind serem, etc.; 230 gps., or best over.—H. Wehrli, 167, Denmark Hill, S.E.S. 'Bus No. 68.

A.J.S. Spares; engine and gear box repairs; prompt delivery.—Cyril Williams, Chapel Ash Depot, Wol-verhampton. T.A.: Parts.

Alldays.

19 16 Allon, nice condition; any trial; £45.—Payne, [X5553]

A LLON 1919 2 34h.p., 2-speed, clatch model, fully equipped.—Parker's, Bradshawgate, Bolton, [X5633]

A LLON, 1919, 2-speed, clutch, kick, perfect, equal new, accessories; £67.-55, Wathing St. Wellington, Salop.

A LLDAYS Combination; £52.—Mount Eogineering Co. supply parts for any make.—Warwards Lane, Birmingham. [X5781

A LLON 1917 2-speed, clutch model, good condition; 248; after 7 p.m., or week-end.—27, Bounds Green Rd., Wood Green, N.22. [5395

A LLDAYS Allon, Oct., 1919, 2-speed, kick starter, hand controlled clutch, mileage 200, privately owned; £72.-56, High St., Tooting. [5969

A LLDAYS Matchless, 1915 4h.p., 3 speeds, counter-short, kick start, new coachbuilt sidecar; £85; lightweight in part.—895, Fulham Rd., S.W.6. [6156 A LLON De Luxe, 2-stroke, 2-speed, hand clutch and kick statter, hought Aug., 1919, never used; price £85, or nearest offer.—Surridge, 133, Sloane St., London, S.W.I.

A LLDAYS Matchless 2-stroke, late 1914, stored during the war, perfect throughout; a gift, £36; will carry two anywhere.—11, Stanley Parade, Ealing Rd., Wembley.

19 19 Allon, 276 c.c., 2-speed, clutch, P. and H. lamps, 26×28/5/m, tyres, done 1,500 miles, engine cleaned by makers: £70.-Colenidge, 45, Osborne Rd., Levenshulme, Manchester. (b)

A LLON, late 1915 25(h.p., 2-stroke, engine just thoroughly overhanded by makers, condition as new, new l'admer back cover; £42/10; no offers; seen after 6 p.m.—134, High St., Sutton. [5937]

FO.C.H. have a brand new Allon 2-stroke—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station), N.W. 'Phone: Hampstead 5752. Hours 9-7, including Saturdays. [6112]

10 19 Allon, 2-speed, K.S., h.b.c. clutch, delivered about October, low unleage, perfect condition.

Lucas horn, and lighting set complete, tools, etc.; 275.

-K. Spackman, 85, Bath Rd., Swindon, Wilts. [5412]

CROW Bros., High St., Guildford, Ariel agents, supply at makers' prices. [X7944

CYRIL WILLIAMS, for early delivery of Ariels.— Chapel Ash Depot, Wolverhampton. [X8625] ${
m F^{
m OR}}$ Early Delivery of Ariels, all models, apply, Bedford Garage, Walsall. 'Phone: 270. [5302

4½ h.p. Ariel, about 1913, mag., grand condition; £37.

Predericks, 3, Priory Plain, Gt. Yarmouth.

A RIEL, fitted Mahon clutch, £26; coach sidear for same, £9.—Goss, 71, South Side, Claphan Coomon, 322 Brixton. [5952]

A RIEL, 3½:.p. and 6h.p.; early deliveries; spare parts stocked.—F. Speakman, Ariel pert, 7, Rochdale Rd., Harpurhey, Manchester. [4 es; all iel Ex-[4020 19 (late) 31(h.p. Ariel Combination, Ariel side-ear, bood, screen, electric lighting, perfect; £118; Surrey.—Box 1,941, c/o The Motor Cycle.

16305 1 O 19 3 %h.p. Ariel, 3-speed countershaft, late model, been little used, and in new condition; 295.—Wallor Mutor Cycle Works, Suffron Walden, Essex. Phone: 45.

7 (2/1920 Ariel 9851 Standard Combination, P. and B. head, T.W.R. side, rear lamp, horn; any examination; sound reason selling; £145.—After 6, 64, Glad-maiir Rd., Highate, N.19.

A RIEL 1913 31(h.p., 3-speed, clutch (hub), B. and B., plot jet, lamps, born, Dunlop tyres (brand new), decompressor, graninteed nertect throughout £45,—12. Temple Shern Rd., East Sheen, S.W.14. [X5556

THE BIRMINGHAM HOUSE

FOR MOTORISTS

87-91, John Bright St. 'Phone: Mid. 662. 'Graph: "Lytcar, B'ham."

A few orders can now be accepted for delivery of this famous Motorcycle in March.



7.9 h.p. 1920 Powerplus spring frame mode. complete with dynamo lighting set, electric horn, and speedometer.

£158 Combination - £190 plus 15% and delivery charge from London.

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Special offer of ladies' model fitted with 2 J.A-P. engine and Enfield 2-speed gear.

Brand New- 63 guineas.



Complete with electric lamps horn, and

40 guineas. Immediate Delivery.

MOTOR CYCLES FOR SALE.

Arno A RNO 3½b.p. Special T.T. Machine, 2-spec Zephyr piston, very fast; 40 gns.—Longman 17, Bond St., Ealing. Tel.: Ealing 689.

41h.p. Arno, engine rebushed, cylinder rebord. 2 piston, rings, and gudgeon pin, enamell T.T. bars, B. and B. carburetter, mag., Lucas set, low, and fast; £40, or near offer.—2, Beul-Hattheld Rd., Wimbledon (nr. station).

Auto-Wheels

WALL Auto-wheel for sale; what offers?—E. Shalford, Charlton Musgrove, Wincanton. B.S.A. Auto, guaranteed, excellent condition or near.—Delf, King St., Ct. Yarmouth.

19 19 Wall Autowheel, complete; £11/11. Baker, Methley, East Preston, Littlebr

A UTO-WHEEL, overhauled, good running ord tyre; £10; offer.—Martin, Lindholme, Lo WALL Anto-Wheel, B.S.A. de Luxe, good or nearest £14/10.-Lowe, 45, Kensington (

A UTO-WHEEL and Cycle, 3 new tyres, p and guaranteed good order; £15.—Whitl Crescent Rd., Bognor.

A UTO-WHEELS, Model de Luxe, for cash:
A UTO-WHEELS, Model de Luxe, for cash:
Metropolitan Machinists' Co., Ltd., 248. Bisl
E.C.2.

Rat.

Bats for early delivery, apply, Bedford Walsall, Phone: 270.

BAT, 1920, early deliveries.—Place of Clapham (Motors), King George St., S.E 10.

11h.p. Bat-Jap Combination, Senspray, B 2 speed P. and M., F.E.; £55, offer.—4, Lane E.8.

5-7h.p. Bat-Jap Combination; bargain, 70 offers; trial.—Stevenson's Garage, TWells. Tel.: 425

BATJAAP. 8h.p. 1919 Combination, new 8
3-speed and clutch, 3 lamps, generat
Cower speedonieter, spare tyre, tools, not ride
miles; any trial; £175.—Wells, Elimwood,
near Sheffield.

BAT 81.p. Combination, 1914, 3-speed ger lamps, 2 generators, Cowey speedomet nulbous back coach sidecar, in first-class condi-casonable trial or examination; £155.—52, Le Rd., Croydon.

BAT, 8-10h.p. overhead 90 bore twin, 191 gear, adjustable pulley, hand Klaxon, grape belt, in absolutely first-class running of last, easy to start; £70.—Browning, Loft Earl's Court, S.W.

DATJA.P. 2-speed Gear Box and controls £
DATJA.P. 2-speed Gear Box and controls £
reiter, 25:: soide, 12:16; here head light:
notor (con', 50:sideenr, 26:10; exchanges,
Triumph engine and parts—Wallnee, 12, C
R., Elburn, London, N.W.6.

Beardmore

BEARDMORE-PRECISION, delivery & April 1st, £10 deposit paid, advertise without premium.—P., 18. The Park, K.W.

LANCASHIRE (West) and Cheshire-E Precision, the most advanced and procycle yet designed.—Equiries invited by J. 1 Co., 110, 80d St., Liverpool 1st.

Blackburne

H.B. Blackburne, new 25/h.p., 2-speed, 19 in stock.-Moss, Wem.

CROW Bros., High St., Guildford, sre churne agents, and invite enquiries.

STANLEY BUSSELL, Newport, sole Isle agent for Blackburne motors; early deliv WAUCHOPE'S, 9, Shoe Laue, London,-41 burnes, new 1920 models; delivery fr £115.

19 20 4h.p. Blackburge, ridden 400 miles; near offer.—Apply, Ince, c/o King and t Horshau, Sussex.

19¹⁴ 4h.p. Blackburne 3-speed & Machine; £70.—Chandler, Reyre, and Hitchin. 'Phone: 165.

4 h.p. 1920 Blackburne, just delivered, n. first cheque for £120 secures.—Rep. 232, c/o The Motor Cycle.

BLACKBURNE Motor Cycles, delivery 4 from stock.—Agents, Lunkester Engine 63, Brighton Rd., Surbiton.

BLACKBURNE New 1920 4h.p. Control of the property of the prope

Th.p. Blackburne, Inte 1919, 3-speed Starr tyres and condition as new; £105, or oplied as combination with Montgomery sview at London Motors, 61, Holhorn Vinduc Start Condon Motors, 61, Holhorn Vinduc Start

Connaught.

ONNAUGHT 25th.p., 3 speeds, clutch, kick starter, splendid condition; £55.—Calder, 50, High St., don Mallet. [X5741 NNAUGHT Standard Model, brand new (guaran-toed); list £57, linghest over £52/10 secures.—Clis-Moorend Park, Cheltenham. [5413

DNAUGHIT 2%h.p., single-speed, late 1919, 24in. wheels, lamps, horn, tools; &52; done 200 miles; ng more power.—Bruin, Twigworth, Glos. [5835

ng more power.—Bruin, 1 wigworth, coss.

[NNAUGHT 25th.p., mechanically sound through out, tyres, belt, almost as new, lamp set, semi-bars; Cheshire; £37.—Box 1,897, clo The Motor [6017]

NNAUGHT 1914 25 h.p., 3 speeds, lady's, excellent condition, only done 2,000 miles, head light dometer, and horn; a bargain, 50 gns.—Dr. Roberts, ington, Beds.

h.p. Corah-Jap, Simms gear-driven mag., Drnid forks, m.o.i.v., B. and B., new Bates rear; o; £22.—Bromley, Hollycroft, Hinckley. [X5624

Coulson

ULSON B, 254h.p., 2-speed Blackburne engine, in stock; 95 gus.—Edwards, 7, Exhibition Rd., South ington. [5880

ULSON B.—The ideal spring frame.—Enquiries invited by J. Blake and Co., the motor cycle its of Liverpool and Manchester. [6578

20 Coulson B., brand new, 2½h.p. Blackburne engine, 2 speeds, spring rear frame, 2½ Pulmer guaranteed to be as advertised; £85.—Box 1.880, % Motor Cycle.

Coventry Eagle.

Coventry Engle.

/ENTRY Engle, 2*3,hp. J.A.P., 2-speed, kick start, handle-bar clutch; £79*16.—Frank Whitt, Ltd., 139, New St., Birmingham. [Ks746
/ENTRY Engle, 1919, eogine No. 06773, 25,hp., soudition almost as new, all accessories, and contollit; seen any time.—Scott, 57, Birdhurst Rise, Cryrdon.

Davies. Dayton.

TTON 2-stroke, perfect condition; any trial: £25. -S. H. Mayne, Criterion, Windsor. [X5558]

Diamond.

(IL WILLIAMS, for early delivery of all model hamonds.- hapon Ash. Wolverhampton. [X8622 jiamonds.—t bapti Ash. Wotvernampoot.

K HEALY, Cork, official Diamond ngent.—Roadional delivery. No premiums necepted.—[648:
MOND, 2½h.p. J.A.P., in stock; list price.—Edwards, 7, Exhibition Rd., South Kensington.
[5803]
FORD Garage, Walsall, official agents for lamonds; delivery from stock; makers prices.

[5303]

Diamond, both models; list price; in stock-Youngs, Heath Garage, Newmarket. 'Phone:

MOND, late 1919, with lamp, horn, and accessories; £50.—Norman Whitehouse, Bridgtown, [X5730

p. Diamond, in absolutely new condition, bought January last, with all accessories; cash, £60. ion, South St., Crewe. [5959 Diamond 2!2h.p. Villiers eagine, 2 speeds, P. nd H. hupp set, bora, tools complete, guarante used and perfect; £40, a bargain.—Box 1.884, Motor Cycle,

Douglas.

AN HARDIE and Lane, Ltd., Douglas Special-

h. Combination, 1920 model: £155.

. Solo, 1920 model, clutch and kick starter; £95. Solo, 3-speed Model W.; £90.

stock Everything you require for your Douglas.

Woodstock St. (off Oxford St.), Bond St., W.1 Chone: Mayfair 6559.

Douglas Combination; trial week-end; bargain, 95.—31, Cowper Av., Sutton. [5818 LAS, 24h.p., 1915, 2-speed, in good order i2.-56, High St., Tooting. [5968

LAS 25th.p., 2-speed, new, but soiled; bargain £80 each.-Pitt, Amesbury. [5391

23th.p. Douglas: £70, no offers.—Apply, Turner, Redington Rd., Hampstead. [5370] LAS 4h.p. C.B. Outfit; a bargain, £105.— ne, Derby Arms, Mortlake. [X5551

LAS 1914 2%h.p., perfect, all on; £48.—151, iyand Purk Rd., Twickenham. [5399

LAS 1915 2%h.p., 2-speed, splendid condition: ,-offers, 87, Truro Rd., Wood Green. [4301

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BROWN & BARLOW, 19 15 2°4h:p. 2 speed Donglas, accessories, in splen-LIMITED.

25/hp., single, lamps; £25.-5, Vant CARBURET WORKS, WITTON. BIRMINGHAM.

MOTOR CYCLES FOR SALE. Douglas

DOUGLAS 25th.p., 1914, 2-speed, fully equipped; £55.-374, Grove Green Rd., Leyton-tone. [6180 DOUGLAS, £35, 25'h.p., 1911, 2-speed.—16, St. Mary Abbott's Terrace, Kensington, W.14, [5906 2 3 h.p. Douglas, 2-speed, excellent, all accessories; £55, or nearest, 20, Munster Rd., Fullman [5252]

DOUGLAS, 2%h.p., 1916, hilly equipped, excellent condition; 265—Welch, 135, Edgware Rd., W.2. [5546]

DOUGLAS, 1916, 25th.p., 2-speed, as new; £60.-Fitt, Barrossa Terrace, Church St., Chelsea

D^{OUGLAS} 25th.p. 2-speed, clutch, semi-T.T., running order; £45.-25, Sylvaa Rd., Snatesbrook, E.11. DOUCLAS, 1914, 2 speeds, good condition, semi-T.T. hars; £50.—Central Garage, Southport.

DOUGLAS, 2%h.p., 1912, perfect order, lamps and horn, new Amac; £36.-5, Shoundean St., Cart-ford. [6007]

IOIA.

10
18
25(h.p., 2-speed, perfect condition; perfect, no offer.—Wilson, 84, Whitley St., [4175]

DOUGLAS 25(h.p., indistinguishable from new, new combination Dunlops; £56.-10, Crowborough Rd., Tooting.

DOUGLAS 1914 2-speed T.T., Bosch mag., in good running order; £40.—Stickels, Hegdale, Challock, Ashford. [5514 Ashtord.

DOUGLAS, 1916, 23 h.p., 2 speeds, excellent condition throughout; £59.-72, Longridge Rd., Earl's [6260]

DOUGLAS, 1916, 2%h.p., not W.D., appearance as new; 60 gns.—Fox, 41, Greencoat Place, Westminster.

minster.

2 3h.p. Donglas, clutch, and kick starter, disc wheels, 2 4 and all attached; £63.-10, l'arkhurst Rd., Holowy, N.7.

DOUGLAS, 2 4h.p., 1915, overhauled, ready to ride away; £59.-Edwards, 7, Exhibition Rd., South Kenlagton.

1911 Donglas, condition excellent, new belt, lamps, horn, footboards; £30; any trial,-26, Newland Rd., Worthing.

DOUGLAS 2-ined No. 29027, not done 50 miles vall Rd. Ealing.

DOUGLAS 2-ined No. 29027, not done 50 miles vall Rd. Ealing.

DOUGLAS 2-in.p., 1916, 2 speeds, buffer forks, new condition guaranteed; £65; all on.—Stauley Bis-Waltham Abbey.

DOUGLAS.-Large assortment of 2*4h.p. second-hand models in stock, all fully guaranteed.-Ross, 86, High Rd., Lee. S.E. [5541] 19 20 Douglas Combinations; in stock for immediate delivery; list price.—Cleare and Lowe, 125. High St., Woolwich.

1916 Doughas 2½h.p., W.D., Feb., 1920, new tyres, absolutely perfect; £70.—Strawberry Vale Farm, E. Finchley, N.
1915 Doughas 2½h.p., 5-speed, P.H. lamps, Lucas honn, T.T. bars; £62; atter 7 p.m.—40, Woodstock Rd., Walthamstow.

19¹⁴ Douglas 2⁵(h.p., not W.D. accessories, exceptional condition throughout; offers over £45.—Govey, Myrtles, Newbury.

THREE Douglass, 2½hp.; £65 each, or offer; run ning order; 9 am. till 7 p.m.—Wilder, 34, Garder, Cow. London Rd., S.E.I.

DOUGLAS dh.p. Combination, everhauled, enamelled and plated, new tyres, condition as new; £105—Griffin, Joennhend, Radstock.

3h.p. Douglas, 1916-17, new heavy tyres, machine almost new, perfect; £65, or offers.—Tuck, Terrilands, Moss Lane, Pinner. [5354]

SMITH'S for 1916 overhauled 25th.p. Douglases; 60 gns.—Smith's, 10-16, Haverstock Hill, opposite Chalk Farm Tube Station. [0127

DOUGLAS, 1911, 25th.p., exceptional conditions.
£23, or exchange 2-speed, cash adjustment.
Rector, Dunkerton, Bath. [6059

DBLP, DOBRETON, DATH. [6059]
24 tube, and a.o.i.v., footboards; 30 gus.—Newman, 83, Thinty Rd., Southell.
DOUGLAS Combination, late 1919, plate-clutch, 1919, plate-c

1915-16 25 h.p. Douglas, 2-speed, engine No. 30449, new tyres, tools: ±50, or near offer, 83, St. Alban's Rd., Watford, Herts. [5995]

23h.p. 1915 Douglas, splendid mechanical condi-tion, general condition, very good; £55.-257, Cavendish Rd., Balham, S.W.12. [6143

Cavendish Rd., Balham, S.W.12.

2 h.p. Douglas, 2-speed, new, unscratched, used 5

4 times only; bargain, £85.—51, Claremont Rd.,
Alexander Park, Manchester. [X5356]

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Douglas.

JAMES MOFFAT, Douglas Agent, Yevil.—2%h.p. model, clutch, £95, less clutch £90; 4h.p. combination, £155.—'Phone: 50.

DOUGLASES.—Call at Smith's for your next Douglas.—Smith's, 10-16, Haverstock Hill, oppo-site Chalk Farm Tube Station.

DOUGLAS 25hp., 2-speed, uncrated July, 1919, equipped, perfect, and unscratched; 62 gns.—Dentist, 216, Portobello Rd., W.

19 16 Douglas, hardly used, as new, with new buffer head springs, in perfect condition; £70.-1. Meirose Rd., Merton Park, S.W.19.

19 2%h.p. Douglas, perfect, lamps, mechanical horn, tool set; £75.— Call after 6 evenings, or write, Veal, 3, Roland Houses, S.W.7. DOUGLAS 1919 4b.p. Combination, speedometer, lamps, Klaxon, splendid condition; £135.-236, West End Lane, N.W.6. Hampstead 7931, [6061

DOUGLAS, 24h.p., 1913, 2-speed, kick starter, clutch, oversize Hutchinsons; £50, or near offer. —Almond, 86, Southwood Rd., Ramsgate.

19 15 23 h.p. Douglas, 3 speeds, good condition, Lucas acetylene lamps, accessories; £55 cash; after 4 o'clock.—Chestnuts, Mulgrave Rd., Sutton. [5410]

19 20 Douglases.—By one who knows; deleting dangerous.—Order yours now from the Do Specialist, Gibb, Gloucester, Phone: 852, DOUGLAS 4h.p. Combination, overhauled, and in fine running order, sideor, as new; 120 gns., or nearest offer.—Pell, Bourne Rd., Alford. [X5440]

DOUGLAS 234h.p. 2-speed, uncrated last July, equipped, perfect condition, practically new; £68, after 6 p.m..-75, Burdenell Rd., Tooting, S.W. [5922]

1915 254h.p. Douglas, full T.T. bars, black discs (new), new back tyre, sound, fast bus, reenamelled.—30, Riggindale Rd., Streatham, S.W.

DOUGLAS 2%h.p., 2-speed, uncrated October, 1910 absolutely perfect, well equipped, exceptionally smart; £65.-60, Wallingford Av., North Kensington.

19 Douglas 25th.p., practically new, fully equipped, not ex-Army; £64.—The Bromley Autorar Co., Ltd., 91, London Rd., Bromley, Kent.

W E Have a Number of 2%hp. W.D. Douglas, of hauled, guaranteed machines, at £68 each, and Co., 15-16, Bishopsgate Av., Camomile St., r.

DOUGLAS, 2%h.p., 1916, 2-speed, good condition, ride away; seen after 2, Saturday; £65.—W. James, 14, Augustus Rd., Wimbledon Fark, S.W.19.

19 16-17 2%h.p. Douglas, 2-speed, footboards, 56c new tyres, in perfect condition, lamps, hort tools; £64.—1, Melrose Rd., Merton Park, S.W.19.

23h.p. Donglas, W.D. model, not done 500, £72; 4 another, with lamps, new belt and tyre, £58; both in tip-top condition—Shepperson, Pennygate, Spading, [6042]

1915 28th.p. 2-speed Douglas Motor Cycle for sale, in excellent mechanical order; trial and inspection.—Stevenson's Garage, Tunbridge Wells. Tel.: 425.

425.

DOUGLAS, 1915, £55; another, £58; large stock properties of the properties of

BRAND New Douglas 25th.p. 2-speed, just uncrated, equipped with Lucas laures, horn, and Cower speed, onneter.—Offers after 6 o'clock, 50, Fairlawn Grove, Chescalo

DOUGLAS. 1915, 25(h.p., 3-speed, clutch, kick start, Lucas lamps, and horn, good tyres, good condition, mechanically sound; £72/10.—37, Regent 586. Rusby. condition, r St., Rugby.

1920 4h.p. Douglas Combination, indistinguishable from new electric lamps, speedometer, Easting wind screen, pillion seat, horn.—Parker's, Bradshaw-gate, Bolton.

Ah.p. Douglas and coachbuilt sidecar, believed 1916, put been sebushed, etc., guaranteed perfect, equipped with lamps, etc.; 295.—L. Bull, 44, Hills [5658]

DOGGLAS 4h.p. Combination, practically new, disc wheels, royal blue sideour, complete equipment, ready to drive away; bargain, £120.-41, Cowley Rd., Brixton, 8.V.

19²⁰ 2°3h.p. Doughs, delivered February 6th, 3-Speed, Lucas heid imme, Klaxon, aluminium dis-wheek, Tan-Sad seat, leg shields.—Tunner, Court Ledge, Appliedore, Kent. [5934

Appledore, Kent.

DOUGLAS, 1914, 2-speed, complete with lamps,
Lucas horn, Bosch mag., in good order; £56, of
Cher.-Goss, 71, South Side, Clapham Common, S.W.4,
6681, Cher.-Goss, 72, South Side, Clapham Common, S.W.4,
6931 offer.-Goss, 71, South Thoue: 322 Brixton.

1015 Douglas, 20th.p., overhauled, enamelled, and plated as new smart machine; £57/10.—
Banister and sotten, 341, Upper St. (opp. Agricultural Hall), Islington.

DOUGLAS 4h.p. Coolabuilt Combination, 1916, 5speed, clutch, kick start, leoks like new, fullequipped, new tree and ledt; 95 gns.—18, Mariborough
Rd., Old Kearl Rd., S.E.



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NEW. IN STOCK. 1920 HARLEY-DAVIDSON Sports Model. 1920. COULSON-B., 21 h.p. COULSON-B., 4 hp. Cityno, 25 hp. (three). DIAMONO, 25 hp. Coulson, 25 hp. CALTHORPE, 25 hp. CALTHORPE, 25 hp. ARIEL Twin 6-7 hp. Combination. A.J.S. 6 hp. Combination. JAMES 25 hp.

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$2\frac{3}{4}$ h.p. 2-speed DOUGLASES.

65 guineas.

Ex. Gov. Overhauled and guaranteed by us. Silver blue tank.

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NEARLY NEW.
1920 A.J.S. Combination, 6 h.p.
1920 INDIAN Combination, electric, 7-9 h.p.
1939 NEW IMPERIAL, 2 h.p., b/c, k/starter.
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1950 SOOTI. 34 h.p.

1919 BRADDORT and Sidecar, 4 n.p.
1919 SCOTT, 33 h.p.
1919 NORTÓN, sporting model, 33 h.p.
1918 SUNBEAM and Sunbeam Sidecar, 33 h.p.
1919 HARLEY-DAVIDSON and Sidecar, elec-

tric, 7.9 h.p. w.D. NEW IMPERIAL Combination, 8h.p. £145 W.D. NEW IMPERIAL Contonation, 5-6 hp. ... \$145 W.D. ROVER Combination, 5-6 hp. ... \$140 W.D. TRIUMPHS, countershaft, 4 h.p. ... \$100 W.D. DOUGLASES, silver-blue tank, 23 65 gns.

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1016 TRIUMPH T.T., 3-speed, 4-p.
1017 RUDGE Multi and Sidecar, 3-b.p.
1017 MUDSGN, 2-speed, 2½ h.p.
1017 JAMES, James Sidecar, 3-speed,
1015 ZENITH, 4-p. twin, 1.7.
1015 B.S.A., Model K, semi-T., 1.7.
1016 HARLEY-DAVIDSON 7-9 h.p. Combination,
1014 NEW IMPERIAL, 2½ h.p., 2-sp., k/starter,
1011 WOLF, new engine and gears.

1914 WOLF, new engine and gears.
And many others. Many above outfits fully equipped.

151, High St., WALTHAMSTOW. 'Phone: 169 Walthamstow. 'Grams: "Cyclotomo," Phone, London.

50, High Rd., WOOD GREEN, N.22 Phone: Hornsey 1956.

387, Euston Road, N.W.1. (Facing Great Portland Street Station).

*Phone: Museum 4978.

MOTOR CYCLES FOR SALE.

Douglas. NEW Douglas th.p. Combination, delivered week, not yet ridden, saxe blue sidecar, la clutch; £170...Apply, B., Inglenock, Frederica, Talbot Park, Bournemouth.

23h.p. Douglas, electric lamps, Tan-Sad, speedomet 4 mechanical horn, enamelled black and gold; 2 no offers; callers Friday or Saturday.—91, Esmond R (Cheetham Hill, Manchester.

DECEMBER 1919 23\(\text{h.p.}\) Douglas, carefully run-mileage 530, condition perfect; owner taking: livery combination; £620. by appointment.—Spear East Sheen Av., East Sheen.

FOR Sale, Douglas 2%h.p. motor cycle, December 1919, in perfect all-round condition, complex with lann, horn, tools, \$20, or nearest offer.—August 1920, c/o The Motor Cycle.

19 18 Donelas 4h.p., 3 speeds, clutch, kick start, of hauled, repainted, tyres perfect, various sp. complete with Doubles sidecar chassis; 95 gns.—Bo Richmond Rd., Malven Link.

DOUGLAS 25(h.p., W.D., uncrated November, very little wear, original enamel practically scratched, tank re-enamelled makers' colours; \$206, Cavendish Rd., Balham, S.W.12.

D OUGLAS 1914 2%h.p., excellent order, overhat new tyre, belt, chain, toolbags, long exhaust, cessories, inautance; 65 gma; seen 11 to 5 o'clock days.—14, New Church Rd., Hove.

C BURRY'S 25/h.p. 2-speed Buffer Spring I Douglas, almost new, £58; also 4h.p. com tion Douglas, 3-speed, kick start, in new cond £95-125, Canal Rd., Mile End, E.

19 18 (new 1919, May) 4h.p. Douglas Combina hood screen, discs, speedometer, horn, too lamps, 3 seperators; trial with pleasure; £150, ing many spares.—Tatham, Trinity, Cambridge, I

1 0 20 25/h.p. Donglas, 3-speed clutch and kick at complete with all lamps, horn, etc., as new in perfect condition, very low mileage; £25, or o A. H. Knight, 83, Dames Rd., Forest Gate, E.7. 19 16 2%h.p. Douglas, 2-speed, lamps, horn, like new; must sell, £62; will be sent days trial upon £10 remittance as deposit, return in osale—Bex 1,932, c/o The Motor Cycle.

DOUGLAS 25(h.p., 2-speed, clutch, kick start, ometer, lamps, horn, just heen overhaude nickelled and enamelled, rebushed throughout; White, 112a, High St., Harlesden, N.W.10.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., L supply new 1920 Douglas machines from sole and sidecar combinations; also 4h.p. Douglas sidecar, £112; 4h.p. Douglas and sidecar, £

T Appears Ridiculons to Advertise when you no stock, but we are giving deliveries to the birds. Place your order at once if you we inverty.—Eli Clark, Douglas Agent, 196, Cheltenham

DOUGLAS, 25(h.p., 2-speed, recently overh Semi-T.T.'s, P. and H. lamps, horn, leg s Dunlop tyre and belt, new Paimer cord, take where, fast; £50.—Grantham, Parade, Southbo

4 h.p. Douglas Combination, delivered October, under 500 miles, P. and M. head lamp and tor, Cowes Born, 0.00 £3 wind screen; £125 by arrangement.—Marsh, Hill House, Gt. Missby arrangement.

DOUGLAS, 191916, 25(h.p., new August, model, semi-T.T., blue and white tank, tools, pump, as new; cost £85 (receipt show fee for £75.—Elmswood, Rydens Rd., Wal

DOUGLAS 1916 22, h.p., new lamp set, near tyres, all in good order, £65; Douglas 4h.) combination, good tyres, lamps, and horn, enar plating excellent condition, £110.-261, M plating excellent Lane, Streatham,

DUGLAS 234h.p., actually competed in 191 0.h.v., aluminium piston, 70 m.p.h. gna specially finished in brouze nickel, smartest and bouglas in the words: 2115.—Longman Bros., 1' St., Ealing. Tel.: Ealing 689.

DOUGLAS 25/h.p. 1915, 2-speed, footboard nearly new, guaranteed perfect running or overhauled (cost 212), new layshart, canakshart, 5, ardgeen pins, and piston rings; £60.—A.E.L., Aldenham Rd., Bushey, Herts.

DOUGLAS Motor Cycle, 1919, 2½h.p., extra large saddle, foctboards, Lucas I Road head lamps, raised handle, mechanica mudshield, mileage 100; price £85; immeditivery.—Tree House, Burley, Brockenhurst.

Douglas, 2%t.p., 2-speed, stored since 1 enamelled, replated, fitted brand new he tyres, discs, belt, brakes, 210 sept. on near quick disposal necessary—Write, Arc ogt. Maj, Butler, Knightsbridge Barracks, S.1

19 9 Douglas 4h.p. Combination, deliver the combination of the combina

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Douglas. 4 (late) 25 ll.p. Donglas, 2-speed, just over-hauled, fitted Bosch mag., Amac, T.T., foot, and all accessories, £55; also 1912 Douglas , 2-speed, kick start, all accessories, £45.— Molrose and Puttick, North St., Romford, Fessex,

JGLASES, 1920 models.—The noted house to be considered to be suffered any deliveries. We are specialist to be suffered to be sufficient to be suffered to be sufficient to be suffined to be sufficient to be sufficient to be sufficient to be suff

JGLAS, late 1915, T.T., 2-speed, been stored uring war, in perfect order throughout, sound liable, original tyres still ob., Luces lamps, horn, heels, long exhaust, side valances; open to ost xamination; 273, or best offer.—J. Ecob., 263, ich Rd., Crew.

b. Douglas.—A number of thoroughly sound ma-bines (W.D. 1916), rebuilt with up to 220 worth fts per machine. Many appear as new. Every ed purchaser allowed 2 days approval. On view Bournemouth, Salishury, and Yeovil.—W. Ston-Island Bank Chambers. [3144]

Houtenburg.

Bouglas, 2%h.p., 3-speed, hand clutch and kick starter, TT burs fitted with P.R.S. head generator, and tall lamp, mechanical horn, a perfect and unscratched, ridden 30 mbes only, eceiving delivery of another machiner, but offer 100.—Wood, 23, Berkeley Rd., Bishopean, 1578

EL W Douglas 25thp., 3-speed hand clutch, dest forks, tank, etc., complete lamps, Klaxon, cares, (including new piston, valve, chain, in Ruchad, ridden owner (expert) only, and deposit system; effort of hest offer; owner combination.—Box 1,329, 40 The Mort Cycle,

Dreadnought.

Dreadnought, 2-speed, Canoelet coachbuilt side-in good order: first cheque secures, £35; snip, igh St., Kingswood, Bristol. [5439]

O 31½h.p. Single and 8h.p. Twin. Orders in it totation. Deliveries commence March.— "ashire and Cheshire equiries to Leach and John Dalton St. Manchester. (X2657

Edmund.

Edmund, spring frame, 3 models.—Lists free m Gourlay's, Fallowfield. [2951

ND-J.A.P., new 1920 25(h.p., 2-s) le model in stock.—Moss, Wein. *D Spring Frame, 1920, new, mag., twin ae; £110.-26, Totteridge Rd., Enfield Wash.

dmund, spring frame, 274h.p. Union, 2-speed, eage 25.—Box 1,814, c/o The Motor Cycle.

Dec.) 2%h.p. Edmund-Jap, not ridden 20 is; bargain, £75.—89, High St., Itchen, Sont dmund, spring frame, specially built, 4h.p. G. engine, overhead inlet; best offer over £90; Welsh Rd., Queenseferry, Chester. [5417

(September) 25/th.p. Edmund-Jap, spring 3, fully equipped and insured, ideal allightweight, condition as new; £75.—Parom Dunbar, 7, Park Parade, Cambridge. Elswick.

llswick-Precision Combination, Bosch, Sen-y, drip feed lubrication, running order; 98, Napier Rd., West Ham. [5976

K 2-stroke lamps, new condition through-nat and reliable, very low mileage: nearest trial.—Coventry House, Farnborough Rd., th, Hants. (6025

rfield, 2-speed, excellent condition; ride £42.—76, Western Rd., Southall, W. [5551 O 3h.p. Twin, lamps, speedometer, new tvres; -7, Skipton St., London Rd., S.E.1. [5821 o Enfield, just overhauled, excellent con-£45.—Fryer, Long Sutton, Wisbech.

o Enfield, 1917, K.S., chains, little used, lamps.—Gammage, 92, Rutland St., Lei-[5618]

ield Combination, lamps, spares, etc., in endition, trial; £100.-310, Ashton Rd.. [5961) 3h.p. (1915) Sporting, Bosch, Amac, new lamps, perfect; £60.—43, Brailsford Rd.,

Combination, 1916, 8h.p., Lucas la: [5792

eld, 2-speed, kick start, new tyres, lamp i5.—15, Dewhnist Rd., Brook Green, Ham-15648

, 3h.p., 1915, lamps, speedometer, Klaxon, art, T.T. bars, spares; £52.—128, Golden Birmingham. (X5590



H.A.H. Measuring Instruments

Fig. 150. 0/7 volts 12/-0/15 amps. ,, 0/25



Fig. 133, combined

0/7 volts | 15 /-0 /15 vo'ts } 15/-

Fig. 313 H.A.H Oil Syringe. Price 3 /-.



Set "A" for Solo Machines , single ligh ing wire, tape clips, ing, terminals Set "B" for Sidecar Combinations, 6 /6. 12yds, single lighting wire, tape, cl ps. ring termina s, etc.



HAH "Clutch" Tane

New Model, Fig. 573.

HAH RearlampshowsRed light, lights No. plate. Complete with switch bulb, wire, clip, etc., bulb, wire, cli Price 9/6 each.

Special New Size for Motor Cyclist. Fig. 457, Jin. Roll in Tin. Extra adhesive. Not Sticky. (Note the Yellow Tin) Price 1/- each.

Delivery of all above from stock. Note.-Postage extra on all the above,

NOTC.—Postage extra on all the above.

NOTICE TO THE TRADE.

DELIVERIES—Special efforts have been made lately to speed up deliveries, and already a great improvement is apparent. Owing to the very limit of orders on hand, it is impossible to give delivery by return, and at present a slight delay is unavoidable. Customers are therefore thanked for consideration and indulgence already extended and assured that every poss. ble effort is being made to complete orders on hand in strict rotation of receipt.

NEW CDECIALITIES 2. ACCESCIPE. NEW SPECIALITIES & ACCESSORIES

FOR 1920. Many new lines are in course of production, and customers should therefore ask for their name to be added to the mailing list for new Catalogues

Will all customers kindly note CHANGE OF ADDRESS.

A. H. HUNT, H.A.H. WORKS. TUNSTALL ROAD. CROYDON. ENG.

Telegrams.
"KEYAGE."
CROYDON.

MOTOR CYCLES FOR SALE.

Enfleid.

EMPTELD Twin Lightweight, Bosch, Dmids, Dunlops, faultless; £26/10.—Stocker, 49. High St., Kingston-Thames. [X 5632 -

ENFIELD 6h.p. Combination, lamps, hora, st first-class condition; £95.-36, St. Thomas Hackney, E.9.

ENFIELD 3h.p. Twin, 2-speed, new January la.t., lamps, horn, perfect order; £95.—Tupling, The Bars, Chester. [6041] ENFIELD 3h.p., just overhauled, excellent condition, accessories, tust; nearest £35.-D. Dodd, 25, Princes Av., Chester.

19 18 Enfield 2-stroke, 2-speed, excellent condition; barguin, 47 gns.—Capt. Curtis, Brightside, Golders Green Rd., N.W.4.

ENFIELD Combination, 1916-1917, 6-8h.p., full equipped, tip-top condition; £140.-374, Grow Green Rd., Leytonstone. fully

ENFIELD Combination, 1914, 6h.p., in first-class condition; £100.—G. W. Clayton, Dunchurch Rd., Hillmorton Paddox, Rugby. [X5740

Thinking F-2000A, Rugory.

ENFIELD 1916 Sh.p., 2-speed, K.S., lately overhauled, tyres excelledt, lust; 45 gus, lowest.—Write, 8-grmour, Woodstock Rd., Oxford.

19 18 Enfield Combination, 7-8h.p., twin, exception of the combination of the co

6 h.p. Enfield Combination (late 1915), just overhamakers, electric lighting; £135; trial given. Glenelg, Grosvenor Rd., St. Albans. just overhauled

6 h.p. Enfield Combination, coachbuilt, wind screen, all lamps and accessories; any trial; £90.—
Wright, 12, Albert St., Poplar, London. [6218]

19 Enfield Combination, splendid order, sidecar repainted, electric lamps, spare tyre and chain: £160.—Stanley Walker, Redbourn, Herts. [X5724]

19¹⁶ Enfield Combination, 6h.p., dynamo lighting, fully equipped; £146.—Smith's, 10-16, Haveistock Hill, opposite Chalk Farm Tube Station. [0126]

18.—Royal Eofield twin, 2½h.p., Bosch, Druids, spleadid condition, requires slight attention; photo, stamp; first money order secures.—Maybury, Horley, Banhury.

19 19 Royal Enfeld Combination, 6h.p., makers' No. L164478, complete with Lucas acetylene lighting and Palmer cord tyres; £165.—Virgo, 156, High St., Hounslow.

3 h.p. Eafield, 1915, No. G. 2216, 2-speed, horn, tyres sound, special exhaust, excellent condition, stored during war; any trial; 60 gus.—Hindes, 24, Harsnett Rd., Colchester, Essex. [5491]

ROYAL ENFIELD 1915, chain drive, 2-speed, K.S., Stewart horn, F.R.S. Major lamp set, just overhauled; £55.—Robertson and North, Peterborough.

19 19 Enfield 8h.p. Combination, wind screen, Taa-Sad, Lucas lamps, new August, excellent condition £170.—A. Keadrick, 1, Church St., Bradford-on-Avon.

ENFIELD, 3h.p., late 1916, engine G 2874, as new, speedometer, tools, spares, excellent condition throughout; £70.—Box 1,869, c/o The Mater Cycle. ENFIELDS.—Place your name on our list without delay, rotational delivery strictly adhered to, no premiums.—Bedford Garage, Walsall. Phone: 270.

1916 3h.p. Enfleld, new Watsonian sporting sidecat, spares; \$90, or near offer.—James, Pulham Market, Norfolk.

ENFIELD 1919 214h.p. 2-ströke, 2-speed, excellent condition, just overhauled, lamps, horn, and spare cover; on view Loadon.—Ward, Finham Lodge, Stoneleigh, Kenlworth.

ROYAL ENFIELD 3h.p. and Watsonian sidecar, 2-speeds, kick start, new tyres, just overhanded (cost 210), splendid condition, 64 gas. Brix. 2304.—Larkhall Brewery, Clapham, S.W.

ENFIELD 6h.p. Combination, 1920, dynamo light-ing, Lucas born, hood, screen, luggage grid, not done 50 miles, better than new; what offers?—Box 1,873, c/o The Motor Gycle.

ENFIELD Combination, 6h.p., 1915-16, splendid condition, Lucas head lamp, horn, Cameo wind screen; any examination; 115 gns.—Averill, The Oaks, Blythe Bridge, Staffs. (D)

ENFIELD 1916 3h.p., 2-speed, K.S., P. and H. Iamps, Stewart horn and speedometer, pump and tools, almost new; any time Saturday; £75.—At 306, Kingston Rd., New Malden, S.W.

ENFIGUIS. — Several in stock: dynamo lighting models from £145; 1920 models from £200—Clifford Wilson Mg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.; Kens. 7113.

ENFIELD Combination, 8h.p., perfect condition, tyres good, accessories; £160.—George Smith's Motor Cycle Depot, 268, Lavender Hill (opp. Arding and Hobbs), Clapham Junction, S.W.11.

ENFIELD 3h.p. Twin, 1916, 2-speed clutch, kick starter, mechanically perfect, excellent condition and appearance, mechanical lubrication, tyres meany new.—Greaves, 38, Ringcroft St., Holloway, N.7. [6095]

letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B17

MOTOR CYCLES FOR SALE. Enfield.

Enfield.

ATE 1919 6h.p. Enfield, dynamo lighting, combination, fitted with hood and screen, watch, etc., mileage under 1,000 miles; £190.—White, Shakespeare's Head, Collingwood St., Bethnal Green, London, 5348

E NFIELD Combination, 1916, in perfect order, elec-tric lighting from accumulator and accepten lighting, speedometer, wind screen, leg shields; £445.— Toulimi Smith, 2, Hare Cuort, Inner Temple, £.C.4.

urdays.

19 16-6h.p. Enfield Combination, fine order, speedometer, Lucas horn and lamp set, wind screen,
apton. exceptional bargain; £130-Shreeve, 25, Milton Rd., Highgate. Seen any time 6, High St., Highfights.

24h.p. 2-stroke Enfield, 1915, 2-speed, chain drive, 24 new oversize Palmer cords, lamps, horn, accessories, stored most of war, small mileger, practice, professional content of the cont

66. Jesus Lane, Cambridge. (II)

ReflexED 1916 6-3bp. Combination, hood, screen, speedometer, 3 electric lamps, accompliant spring pillion seat with hock, spare and tyres, with spares; £150; just overaubility seems of tyres, with spares; £150; just overaubility seems of the combine—Thomson's Garage, Bechive Lane, Hford, Essex 1, 6804

6 h.p. Emfeld Combination, heod, wind screen, 6 lamps, complete set of electric and gas, bulb and mechanical horus, pediometer, pump, tools, child's seat in signature of pulion seat, excellent condition throughout, the need; £125.—436, Whiteherss Million Heath, S.E. [5918]

ENFIELD 1316 Twin Combination, Easting wind screen, 3 lamps, Klaxon horn, speedometer, engine fitted newaltes and guides, 5 new, Palmer cord tyres, 612-5-field, Streatham Park Cemeter, Greybund Lane, Streatham Common, S.W.

hound Lane, Streatham Common, S.M.

1919, Angust, 3hp, Royal Enfeld and Watsonian
Frentherweight de luxe sidecar, mileage (s.c.) under
300, finished Enfeld green to match machine and
inted with End detachable fittings and coveral
apron, 2 lamps, and all tools, entire outfit in perfect
condition; Wigniness —Box 231, c/o The Motor Cycle.

Excelsior.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—
7-9h.p. American Excelsior and sidecar, 1914.
[5143] £125

1920 American Excelsior, Model 19E, in stock, solo, 142 gns.; combination, 180 gns.—Hutchinson, Boroughbridge.

PRESTON.—Excelsior (American); actually in stock at makers' list price.—E. Bradshaw, the Motor [3498]

EXCELSIOR, 234h.p., 2-speed, clutch, lamps, horn, pump, chain drive, as new; £48, or near offer.—26, Baxendale St., Bethnal Green, London. [5310] LANCASHIRE, Cheshire, North Wales, Isle of Man only—American Excelsior; enquiries.—J. Blake and Co., Official Dealers, Liverpool-Manchester. [6586]

A MERICAN Excelsior 1920 Combination, 7-9h.p., electrically equipped, just delivered, owner going abroad; £175.—Box 1,853, clo The Motor Cycle. [5530] abroad; £175.—Box 1,555, 610 The tasks of the control of the contr

Sea. 3 1h.p. T.T. Excelsior, Bosch, Senspray, Clinchers, 2d discs, long exhaust, re-enamelled green, sporty appearance, excellent condition: first £28.-Smith, Green Mount, Stanford Rd., Bowdon, Cheshire. [X5716]

THE New 1920 American Excellent represents the best value for money on the market. Book now for early delivery, Fitted with Swan de Lanze sideour-Edwards and Pairy, 4, Blenheim St., Bond St. [2367]

31h.p. Fafnir, lamps, horn, good tyres; ride sevenings; £35, near offer.-29, Scholar's

Balbam. Balham.

1 h.p. Fafnir, Bosch, new N.S.U. gear, head lights,
2 mmp, 2 new spare tubes, cover, 2 belts (in daily
musp, 2 new spare tubes, cover, 2 belts (in daily
sel; what offers?—Smith, 7, Victoria Rd., Sutton,
[5458]

F.N.

 \mathbf{F} .N., 4-cyl., and sidecar, 3 new tyres; bargain, £35; after 5.30.—Ford, 25, Cowley Rd., Brixton. [5334 CROW Bros., Guildford, F.N. agents for the 7h p 4-cyl, and 2%h.p. lightweight. Book your machine now.

p. F.N., 2-speed, clutch, shaft, Bosch, tyres good, ride away; £23.—32, Beaumont St., 5776 21h.p.



Sole London and District Agents for A.J S. and British Excelsior Motor Cycles, also Watsonian Sidecars. Contracting Agents for Triumphs, B.S.A., Clyno, Enfields, Cal-A.B.C.'s. thorpes, Allons, Matchless, Rudge, etc.

The following New and Second-hand Motor Cycles are on view at our New Showrooms:

52 & 53, SUSSEX PLACE, SOUTH KENSINGTON, S.W.

HARLEY-DAVIDSON, 1920, 7-9 h.p., fitted with acetylene lighting set, speedometer, and horn.

HARLEY-DAVIDSON, 1920, 4 h.p. horizontal twin, acetylene lighting set, speedometer, and horn.

NEW IMPERIAL, 1920, 6 h.p., 3-speed, gear box, kick-starter.

RUDGE-MULTI, 1920, 31 h.p., Multi gear.

CALTHORPE, 1920, 21 h.p., 2-stroke, Enfield gear.

BRITISH EXCELSIOR, 1920, 2½ h.p., 2-stroke, 2-speed, kick-starter, and clutch.

DIAMOND, 1920, 21 h.p., Villiers 2-stroke All the above machines at makers' lish prices, plus treight charges from works.

A.J.S., 1919, 6 h.p. Combination, Splitdorf dynamo lighting set, spare wheel, complete ... £225

JAMES, 1919, 5-6 h.p. Combination, Lucas acetylene lighting set, Cowey speedometer, horn, etc. ...

RUDGE, 1919, 3½ h.p. Combination, Multi gear, kick-starter, acetylene lighting set, H. & B. horn, Dunlop tyres ... \$100 A.J.S., 1918, 6 h.p., military model, fitted

with Sidecar, Lucas lighting set, Klaxon horn, stormproof apron £185 IVY, 1919, 2½ h.p., 2-stroke, 2-speed, P. & H. acetylene lighting set ... £80

ALLDAYS - ALLON, 1919, 21 h.p., acetylene lighting set, not run 500 miles...

H. TAYLOR & CO., LTD.

SHOWROOMS: 21a, STORE STREET, W.C.1. 52-53, SUSSEX PLACE, S.W. WHOLESALE:

38, ALFRED PLACE, W.C.1

Garage — Tottenham Court Road. 'Phone — Museum 1240. Telegrams-

"Dynametro, Westcent, London."

MOTOR CYCLES FOR SALE. F.N.

21h.p. F.N., 2-speed, shaft drive, ready to ride at 2 or stamp reply; £30.—Monk, Fawley, Bo End. Bucks. 5 h.p. F.N., 2-speed, completely overhanled, lamp perfect, £38; sidecar, £6.—76, Western Southall, W.

F.N. 2½h.p., shaft drive, Bosch, mechanically per ride away: £22/10, no offers.—O. Scott, 547, Bridge Rd., Leyton.

F.N., new 1920. Z/h.p., shaft drive, 2-speed, li F.N., new 1920. Z/h.p., weight; 285.—Frank Whitworth, Ltd., 139 St., Birningham.

F.N., 1914, 4-cyl., 2 speeds, clutch, disc wheels of order; £60.—Smith's, 10-16, Haverstock (opposite Chalk Farm Tube Station).

F.N.; 4-cyl., 1914, 2 speeds, clutch, disc wheels, to condition, spares; 270.—Smith, 16, H stock Hill, opposite Chalk Farm Tube Station.

4-CVL. F.N. 6-7h.p., recently overhauled and perfect condition, tyres perfect, very fast reliable; bargain, £36. Rodway, 876, Garratt Tooting, S.W.17.

£28.—23th.p. F.N., Bosch mag, new belt and plant re-enamelled red (Indian), looks like foot pump, horat sacrifice, first cheque.—Same Peter St., Folkestone.

Latte 1913 5h.p. 4-cyl. F.N., grey dropped h. 2-speed, clutch, E.S. model, aluminium, boards, large Xi-durini-T.T. bars, Claudel-He engine and read-18 excellent condution, move, speed conduction, tools, many space, Croft, Madeley, Salop.

Grandex.

23h.p. Grandex, new tyre, tube; belt; ride : 230.—Clifton, Hove, near Battle, Sussex.

Hampstead.

H AMPSTEAD 1920 22(h.p., 2.stroke, new, 2 gear, Palmer tyres, 852/10; single year n £43/10.—Motors Hampstead, 78, High St., Hamp N.W.3.

Harley-Davidson.

JACK HEALY, Cork. official Harley agen tational delivery. No premiums accepted. HARLEY-DAVIDSON.—Book now for early the Application Agents, The Motor Cycle Mart,

HARLEY-DAVIDSON, all models: immedia livery.—Mandes' Motor Mart, 100, Par Exeter. 'Phone: 933.

19 15 Harley-Davidson Combination, brand ne car body; best offer over £100.—Kingst Sydenham Hill, S.E.23.

HARLEY-DAVIDSON 7-9h.p., new Oct. Model F, price £165.—Apply, C. Hennir Saxon Rd., Selburst, S.E.

HARLEY-DAVIDSON, 5-6h.p., 2 speeds...
lovely Sunheam sidecar, all lamps, and Te
£105.—365, King St., Hammersmith.

19¹⁷ Harley Combination, electrically equipp thoroughly overhauled, accessories, etc.; no offers.—Box 1,935, c/o The Motor Cycle.

CENUINE Harley-Davidson 7-9h.p. Comb 1916, electric model, perfect throughout, ance as new; £160,-118, Upper Tulse Hill, S.W. HARLEY 7-9h.p., 2-speed, hand clutch, and sories, thoroughly overhealed and not use bought new 1915; £65.—Reynolds, Waterbeach,

7.9h.p. Harley-Davidson Combination, late 191 screen, lamps, etc.: £165, or nearest McIntyre Bros., 34b, Queen St., Lonth, Lice

HARLEY-DAVIDSON 1920 Flat Twin, uses \$\frac{1}{2}\$150.—Barnes Motor Garage, opposite I Club, Barnes, S.W.13. 'Phone: Hommersmith

19 20 Harley Davidson, magneto model, to lighting, Mills-Fulford sidecar, newly disagnificent outfit; £225.—Tenuent, Benview, Oc.

HARLEY-DAVIDSON 1918 Khaki Mod wheels, in grand condition: £140: very lit -5, Bromfelde Rd., Jeffrey's Rd., Clapham Rd

WALCHOPE'S, 9, Shoe Lane, Fleet St., 1919, £185: 7-9h.p. Harley-Davidson coming £185: 7-9h.p. Harley-Davidson coming £185: 1915, £157/10.

19 15 Harley-Davidson Combination, 1919 sidecar, electrically equipped, recently coverhauled, discs, spares; £145.—Macnaughton overhauled, discs head, Ambleside,

HARLEY DAVIDSON 1920 7-9h.p., mas outer, launs, Klaxon, only done 20 m feet as new; 2180, or nearest officr.—Good Crugs, Stafford St., Derby. HARLEY-DAVIDSON, racing model, 7-9h.p. variable gear, kick starter, Bosch m Dunlog tyres, good condition, and except being £105.—Box 1,937, c/o The Motor Cycli-

Harley-Davidson.

Harley-Davidson.

EV-DAVIDSON, 1915, electric model, with rlay sidecar, 3 speeds, kick clutch, sidecar th bood and Sercen, ingage carrier, requirer ing.—Aprly, Box 1,919, c/y The Moor 6232 Single Harley-Invidson, 1917 model, Venn-chbult sidecar, 3 speeds, clutch, kick start, out, took, also Insurance polecy; £115; every-excellent cauchtion; tild by appointment— low, Wits.

Hatey-Davishon Combination, 7-9h.p., 3-speed, and and foot clatch, keck start, D.A. lightna Xon, teols, spaires, etc., engine, tyres, and a perfect condition; trial; owner bought light 2140,—Mark Pare, Manor House, Poling, Stassex. [5936]

Sinsow, 1990.

EV-DAVIDSON sports Model 4h.p., 1920, the complete Harley-Baydison electric lighting on horn, tear drive, specioneter, and Tan-Sad on horn, tear drive, specioneter, and Tan-Sad deal side muchine, as new; £155; owner laying that Hitt.—Bay 304, 40 Post's Advertising Service, 4 St., E.U.

Hazlewood.

Hazlewood.

EWOOD-J.A.P. 1915 5-6h.p. Combination, rethy overhanded by Jup, good appearance, 3
eedometer; £110.—Knight, 19, Roundhil Rd.,
[6264]

LWOOII-J.A.P. 6h.p. Combination, 1914, 3-d countershaft, kick starter, Bramble sudcen, een, lumps, etc., new tyres and belt, mileage rect condition; £115.—12, Lewin Rd., Strent-

Hendon.

ON 31th.p. 2-speed Countershaft, kick-start, spring torks, excellent condition; £32.—27, Wandle Rd., Wandsworth Common, S.W.1. kick-start,

Henderson.

Ienderson, in good running order, re-enamelled, r gents; price £85.—The Ottershaw Engineers, Hore Hill, Surrey. [5278

SHIRE, Cheshire, North Wates, and Isle of .-Enquiries for Henderson 4-cyl, wanted,-and Co., Official Dealers, Liverpool-Man

ERSON 1915 Combination, with all access, overhauled, mechanical condition very tyrial; e125.—Richardson, 5, Rosslyn Hill, der 42, Rosslyn Hill, Hampstead. [5312

Hobart.

eTS for Brighton and Hove. The Villiers en-1 2cih.p. 2-speed model now available for de-in 2 weeks; £67/10. Limited number ouly,— tone Motor Cycle Depot, 32, Goldstone Villas,

Humber.

Humber.

BD Garage Walsall, district agents for thers; rotational delivery. [5307]

SR Lightweight, Bosch, B. and B.; ride away:
--Titt, Abbotsford, Warminster. [5495]

GOPE'S, 9, Shoe Lane, Fleet St., London
-4,-6h p. Humber combination, twin, 1919;

ER, 3-speed, clutch, hand and foot, in splen-order; £44, or offer.-59, Bulwer Rd, Ley-16334 ER Lightweight, just overhauled; £25.—E. Morriss and Co., Ltd., 139, Finchley Rd., 1296, N.W.3.

TR 34h.p., 1914 pattern, as new, incomplete, tes very little to finish; bargain, £25.—Box he Motor Cycle.

R 1919 3½h.p., flat twin, delivered Decemdone 100 miles: £105, or nearest offer.—gles, Newtown, N. Wales. [6167]

Tumber C.B. Combination, 2-speed, handle t, good condition: £58, offers.—Williams, 9, Rd., New Eitham, S.E.9. [5820

R 1914, Sturmey 3-speed and clutch, handle wicker siderar, condition very good: £68.— hith and Willis, Basingstoke. [5455

R. twin-cyl., 254h.p., Philipson, perfect ing order, smart appearance, lamps, born; l, 40, Erpingham Rd., Putney. [5356]

1, 80, Explingment Rus, Furney.

R 3/sh.p., 2-speed, handle start, Bosch, Pedtt, and Bates back cover recently fitted; ride
-17, Sheen Rt., Richmond, Surrey, [5430]

R Combination, 2-speed, etc., mechanically
ott, smart appearance, 3 lamps, sparse, etc.;
lansome, 2, Willow Grove, Chislehurst,
15737

imber 6h.p. Flat Twin, water-cooled, coach-combination, perfect running order; £95.— Bros., 17, Bond St., Ealing. Tel.: Ealing

umber Motor Cycle and sidecar, wants slight ur to frame: £40, or near offer.—Can be eathwood's Garage, 3, Selburst Rd., South i.E.25.

h.b..25.

(umber Combination (coachbuilt), 3-speed,
starter, clutch, perfect running order:
ar; exchange lightweight and cash, Enfield
Bracher, 8, Churchways Crescent, Horfield,
[5853]

Ballards

THE MOTOR CYCLE. -- (SUPPLEMENT XI.)

Proprietors - Erling L. Newberry-Cobbett & Cedric Crosthwaite MOTOR CYCLE DEPT-

The Leading South Western Motor Cycle Agency.

Sole Distributing Agents for the

DUZMO

for London, Hertford, Bedford, Middlesex & Surrey. Deliveries from February, 1920.

We are also Agents for the following machines: B.S.A., A.J.S., JAMES, RUDGE, READING WOOLER, STANDARD EXCELSIOR. METRO-TYLER, NEW HUDSON, F.N., LEA. FRANCIS.

IN STOCK FOR IMMEDIATE DELIVERY.

- 1. HARLEY-DAVIDSON Combination, late ARLEY-DAVISSON Commission, late 1919, electric model, speedometer, horn, watch, ampmeter, exhaust whistle, mirror, polished aluminium discs, fully equipped, perfect condition, with 1920 Sidecar. Will separate £228
- 2. ZENITH, 1919, perfect condition 3. ENFIELD, 1919-20, 2-stroke, Enfield 2-sp., lamps, born, aluminium footboards, fully equipped, perfect condition
- 4. O.K. JUNIOR, 2³ b.p., 4-stroke, 2-speed, 2 lamps, 2 generators, mechanical born, aluminium footboards
- GALTHORPE JUNIOR, 2 h.p., 4-stroke, ontside flywheel, mechanical overhead valves, 2-speed, 2 electric lamps, horn, lully equipped, good condition
- 6. 1920 BRITISH EXCELSIOR Combination. 920 BKIIISH EAGLESION COMMINATION, 8 h.p., actual Olympia Show model, Lucas dynamo lighting, electric horn, quick detachable and interchangeable wheels and 1 spare, fully equipped, 2-seater Sidecat, hood, screen, luggage grid

- 9. 1920 ARIEL Combination, 31 h.p., 2-sp., fully equipped

ACCESSORIES.

- 1. Douglas 24 h.p. Gear Box, complete with
- 3. Aero type adjustable Triplex Windscreens. 4. Cameo Windscreens.
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[5337]
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NEW IMPERIAL, very late 1919, 25th.p., 2-speed cintch, kick, hardly used, perfect condition, with horn; £68; lamps, spares, and insurance optional after 7, or week-ends.—93, Amesbury Av., Streatham, S.W.2.

S.W.2.

P. O.C.H. have a brand new New Imperial light tour.

P. O.C.H. have a brand new New Imperial light tour.

P. O.C.H. have a brand new New Imperial light tour.

Hough St. Hampstead (in. Hampstead Tube Station).

Phone: Hampstead 3752. Hours 9-7, including Sat.

6116

1 919 New Imperial-Jap, 3-speed countershort, with 1920 new Harley sudccar fitted week ago at cost of £35. including 3 lamps and generators, horns, etc., value £15, all as new from makers, run 800 milestrau trial 3 up; beautiful condition; give written garantee if wonfed; sacrifice £165.—Dugdale, 24, Enston (K. 8771)

101. Morecombe.

19 20 Unused 6-8h.p. All Black and Gold New Imperial, fitted with Brampton Blacks spring forks, 3-speed gear box, kick start, totally enclosed all chain transmission, 28in, wheels, Dunlop tyres, and the spring of the spring

COVENTRY MOTOR

LONDON ROAD, COVENTRY.

Telcgrams

· "Selection, Coventry."

1920 Models in Stock to-day March 4th.

Zenith, Model H., 8 h.p., clutch kickstart.

Hazlewood-J.A.P., 6-8 h.p., comb. Quadrant, 4½ h.p., all chain drive, 3-speed, kick-start, comb.

New Imperial, Model No. 1, lightweight. Edmund-J.A.P., spring frame, Enfield

2-speed gear. Hobart-J.A.P., Sturmey 2-speed gear, kick-start.

Hobart, 2-stroke, 2-speed. Alldays Allon de Luxe, 2-speed, kick-

start. Clyno, 2-stroke, 2-speed. Calthorpe, 2-stroke, 2-speed.

Connaught, miniature model, 2-speed, kick-start.

Connaught, standard model.

Quickest Deliveries of INDIAN. SCOTT. HUMBER. P. & M. NEW IMPERIAL. ALLDAYS ALLON. CLYNG. HOBART. CALTHORPE. CONNAUGHT. ARIEL. BAT. EXCELSIOR. METRO-TYLER. IVY. WOOLER. ZENITH. HAZLEWOOD. ROYAL RUBY. N.U.T. SUN-VITESSE.

LEA-FRANCIS.

"CASTLE THREE" "PREMIER SUPER" Runabouts.

GRINDLAY. MONTGOMERY. **FULFORD**

CANOELET. MILLS-SIDECARS

in Stock.

The COVENTRY MOTOR MART, LTD. London Road, COVENTRY.

"Selecti on, Coventry." Telegrams:

MOTOR CYCLES FOR SALE. New Imperial.

NEW IMPERIAL J.A.P., 2%h.p., 1917, 24 countershaft, Klaxon, Lucas lighting set, Di studded, spare tube, belt; sacrifice, £50.-W making appointment, Gill, 100, Church Rd., Ted making appoint ton, Middlesex.

New Ryder.

RIDER-JAP, 234h.p., 1916, 2 speeds, F.E., constant, new condition; £45.—53, Russell Retrottenham.

Norton.

JACK HEALY, Cork, official Norton agent.— tional delivery. No premiums accepted. NORTON, B.R.S., 1916, new condition, very fully equipped; £85.—32, Winchester Rd., chester.

19¹⁷ 3½h.p. T.T. Norton, countershaft, 3 s Norton sidecar, lamps; £125.—J. Smith and 16. Hampstead Rd., London, N.W.

Norton 34/hp., 1915 B.R.S., CA.V., B. an ingle speed, very fost, splendid condition; 2. Robertson and North, Peterborough.

B.R.S. Norton, late 1919 model, only done about miles, Philipson and accessaries; 2105, or models, province and province

NORTON 1919 Big Four, Lucas lamps; wanted, good 31/h.p. could be part exche Birmingham.—Box 201, c/o The Motor Cycle. C

WILL Transfer Order Big Four Norton and de luxe, ordered early April, 1919; 25 epaid; going abrood; offers.—Box 1,829, clo The Cycle.

B.S. Norton, new 1919 engine, Amac, fitted by ton's last Nov., lamps, Klaxon, accessories, son pulley, very fast, not done 200 miles; £68, —Hall, Durley Park, Keynsham, Bristol.

6 h.p. 1913-14 N.S.U. and Bramble C.B. Si £75,-1, Victoria Rd., Brighton.

N.S.U. 31/h.p. Twin, free engine, perfect th out; £30.-199h, King St., Hammersmith

N.S.U. Twin Engine, 31/2h.p., Bosch mag., sour dition; £10.—Archer, 116, Ashley Rd., Sal

1h.p. N.S.U., 2 speeds Bosch mag., B. and buretter, with sidecar; £40, near offer.—6, son Mews, Kensington High St., S.W.8. 5 6h.p. N.S.U. Combination, Roc 2-speed Roc Amee carbiretter, Bosch mag., 2 new trunning order; first £45 secures.—D. Gibbs, V. High St., Durnham, Bucks.

6 1h.p. N.S.U. Twin, Bosch, Senspray, spring 2 forks, speeds and free, Indian red, big and indian verhauled for spring: 245; cheque accept Bryant, 93, Lawrence Rd., Southsea.

JACK HEALY, Cork, official N.U.T. agent tonal delivery. No premiuma uccepted. STANLEY RUSSELL, Newport, sole Isle of agent for N.U.T. motor cycles; early del

19 20 N.U.T., aristocrat of motor cycles; list of in stock.—Youngs, Heath Garage, New Yehone: 214.

W SPARROW Ltd., Osborne Garage. Yeor agents for Somerset, including 10 miles of Yeoril, for N.U.T. motor cycles; early de Write 10r porticulors.

N U.T. 1920 Model 31/h.p., Lucos dynomo electric horn; 140 gns., complete.—Authoris don agents, Vivian Hardle and Lane, Ltd., 24, stock St. loff Oxford St.), Bond St., W.L. Phona fair 6559. Book now for early delivery.

O.K.

19 16 O.K. Junior 21/h.p. 2-stroke, just ov and rebushed; £37/10.-28, Baxtergate, De

Junior, brand new, 234h.p., 2-stroke, Wolverhampton.

O.K.—New 2-speed 2-stroke, Villiers, in Chandler, Reyro and Williams, Hitchin Phone: 165 Hitchin.

Do not delay in ordering your O.K. Union, be disappointed if you do. We can give deliveries.—Elliott Bios. and Stevens, Cambusha

O.K. 1915 21-h.p., 2-stroke, 2-speed countion, spaces; £45.—Turner, 49, Western Rd., W. Bucks.

O.K.J.A.P., 1919 (late), 2-speed, all accombinate 200, brand new condition; concept best over £55.—Seen, 147a, Church Sdington.

Omega

STANLEY RUSSELL, Newport, sole Isle

B22 All letters relating to advertisements should onote the number at the end of each advertisement, and the date of the Issue

Omega.

Omega-Jap, 2-speed, fully equipped, practically rand new; £70; Sussex.—Box 1,925, c/o The yels. [6286

A-J.A.V., 2-speed, and medel de luxe, a 74 gns. respectively.—Stocked by Lloyd Station St., Lewes.

Station St., Lewes. [1675]
Omega-Jap. 2-speed, electric lighting, and ares, not done 500 miles; £68, no offers.—
47, Kingston Rd., Wimbledon, S.W.19, [6087]

Ormonde, fixed gcar, wants mag.; first £16 cures.-Clarke, Chemist, Peterhead. [5331

Overstone,

lyctsfone, 25th.p. Villiers 2-stroke engine, with peeds, chain cover, belt, new last October, only journeys, complete with lumps and hours for Bromwich, Rock, Bewelley. [X5784]

P. and M.

and M., good tyres, perfect; £75,—Payne, by Arcs, Mortlake. [X5554

WILLIAMS for early delivery of P. and
-Chapel Ash Depot, Wolverhampton. [X8624
M. Combination, R.A.F. model, perfect, elec-light; best offer over £120.—Manager, Hippo-ingley. [X5793]

4h.p. P. and M. R.A.F. model, brand new, ridden, lamp, horn; £98.—Box 1,911, c/o Cycle. [6274]

d. Combination, late model, not a W.D., ab-sly as new, perfect mechanically; £90.—103a, Wandsworth. [6242]

M. C.B. Combination, 2-speed, 1919, engine overhauled, all accessories; £105.—Landless, etcl. Doncaster. [6144 and M. Combination, perfect running order, 198, generators, and horn; £95.—Chauffeur, Fife Rd., East Sheen. [5400]

I, new October, 1919, and coachbuilt sidecar, lamps, Easting wind screen, perfect condition; Stoneleigh Rd., Kenilworth. [X4187]

M. Coachbuilt Combination, all parts first-new tyres, full accessories; long trial run; south Park Hill, Croydon. [5823

and M. Combination, usual accessories; er bnying car; seen appointment; £110.-Dr. Cox, Platts, Watford. [5509

d. 1919, 314h.p., lamps, horn, disc wheels, exhaust, excellent condition; £90, or offer—arkes, Streetly, Sutton Coldfield. [5473]

, and M. Combination, complete with ps, generators, tools, pump, beautiful condi-1,-15, Waldemar Av., Ealing, W.13. [6059] and M. late 1916 R.A.F., 2-speed, clutch, tarter, super-large head lamp, just overhanded, etc.; 265.—Cartieshall Grange, Farncombe. h.p. P. and M., R.A.F. model, fitted Canoe-sporting sidecar to match, combination has in road; £128.—Box 1,912, c/o The Motor [6275]

d. 3½h.p., late model, 2-speed, kick start, horm toolbag, smart appearance, mechani-tt; £70.—N.W. Garage, 143a, Abbey Rd., [5089]

c.F. Model P. and M., 3thh.p., 2-speed, horn, stater, etc. run 250 miles and goes beautit; Cambridge district.—Box 1,860, c/o The [5537

and M. Combination, brand new, only used miles, Lucas lamp set, rear lamp, sidecar born, all tools, guaranteed perfect in every ad M. sidecar: £130; first deposit secures. c/o The Motor Cycle. [5687]

MOORE, 1917 and 1913 models, ex-milistores, completely overhauled and gnarts as new, £73; Milliord and P. and M. suit ex stock.—Mandes' Motor Mart, 100, d St., London, W.1, and 100. Paris St.,

P. and S.

and Sopwith Cycles, perfect and speedy,
dinte delivery of several: single-speed,
ed, £66/10; 2-speed elutch and kick
l-Book now with the Denman Motor
Denman Place, Piccadilly, London,
foods

Peugeot.

3thp., 1914, in grand condition, T.T. iast, cheap; 35 gns.—Motors Hampstead, Hampstead, N.W.3. [C230

Pope.

Pope.

1 C.B. Combination, 7-9h.r., countershaft age all chain, only done 2.500 miles, speeds to home miles and petrol of hished grey, condition perfect, sidecar cember, absolutely compilet; £140, bartist Hill, Wandsworth. Phone: Batter-1841, Wandsworth. Phone: Batter-1841, Wandsworth.

DELIVERY

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DOUGLAS ENFIELD INDIAN CLYNO (2-stroke) MATCHLESS B.S.A. LEVIS BAT

BRADBURY

HENDERSON (4-cylinder).

ZENITH **NEW IMPERIAL** SPARKBROOK DIAMOND COULSON B. OMEGA EDMUND COVENTRY EAGLE **VELOCETTE METRO-TYLER** INVICTA REX

To save time and avoid useless correspondence, we think it well to mention that the machines of following makes allotted to us for 1920 have already been booked up:

NORTON, P. & M., MORGAN RUNABOUTS. G.W.K. CARS.

Any further orders for those makes can only be accepted for delivery during 1921.

We are booked up to July. 1920, for

N.U.T. MOTOR CYCLES.

and can accept orders for August Delivery.

ALEXANDER & CO...

113-115, Lothian Rd., Edinburgh. 272-274, Gt. Western Rd , Glasgow

MOTOR CYCLES FOR SALE,

Precision.

4 h.p. Precision, clutch, excellent condition.—48, Walton Rd., East Molesey, Surrey. [5847

31 h.p. Precision, about 1914, Elaxon, lamps; £37.— 2 Froiencks, 3, Priory Plain, Gt. Yamouth. [5732 PRECISION Enquiries Invited by J. Blake and Co., the leading motor cycle experts, Liverpool and Manchester, [6582]

the leading motor cycle experts, Liverpool and Manchester,

BOOK Your 1920 Mourt, 37th,p. Precision, 2-stroke, deliverles March.—Mount Works, Warwards Lane, Selly Onk, Birminchum.

PRECISION 442h.p. 1914 Combination, 2-speed, clutch, perfect order and condition; 265, or near, 1918, berry, 1918, perfect order and condition; 265, or near, 1918, berry, 1918, pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit; 265,—374, Grove Green Rd., Leytonstone, 1918, perfect of the pretty outfit of the

Premier,

Dan Guy, Weymouth.-31/2h.p. Premier, 2-speed, with new mag., engine and gears quite, less carburetter; offers. [6146

PREMIER 245h.p., splendid order throughout, lamp horn, really good tyres; £33.—Ambury, Holde Rd., North Finchley.

PREMIER 4h.p. Combination, 3-speed countershaft, kick start, Bosch mag.; £50. C. Pickett, 23, Benlah Rd., Sutton, Surrey. [X5775

PREMIER 2½h.p., Bosch mag, B. and B. carbur-etter, lamps and horn, good maning order; 235, -Derrick, Colerne, Wilts.

PREMIER 2½h.p., Bosch, B. and B., running order, lamps, horn; £35; seen Saturday afternoon and Sanday.-56, Sunningfields Rd., Hendou. [5426 PREMIER, 1914, 21th.p., Bosch, B. and B. carburetter, Brampton 2-speed gear, in excellent condition.—Offers to 17, High St., Beckenham. [5350

PREMIER (late 1914) 2½h.p., C.A.V. mag., just been thoroughly overhauled, condition excellent.— B. S. Marshall, Ltd., 33-34, Foley St., W. 'Phone: Mayfair 5906.

PREMIER 4h.p., 3-speed, K.S., hand clutch, T.T. bars, lnmps, etc., recently overthoused and re-enamelled, new tyres fitted: £70, or offer.—Wood, 20, Howland St., Tottenham Court Rd. [6182]

1914 Premier 3½h.p., stored 3 years, completely overhanled, 3-speed, clutch, new T.T. handle-bars, Bosch mag., lamps, and new footboards; bargain, £45.

-Knill, 17, South Burlow Rd., Hiracombe. IX5723

PREMIER Combination, countershalt, coachbuilt sideon, Cower horn, specdometer, 3 lamps, 2 new tyres, splendid condition; price 285; can be seen any time Satunday.—Charter's Garage, Albert Rd., Aldershot.

C. BERRY'S.-2'th.p. Puch, kick start, free engine and speeds, lamps, hooter, kick up stand, Ruthardt mag., in splendid condition; £37/10.-125, Canal Rd., Mile End, E.

Quadrant.

QUADRANT.-Early delivery of 4h.p. 1920 model. Book now.-Moss, Wem.

3 h.p. Quadrant, mag., B. and B., new tyres; bargain, £32.-Fredericks, 3, Priory Plain, Gt. Yarmouth.

QUADRANT 4h.p., 3 speeds and clutch, and sidecar, in splend'd condition: £65.59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [6081

Dorset Rd., Claphan Rd., S.W.S.

QUADRANT 2[3-b.p., coil ignition, low built, good tyres, good compression, and runs well, suit beiner; £12-64, Mill Lane, Brixton Hill. [500]

QUADRANT, late 1915, 4h.p., 3-speed, B.S.A. gear box, kick start, in perfect running order, condition as new; £75.—White, 62, High St., Kingston, Surrey.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4, supply new Quadrants from stock, 1920 models, for immediate delivery; solos £95, combinations £122/10.

Radco.

STANLEY RUSSELL, Newport, sole Isle of Wight agent for Radco motor cycles; delivery commenced

RADCO 1915 21½h.p. 2-stroke, lamps, horn. good order; £30.-Yates and James, 144, Church St., Kensington. [5401

Reading Standard.

R EADING-STANDARD Combination, 8-10h.p., 2 speeds, hand-controlled clutch, lovely condition; £95,-53, Russell Rd., S. Tottenham. [6250

READING -5TANDARD Combination, 1915-16, 10h.p., 2-speed, clutch, kick starter, tyres and appearance excellent, all-chain, in good running order; owner buying car; any trial: £140-D., (a) Majestic, 195, Stonhouse St., Clapham Common. [3813]

Regent.

SEND postcard for particulars of Regent 5 7h.p. flat twin to us. We can give earliest deliveries of these machines.—Elliott Bros. and Stevens, Cambuskang. Lanariskhire agents.

3 h.p. Rex. good order, mag.; £15.-Webb, 3, Nightingale Rd., Hanwell. [6069

2 h.p. Rex. in first-class running order and condi-2 tion; £50.-14, Austin Rd., Battersea. [5945]

REX 5-6h.p. Twin, Bosch, B. and B., good running order; £32,-9, Chertsey Rd., Leytonstone. [5408] 6 h.p. Twin Rex C.B. Combination, 2 speeds, handle start; £50.-2, Evelyn Gardens, Richmond. [5710

REX 41/4h.p., T.T., fast, Bosch, B. and B., in splendid condition, tyres as new; £40.—87, Lordsmill St., Chesterfield.

REX, clutch model, new coachbuilt sidecar, stored since 1914; £55.—Sigrist, 58, Tustin St., Old Kent Rd., London, [6013

REX 4h.p., in good condition, Bosch, Druids, fast, pull sidecar; trial; ride away; £34; exchange considered.-6, Axe St., Barking.

R^{EX} 5h.p., Bosch, Amac carbiretter, Mabon variable gear, good running order: £26; with cane sidecal £32.—Gilfiths, 97a, Kilburn Lane, W.10. [5761

REX 6h.p. Combination, 2-speed, speedometer, spares, tools, good running condition; £50.— James, Springfield, Glazebrook, Manchester . [X5761 REX 1911 Twin, C.B. sidecar, good running order, recently overhauled, 2 new tyres, Bosch mag; hargain, £40.—Kittle, 17, St. Aubyn's Rd., near Brighton.

31h.p. Rex, 2-speed, free engine, handle start, ready to ride away; £29, or offers; seen between 2 p.m. and 6 p.m.-J. Nash, 3, Married Quarters, Southwark Police Station, S.E.1.

6 8h.p. Rex Combination, 1914, 2-speed, free engine, handle start, sidecar coachbuilt, wind screen, etc., perfect condition; £90; no dealers.—Wbittam, 66, Bootbferry Rd., Goole, Yorks.

R EX 1914 6h.p. Twin Combination, 3 speeds
Panalle-bar controlled clutch, all-chain drive, fully
equipped, in excellent condition; £100.—Smith's, 10-16
Haverstock Hill (opposite Chalk Farm Tube Station)

REX, 8h.p., 1914, 3-speed, chain drive, with coach-built sidecar, engine just fitted new bearings, timing wheels, and cams, and new Capac carburetter hot-air intake, fine order; £80.—Pbillips, Cowbridge, Dunster.

194 Rev 6hp., twin-cyl., 3-speed, kick technical charts, coachbuilt sidecar with wind screen and luggage carrier, lamps, horn, accessories, just coverhauled, costing over £20; owner leaving England; £88, or 658-8 EV., 38, Cowley Rd., Oxford.

3 th.p. Roc, 2 speeds, F.E., handle start, Rosch, B.B., ride away; first £25 secures.—Frith, Wheston, Tideswell, Buxton. [5402]

ROVER New 3½h.p. Combination in stock; immediate delivery; list price.—Gray's Garage, Watford. [632] R OVER Combination 31/2 h.p., 1917, K.S., 5 speeds, Complete; £105.-26, Totteridge Rd., Enfield [5914]

R OVER 1914 3-speed, clutch, good condition; £63.+ Brookland, 19, Magnolia Rd., Strand-on-Green, [5065]

POVER New 5-6h.p. Combination, just received; at list price, £188, or solo, £150.—Rose's Garage, Uxbridge.

19 20 Rover Combination, 5h.p. twin; list price; in stock.—Youngs, Heath Garage, Newmarket.
[0118]

ROVER 1914 Coachbuilt Combination, tip-top condition, lamps, horn, spare tyre; £75.—70, Lansdowne Rd., Tottenham.

ROVERS.—W.D. combination; £145.—Cliffierd Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kens. 7113. [6109

31h.p. Rover, Sturmey-Archer 3-speed hub gear; 50 gms.—E. T. Morriss and Co., Ltd., 139, Finchley Rd., Swiss Cottage, N.W.3.

ROVER, 1919, 3-speed, lamps, horn, speedometer, under 2.000 miles; £110.—Edwards, 7, Exhibition Rd., South Kensington. [5883]

ROVER 1920 3½h.p., T.T. model, with Philipson pulley; stock; list price, £98; exchanges.—R. D. Varty, Thundersley, Essex. [6314

1916 31/2h.p. T.T. Rover, direct drive, lamps, horn, etc., good condition, very fast; 60 gns; bargain.
-W., 18, Safiron Rd., Biggleswade. [6140]

BRAND New 1920 3\(\frac{1}{2}\)hp. Rover, 3 speeds, in stock; makers' list price.—Walbro Motor Cycle Works, Safron Walden, Essex. 'Phone: 45. [X5665]

19¹⁷ 3½h.p. Rover Combination, Lucas dynamo lighting set, almost new condition; £145.—J. Smith and Co., 16, Humpstead Rd., London, N.W. 16329



Put this Dollar' in our pocket

WE save you 5/- on every pair of (Istike) you buy. How?

You pay 9/- to have your boots soled twice with leather and rivels One pair of Ustikon cost 3/9, and will outlast two pairs of leather soles. Not only do you effect this economy, but the boots become ABSOLUTELY WATERPROOF





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Elite Rubber Co., Ltd. Tyre Specialists,

Vauxhall Bridge Rd. Victoria, S.W 1.

MOTOR CYCLES FOR SALE.

Rover.

ROVER 1917, T.T. model, Philipson pulley, lamps; horn, and spares, absolutely excelled dition; £80.—Whitaker, 143, Promenade Rd.,

19 19 W.D. 5h.p. Rover Combination, complet stormproof apron, 3 lamps, cut-out, meter, and horn, just overhauled, splendid con £135.—Box 1,872, c/o The Motor Cycle.

19¹⁹ 3½h.n. Rover 3-speed Combination, Rover car, Miller lamp sets, and horn, not be miles, carefully used and in new condition Waltor Motor Cycle Works, Saffron Walden, Phone: 45

Fro.C.H. have a 1919, 31/h.p. Rover and bra Fro.C.H. have a 1919, 31/h.p. Rover and bra starter, fully equipped, as new, milesage udger Fair Offer Car Hense, 5, Heath St., Hampste Hampstead Tube Station). 'Phone: Hampstea Hours 9-7, including Saturdays.

19 19 (Sept.) 5-6h.p. Rover Combination, mag., spring seat pillar, flexible cop hausts, leg and undershields fitted, Hunt's lights (accumulator), Klaxon, spare tubes, etc superb condition; £160—L. Williams, 55, Ber Lane, Shortlands, Kent. "Phone: Bromley 86:

Royal Ruby.

Jack Healy, Cork, official Royal Ruby Rotational delivers. No premiums accepted ROYAL RUBY 1916 25th.p., 2-speed, band as new; £48.—Reynolds, Waterbeach, C

ROYAL RUBY 23/h.p., 2-speed, lamps, at excellent condition; £53.—Crowte, Enison

R UBY, new 1920, 21/h.p. 2-stroke Villiers; plus 5%.-Frank Whitworth, Ltd., 139, D plus 5%. Birmingham.

4 h.p. Royal Ruby, decompressor, condition channel and plating as new; £50.—Shar St., Oakham.

F.O.C.H. have a Royal Ruby 2-stroke, Villier good order,—Fair Offer Car House, 5, H Hampstead (near Hampstead Tube Station) Hampstead 3752. Hours 9-7, including Sat

ROYAL RURY, 2½h.p. Villiers, done 300 m tools, pump, horn; any trial; "Motor Crele recommended: £50, no offer,-Percy Hart, Hall Farm, Wylam, Durham.

ROYAL RUBY, 8h.p., military, and kidacar, all khaki, Easting, Cowey spe kidacon, 3 lamps, 2 generators, battery lighti new September, done 1,400, recently decthoroughly good outfit; £170.-R. L. Bi Cleveland Mews, Leinster Terrace, W.2.

Rudge.

CROW Bros., High St., Guildlord, Rudg

RUDGES.—Early delivery of all medels Garage, Walsall. 'Phone: 270.

WAUCHOPE'S, 9, Shoe Lune, Londo Rudge Multi combination; £110.

R UDGE Multi 3½h.p., 1917, perfect condi Klaxon; £75.—Gray's Garage, Watter

RUDGE Multi, 1916, lamp, horn, speedom miles; £75.—Kemp, 1, Linzee Rd., H

RUDGE Multi 1916 31/2b.p. Combinat hauled; £75.—26, Totteridge Rd., Enf 19 20 Rudge 7-9h.p. Twi Multi; list price -Youngs, Heath Garage, Newmarket

31h.p. Rudge Multi, like new, £72; 31/2 speed Triumph, £38.—Glew Bros., Huw

RUDGE Multi, 3½h.p., 1916, excellent lamps, horn, etc.; £50.—S. H. Mayne

Windsor. RUDGE Multi, 1915, 31/4h.p., excellent throughout; £60.—Stephen, Hilton, Edensbire.

31h.p. Rudge Multi, handle-bar clutch, l. 22 etc., excellent condition; £48.—Tayle Exchange, Chatham. I.O.M. 1919 Rudge Multi 3½h.p., hand c'age 1,000 perfect; £110.—Jackson, 89 ('phone 2190), Bradford.

RUDGE Multi, 3½h.p., 1917, clutch, Sensbuit sidecar, lamps, horn, as new; £ Thomas Rd., Hackney, E.9.

19 15 Rudge Multi, I.O.M., very fast and office Rd., Crawley, Sussex.

19 19 Rudge Combination, Lucas lamps, splendid condition, mechanically so or near offer.—37, Regent St., Rugby.

RUDGE, 3½h.p., clutch, 1913, pedal a low bandle-bars, in splendid running Reberts, 150, Upland Rd., East Dulwi

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the is

Rudge

RUDGE, 1912, just recently rebushed throughout, new piston, hollow gudgeon pin and rings, T.T. bars, lauges: £38.-Wakelm, Sunningdale, Beiks. [5754

19 (November) Rudge Multi 1.0, M. T.T. Combination, lamps, Klaxon, Cawey, genuine hot stuff; 105 gns.—175, Camberwell Grove, S.E.5. [5599] R'196g Multi, 35th.p., C.B. sidecar, overhauled, latest green, tank, lamp, horn, perfect, ride way; £60, or offer,—496, Folcshill Rd., Coventry, [X5796]

19 16 Semi T.T. Rudge Multi, lamps, etc., good condition; £68, or exchange for higher power; such adjustment.—147, Grenfell Rd., Maidenhead. nan adjustment.—147, Grenfell Rd., Maidenhead. Q 1h.p. Rudge and C.B. sidecar, N.S.U. 2-speed, good D2 tyres, new bett, lamps, and horn, in good could ion; £65.—Webber, '97, Hannchwood' Rd., Stocking-ford.

RUDGE Multi, 1913, lamps, Stewart speedometer, stored 3 years, good condition; £45; tyres and selt nearly new.—Rusden, 41, London Rd., E. Grin-tend, (b)

NUDGE Multi 1917 4h.p., good condition, stored daring war, head, tail lamps and generator, com-lete, hand controlled clutch; £75, or nearest.—Tralley.

R UDGE 31/h.p. and C.B. sidecar, engine and gears used a65.—Apply after 6 to Walmsley, 77, Lord St., leetwood.

1019 Rudge Multi, 314h.p., with lamous Rudge sideear, complete with Lucas lamps, horn, etc., erfect condition throughout: £110, bargaia.—Kingstoot, Cleevo Prior, ar. Evesham.

TDGE Multi 5-6h.p., conchuilt sidecar, 1914, thoroughly sound coodition, recently completely rethauled; ofters over £75; in Cambridge.—Drury, 55, anneld Gardens, London, N.W. [5623

9 19 Radge Multi, 3½h.p., splendid condition, P. and H. lamps, mechanical horn, tyres practally new, tools, spares; £95; seen Euston Rd., olme, 6, Ainsworth St., Ulverston. [582]

Adme, b. Ainsworth St., Circistan.

7.O.C.H. have a brand new Rudge Multi tourer; list
price.—Fair Offer Car House, 5, Heath St., Hamp-ead (ar. Humpstead Thube Station). Phone: Hamp-ead 3752. Hours 9-7, including Saturdays. [6115] UDGE (helieved 1915), 314h.p., clutch model, handle-bar control, new piston, cylinder, and carretter, guaranteed in thorough running order; £42. est bargain.—Starford, Eglingham, Alawick. [5480

UDGE Multi 3½h.p., No. 16230, July (1919), Mills-Fultord sideori, 5 lanns, Lucas hora, spares, 800 les, perfect condition; £125; owner buying big twin. Read, 61, Holtwhites Hill, Enfeld, Middlesex. [5661

UDOE Mult, 3%Lp., 1912 frame, 1920 engine, berrings excellent, hand clutch, good tyres, overuded, engine needs running in; 70 gas, or nearest ers.—Cox, 22, St. Margaret's St., Canterburges and St. Conterburges of the specific structure of the specifi

bUIGE Multi, 3½h.p., 1913, coachbuilt sidecar, lamps, speedometer, horn, stored 3 years, good dition; £55, or nearest; seen after 6.30 or Saturtalteroom,-10, High St., Hampton Hill, Middle, 66072

920 New 7-9h.p. Rudge 1.O.M. Twin Multi and Rudge sidecar, semi-T.T. bars 3 lamps, 2 erators, born, complete set tools, never been ridden, rt combination; 190 gns.—Reply, 103, Marine de, Brighton.

20 Rudge Multi, 3½b.p., lsle of Man T.T. model, days old, brand new, Miller head light, and banical horn, tools, registered, and tax paid, too for present owner, over 80 m.p.b.; any train met Chesham Station, G.C.R.; what offer?—Rudge, 7, ket 8q., Chesham, Bucks.

ktet Sq., Chesham, Bucks.

[5647]

19 (Oct.) LOM, Rudge Multi, special ultra-sporting combination, polished aluminium disc wheels leg shields, aluminium unuber plates, long plated sust, Wattord speedometer, Klaxon, spare belt, etc., etc., special streamline racing sidecarted aluminium, with aeroplane screen, coverall m, electric lamp, lurgage grid, etc., only run 1,200 c, selley ridden and cared for by engineer owner, tets sporting rutifit in London; £145,—Hope Cottlets porting rutifit in London; £145,—Hope Cottlets, porting rutifit in London; £160,002

Ruffells.

FFELLS, Sept., 1919, 2/h.p., 2-speed, Villiers, asbolutely as new; lowest, £62.-W., 131, Beckett Doucaster.

Scott.

OTTS.—Place your order now with the Bedford Garage, Walsall. Phone: 270. [530] OTT, 1920, mechanically sound, condition as new tyres unpunctured; £125.—37, Regent Stt. 37.

)TT (1916), Lucas lamps, B. and B., tyres, plating, enamel, and condition as new; £72.—John Gelder, Marton, Carlisle.

Special Clearance Lines.

THE MOTOR CYCLE, - (SUPPLEMENT XVII.)

All goods sent on seven days approval against remittance

COVERS.

SPECIAL LINE of Government covers in almost new condition (mostly Dunlop extra heavy rubber studded.) Our Price. List Price.

. 27 /6 .. 80 /-

WELL-KNOWN MAKE.

					Our Price	List Price
×	21	Heavy	Rubb	er noa-skid		- 46/-
×		"	*,,	,,	. 39/	- 51/3
×	2 <u>l</u>	.,*	**	studded	57/	B 67/9
×	3 >	(21 ,,	22	,, 6	66 /	- 77/6
>> 2	1 P	assenge	er Hea	vy, rubber		

JOODYEAR-

9×24 Rubber studded (oversize, for 28×24 ims) 42/-; 28×2½ Diamond studded, 45/-

6×24 Heavy model, 60/-; 26×22×24 Heavy nodel, 59/-; 26×24 Medium, 42/6

AVON-

28×3 Extra heavy 3-r 72/6

WOOD MILNE (slightly	soiled)
26×24 Keygrip extra heavy	48/- 60/-
650 × 65 × 75 Keygrip heavy	49/6 52/-
26 × 21 Combination	77/ 06/
26 × 2½ Combination	72/5 99/5
26×2½×2½ Combination 26×2½ Combination	77/- 96/-

26×2½ Rubber non-skid, 68/6; 700×80 Heavy rnbber non-skid 95/- (to fit 650×65 rums).

GUARANTEED. 26×23 8/6 11/-26×24 8/3 11/5 26×24 8/3 11/5 26×25 13 9 17/6 16 X 2

BELTS. All makes in stock Best English make § in. section, 6ft. lengths.
1-/2 per foot

RETREADING

Extra beavy, 17/6; Heavy, 15/-: Medium.

All casing repairs are charged extra according to the description of repairs.

We have a large motor Tyre stock, and shat be pleased to duote on receipt of a postcard



264 Vauxhall BridgeRoad

MOTOR CYCLES FOR SALE.

Scoti.

SCOTT 1920, special Montgomery sidecar, 8 colours, delivered last week; £170.-79, Cuett Mansions, Burnes, S.W.13.

Munsions, Harnes, S.W.13.

W. D. Scott Combination, believed 1915, in another Tunning order; £65.—Wallror Motor Cycle Werker, Seffron Waldon, Essex. "Thone; 45.

GCOTT 1920, T.T. in stock, run lew miles only; £136.—Ciliford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsen, S.W.3. Tel.; Kens. 7113. [6110]

SCOTTS, Scotts. Scotts.—E. W. Ball, 6, Wheeley's Rd., Edgbaston, Scott's Birmingham agent. I will show you anything worth knowing about Scotts you buy from me, and give you absolute confidence in your mount.

TATE 1915 Scott Combination, C.B. sidecar, kick handed, as now, tyres and tubes perfect, can be seen any time; price 2100; reason for selling, ill-health-Clas. Felgate, 18, St. Botolph's St., Colchester, 15438

SCOTT, late 1914, and sidecar, engine rebushed throughout, equal to new, aluminium discs, elertic horn. Dunlop tyres as new, machine completely renovated, smart appearance, real goer; bargain, £115314-Rodway, 278, Garratt Lane, Tootling, S.W.17, [5314]

SCOTT, 1920, delivered 24th Jua, unrefully run 300 miles only 2 months under sommer of sommer of sommer of sommer of sommer of the sommer of sommer of the s SCOTT.

SCOTT, 1915 (latte), 35/hm. 2-stobe, recently composed to getter overhanded and re-emmelled, seni T.T. bors, good tyres and clasins, new saddle, Einks carbarter, special beshaust, excellent condition and running order throughout what offers over 275? After 5 p.m. 44, Angustas Rd, Edgleston, Binningham. INST-6

Singer.

SINGER Combination, 31/sh.p., 3-speed gear, must sell; £45.-Box 1,921, c/o The Motor Cycle. [6284 SINGER, 1914, Berch mag., splendid machine; ...-Fredericks, 3, Priory Plain, Gt. Yarmouth £27

SINGER 31/h.p., 3-speed, clutch, good tyres, fine run-aing order.—Gummer, 92, Chester Rd., Kidder-minster. [X5785]

minster.

SINGER 3½h.p., elåteh model, Bosch mag., thoroughly
overhauled, very fast, excellent condition; £45.

Gilchrist, 39-43, Lanedowae Rd., Croydon.

Tel.;
[4339]

Sparkbrook.

19²⁰ Sparkbrook, 2³4h.p., single-speed, £55; 2-speed, £65; first cheque secures.—Birch's Garage, Wolverhampton. [4451

S PARKEROOK-VILLIERS, 1919, 2½h.p., 2 st B.B., M-L., unpunctured Danlops, College sh P.H. lamps, Lucas horn, as new; £60.—Mar Stonewell, Lancaster.

SUN-VILLIERS 1915 21/h.p., 2-speed, F.E., a equipped, perfect condition; £38.-32, Birdh Rd., Croydon.

SUN 2-stroke 234h.p. Countershaft, 2-speed, horn, perfect condition; £42; ride away.—36, St. Thomas Rd., Hackney, E.9.

23h.p. Sun-V.T.S., 2-stroke, 1917, fine running order, 25 good tyres, lumps, horn; 232.—Raymond, Walford, Ross-on-Wye, Hiererordshire. [5403]

SUN 2-stroke, 2½h.p., engine good order, wants slight attention, about 1915; accept £23, or very near. Send motor cycle deposit system.—Box 1,916, c/o The Motor Cycle.

SUN-VIESSE, latest model, 25th.p., 2-speed, complete with black lamp set and horo, very little used, and guaranteed in splendid condition; £55, no offers.—Harding, 42, Hardy Rd., Blackheath, S.F.

Sunbeam.

19 15 31/2h.p. Sunbeam Combination, overhauled, 1919 hearings; £120.—Coomber, Icklesham, Sussex.

SUNEFAM, 2-speed countershoft, splendid condition,
Saccessories, immps, horn, etc.; £80,—M. Cripps,
Waddesdon, Bucks.
IN5521
SUNBEAM, 1917, and Millford sidecar, perfect
condition, guaranteed sound; £120.—Repolds,
Waterbeach, Cambs.

SUNBEAM Combination, 3½h.p., 1915, splendid condition, only done 7,475, lamps, speedometer; £120.

-Dudley, Uakamoor, Staffs.

SUNBEAM, 34hp., 1920 model, £5 deposit paid for March delivery at Canterbury; £5/5.—Treadall, Selwyn College, Cambridge, Cambridge, Support of the State of the S

19 17 Sunheam Combination, leg shields, Lucas equipment, speedometer, as new; £130.—18. Hestercombe Av., Fnlham, S.W.6. SUNBEAM, 312h.p., 1920, delivery end February he-ginning March; hest offer over list price secrees. -Box 1,886, c/o The Motor Cycle. [5691

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. A33

MOTOR CYCLES FOR SALE. Sunheam.

SUNBEAM 6h.p., Gloria coach sidecar, perfect me-ohavical condition, 1914 model; £145.—33, High-field Rd., West Bridgford, Nottingham. [5613

LATE 1919 8h.p. Black and Gold Sunbeam and side-car, very little used, equal to new, speedometer, horn; 200 gns.—Box 1,855, c/o The Motor Cycle. [5532

aorn; 200 gns.—Box 1,855, clo The Motor Újide. [5532]
SUNBEAM 3½hp., 1918, all-chain, riddes lew
Sunbard miles only, practically new; £120;
Edinburgh district.—Box 1,928, clo The Motor Újude,
10-17 Sunbacm Combination, Lucas, Watford Swedth of Motor Combination, Lucas, Watford Swedth of Motor Combination, Lucas, Watford Swedth of Motor Combing perfectly, 4,000 miles; £140.—58, Sheiiff St. Rochdale.

LATE 1919 4b.p. Sunbeam and Mills-Fulford Side-car, chain-cum-belt, Lucae lamps, Klaxon; any trial; deposit; best offer over £165; Taunton.—Box 1,868, c/o The Motor Cycle.

19 19 3½h.p. Sunheam, new April, black and gold finish, only done 500 miles, absolutely perfect, tally equipped with lamps and hora, etc.; £125.-L. Bull, 44, Hills Rd., Combridge.

SUNBEAM 1916 8h.p. Combination, M.A.G. eugine, interchangeable wheels, excellent running order, good tyres: first cheque nearest £160 secures.—Thornton, Westfield Rd., Choriton-cum-Hardy. [5263

19 19 3/hp. Sunbam Combination, black : gold, sporting Cancelet sidecar, discs, Ly lamps, horn, knee grips, mileage ahout 1,000; £16 Loweth, 6, Mout Pleasant Rd., Ealing. [5] black and

SUNBEAM Combination, 3-speed, countershaft, all complete, returned February 19th from Sunbeam sorks, thoroughly overhauled; nearest offer £120.—
To be seen, 18, Borough Rd., Burton-on-Trent. [5983

SUNBEAM, 3½h.p., late 1919, all-chain drive, large P. and H. lighting set. Lucas horn, Stewart speedometer, aluminium leg shields, indistinguishable from new; £155.—51, Bridge St., Warrington. (X5794

31h.p. Sunbeam, late 1914, with coachbuilt sidecar, late late and gold, 5 lamps, horn, etc., new Duops, perfect condition, stored 2 years; lowest, £125; after 3, Saturday.—Devenshire House, Chestnut Grove, New Malder.

19 Sunbeam 3½h.p., coachbuilt siderar, black and gold, 5 speeds, 3 lamps, horn, speedometer, wind screen, apron, tools, splendid condition, guaranteed mechanically perfect; any trial; £145, no offers.—27, Argyle Rd., Boguor.

no offere,—27, Argye Ru., Dogson.

SUNBEAM, 1916 313-hp. Cembination, black and
gold, all-chain drive, lamps, mechanical horn,
etc., Sunbeam sidecar, with wind screen, perfect order
throughout, had very little user any trial: £128-d
R. Watson, 132, High St., Aldeburgh, Sutfolk, 158-d

SUNBEAM Combination, 1916, 8h.p. M.A.G., gas and electric lighting, speedometer, hood, screen, tools, spares, most reliable and comfortable turnout, unused over 2 years; any examination, evenings or appointment; £175.—56, Ivernia Rd., Walton, Liver-

199 3½Ån, Surbeam Combination, blacks must sold horn, the state with Binks enhunetter, Lacca lamps and horn, knee-grips, spare valve, searcely ridden above 300 miles, and almost indistinguishable from new, a beautiful turnout; accept £160.—Douglas James, 105, Wed-nebury Rd., Wakall.

Desouty Kd., Wasian.

SUNBEAM, 1919½, 3½h.p., sporting model, in perfect condition throughout and absolutely as new water the condition of the perfect of the condition of the c

1915 6.p., Sunbeam Combination, Sunheam de luxe sideau, sercen, hood, side curtain, apron, 4 det sideau, sercen, hood, sideau, sercen, serc Ashford, Kent.

T.D.C. (late 1916), 22th.p., 2-stroke, Amac, Dixie, Druide, lamps, tools, excellent condition, new Dunton tyres, ridden under 1,000 miles: bargain, 430; appointment only by 'phone, Chingford 113.-4, Eglinton Rd., Chingford.

Triumph

4 h.p. Countershaft Triumph; £75.-9, Church Willesden, N.W.

TRIUMPH 4h.p., countershaft; £70.-374, Grove Green Rd., Leytonstone. [6178 NEW 1920 Type D. Triumph; £95.-Greyshett, Crest-hill Av., Grays, Essex.

1920 T.T. Triumph, brand new; £98.-Box 1,913, [6276

19 18 T.T. Triumph, full accessories; £90.-Grimes 18, Bruton Place, W.I. [588]

10 20 4h.p. Triumph, T.T. model, unridden; £95.— Herne, 7, Broad St., Greenwich. [5249]

TRIUMPH, 1920, ridden 100 miles; £125.—Box 1,878, c/o The Motor Cycle. (5679)

INTEGRITY

IS OUR MOTTO AND WE TRY TO LIVE UP TO IT.

We desire your confidence before your business, realising that honest fair dealing pays in every conceivable way. A large and increasing circle of sincere friends is one of our appreciable recompenses, as the following extracts from letters received will show :--

Swindon, 28-1-1920.
"I thank you for the consideration you have shown me in the matter of my order

In a world of peremptory
merchants, such treatment is refreshing."

Penrhyndendraeth, 19-2-1920. "It has been a pleasure to do with you and I sincerely thank you for your courteous and even generous treatment, which, I can assure you, was greatly appreciated by-

Durham, 5-2-1920. "I am very pleased with your straight-forward business methods and your courteous attention to postal clients".

Launceston; 11-2-1920. "In 1916 I got from you a new—motor cycle and it has given me every satisfaction—and I do not cease to be grateful to your general manager for his trouble and excellent advice."

WRITE TO US TO DAY—YOU WILL BE ONE OF OUR FRIENDS TO MORROW, WE OFFER THE FOLLOWING WELL KNOWN MAKES FOR EARLY DELIVERY.

ALLON ARIEL, ALLDAY ALLON BLACKBURNE 4 h.p., CLYNO LIGHI-weight, DIAMOND, ED.MUND, weight, IVY, L.M. L.M.C., METRO-SPARKBROOK, SUN. VELOCETTE

"SKOOTAMOTAS" DELIVERED FROM STOCK.

> J. W. TOLLADY, General Manager.



MOTOR CYCLES FOR SALE.

Triumph. 1920 Countershaft Triumph, brand new; 2115

TRIUMPH C.B. Combination, 1914, 3 nearest £75.-54, Paddenswick Rd.,

31h.p. Triumph, 2-speed gear, Bosch; £46.-TRIUMPH 3½h.p., single, 1914 engine, som £38,-15, Angel Lane, Hayes, Middlesex. [58

3 h.p. Triumph, Bosch, lamps, almost new perfect; £40.-76, Western Rd., Southall

THREE SPEED Triumph, coachbuilt sidecar; £8: Maudes' Motor Mart, 100, Paris St., Exe WAUCHOPE'S 9, Shoe Lane, Fleet St., I. E.C.4.-4h.p. Triumph and sidecar, 1916

TRIUMPH 1915 4h.p., 3-speed countersh valuable spares; £85.—Warr, Haslemere. 187

31h.p. Triumph, single, Bosch, Palmers, g dition; £28.—Neades, South Petherton

TRIUMPHS.—Large assortment of second-hand m in stock, all fully guaranteed.—Ross, 86, High Lee, S.E. 3-SPEED Triumph, 1914, lamps, et hauled; £55.-1, Post Office

etc., recent Sussey. TRIUMPH, 4h.p., countershaft 3 speeds, late m 1920 sidecar; £105.—365, King St., Ham smith.

TRIUMPH 3½h.p., not complete, low frame mag., engine as new: £23.-2, Glenrosa ham.

19¹⁸ Countershaft Triumph, not done 400 miles gns.-Allen, Woodelyffe, Chislehurst, Kent

19 12-13 Triumph, 3-speed, 31/h.p., very good throughout; offers.—15, Vicarage Lawn,

31h.p. Triumph, Bosch, B.B., Dunlop tyres, seen after 6; 28 gns; trial.-88, Haven Ealing.

19 19 Triumph, W.D. model, coachbuilt sidecar, plete with lamps; 125 gps.—Edgar, Sand Phone; 23.

TRIUMPH 3½h.p., 1913, clutch: no outlay: plete with accessories; £45.-Clork, 8, Fai Av., Staines. 19¹⁹ T.T. Triunaph, mileage 350, fully equippe gns.—Longman Bros., 17, Bond St., Ealing. Ealing 682.

19²⁰ T.T. Triumph, ridden 20 miles; 88 Longman Bros., 17, Bond St., Ealing.

TRIUMPH 31/h.p., fine going order, £36; and 3 Fafuir, going order, £26.—10, Briscoe Rd.; tou, S.W.19.

TRIUMPH, 1918, countershaft, disc wheels and smart; £85,-Fox, 41, Greencoat Westminster.

TRIUMPH 31/h.p., single-speed, fast, good cont running order, all accessories.—47, Elboroug Southfields, S.W.18.

19.19 Triumph C.B. Combination, all accessori E.3. Tel.: E.3155.

TRIUMPH Combination, 2-speed, kick start, c fine turnout; £65.-57, Kenbury St., Coldha Lane, Camberwell.

NEW Junior Triumph, ridden 400 miles, all sories; bargain, 70 gus.-77, Wellington Rd field. Appointment.

TRIUMPH T.T., 1912, renovated, exceedingly excellent condition, accessories; 47 gns.—B Queen's, Cambridge.

1916 Countershaft Triumph, new condition, coachbuilt sidecar, £8.—Bambridge, Riv Kingston-on-Thames.

TRIUMPH 4h.p., countershaft, with lamps, lutely as new; bargain, £90.—White, 121 laide Rd., Chalk Farm.

TRIUMI'H Junior, 1920, complete with accedence 600 miles.—Apply, Jones, Balholm, bourne, Bournemouth.

TRIUMPH, 1918, 3-speed, countershaft, guard sound, as new; £85.—Fitt, Barrossa T Church St., Chelsea.

TRIUMPH, 1915, 3-speed, perfect running or all accessories; £73; bargain. S.T., 37, trees. Accessories; £73 St., Henley-on-Thames,

TRIUMPH Junior, 2-stroke, 2-speed, late mod-fect machine, accessories; bargain, £50. High St., Waudsworth.

10 20 Triumph, hrand new T.T. model, with £5 set. rear lamp and horn, complete; £9

A34 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue-

OVER SIX YEARS THE ONLY PAPER SOLELY DEVOTED TO THE PASTI

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CONSTRUCTOR of the Service abroad.

UNITED STATES—The International News Length, New York CONSTAL AND FOREIGN OR ASSENTIAL. TOROND: Montreal News Co., Ltd., Montreal; Winsiper Australa—Gordon & Golden, Ltd., William States above the Constant of the Constant

The Importance of Research Work.

THOUT serious and painstaking scientific research progress is a slow and uncertain process. No one will deny that the great strides made in aviation and other technical subjects during the period of the war were the direct results of concentrating and co-ordinating the brains of the country towards special ends, and proving the results by scientific and practical tests.

The need for research in the automobile, and particularly the motor cycle, industry is most acute at the present time. Owing to the fact that demand so greatly exceeds supply, there is a natural, though unfortunate, tendency to concentrate on existing models, to the entire exclusion of experimental work. This is an extremely short-sighted policy, for, though production is one of the most immediate needs of the country—and no one is more strenuous in its advocacy than ourselves- the time will come when supply will catch up with demand, and buyers will exercise more discrimination.

When this day arrives, we shall find our goods and our knowledge are out of date, and that other countries have got ahead of us. Anyone who is carefully watching the trend of Continental and American designs must recognise the fact that foreign motor cycles are forging ahead quicker than hitherto, and that they are not tied and bound by the pre-war British ideal of a motor cycle. If our motor cycle industry is to continue to lead the way, scientific research is an obvious necessity.

There is so much to be learned about the scientific and metallurgical aspects of motor cycle construction that existing manufacturing difficulties should not be allowed entirely to overshadow future possibilities.

As mentioned in last week's Motor Cycle, the motor cycle and runabout trade is to have a research association, the cost of which is to be shared by the Cycle and Motor Cycle Manufacturers' and Traders' Union and the Government. We foresee important benefits to the motor cycle movement as a result; and, if full advantage of such an association is taken by the trade, then we think posterity will have just cause to thank the Manufacturers' Union for its efforts which have brought such a desirable thing to materialisation.

Sidecar or Runabout.

T the present time there is a decided tendency for newcomers to the motor industry to assail the present position of the sidecar by the introduction of runabout types of vehicles at a similar price. Conservative manufacturers of sidecars appear to think that this is an impossibility, but we are informed by firms who have experimented with both types that, if anything, the runabout costs less to produce than a motor cycle and sidecar. We can well believe this, especially as labour is now the chief factor in costs, because a welldesigned runabout can be so made that the cost of erecting is very much less than the same operations on the sidecar outfit.

Whether the runabout will eventually supplant the sidecar is an extremely doubtful point, and whether it will even endanger the sidecar's popularity depends entirely upon its all-round efficiency. So far, only a few runabouts approximating to the sidecar in initial and running costs have proved to be thoroughly satisfactory, but probably, had as much time and money been spent in developing the low-priced runabout as has been expended on sidecar outfits, the results to-day would have been very different.

It is the ever-increasing cost of sidecar outfits that tempts so many designers to try to evolve a substitute that will provide adequate protection for the driver. So long as machines were under £100, it was perhaps hardly worth while to produce a substitute, but now that de luxe sidecars are listed around the £200 mark, the potentialities are greater.



Chain Spares.

AM wondering if the position about the supply of replacement chains and of spare links for chain repairs has not become so serious that special measures are necessary. It has become almost impossible to obtain so much as a solitary spare link except by some gorgeous stroke of luck. During 1919 I exhausted every possible avenue of supply known to me to replace a pair of worn chains on an elderly machine, but without success. At the present moment I am riding a 1920 machine, which, by reason of its design, perhaps runs rather exceptional risks of being stranded with minor chain troubles; but I do not possess so much as a single spare half link for its transmission, nor do I see the least prospect of being able to obtain one. Daily I face the risks of getting stuck with this machine miles from anywhere; and if I should then be towed into a decent sized town, it would not be likely that I should get going again. I understand that the total chain production at the moment is considerably above the 1913-1914 output, whilst the output of motor cycles is considerably less. If this is so, it appears that the motor cycle manufacturers are being allowed by the chain makers to amass and hoard considerable surplus stocks. Could not arrangements be made for a percentage of these stocks to be released as replacements and for repairs?

Useful Speed.

EW motor cyclists order a machine without discovering what its maximum speed is; and the average salesman finds high speed such a good selling lever that he usually stretches a point or two. By guaranteeing 70 m.p.h. for his Brooklands model Mr. Norton has doubtless acquired many new customers. But, in sober fact, speeds in excess of 50 m.p.h. are rarely attained on the road, and seldom enjoyed. Numerous machines can exceed 50 m.p.h., quite a quantity can touch 60 m.p.h., and a select few can beat 70 m.p.h. But owners do not let engines have their heads, because very great speed is always uncomfortable, even where it is not impossible or dangerous. The real merit of the very fast machine is that it is-or ought to be-extremely comfortable at half or threequarter speed; and this is its attraction for the public. We are gradually getting rid of cant in connection with illegal speeds. It is admitted that the road traffic of these islands ought to be speeded up. A rider, who is gentlemanly by nature, who is an experienced motor cyclist, and who owns a decently-designed machine, can safely keep his speedometer needle at 40 m.p.h. on any straight and semi-deserted main road." Within a few years commercial motors will probably be encouraged to average 30 m.p.h. or more between populated places. So motor cyclists who have a penchant for speed want a machine which can do 35-45 m.p.h. without fuss, without vibration (engine or road), without

steering alarms; and it must be capable of smooth deceleration, gradual or violent, as circumstances mata any time demand. Near my house there are three miles of the fastest going in England, free from police traffic, and houses. I traverse this road frequently but it is very seldom that I take it on full throftle the zenith of enjoyment comes from crossing it to m.p.h. on a machine which can do 65 m.p.h.

The T.T.

AM not in the least surprised that the trade. hardly unanimous on the subject of the 1920 T.I The old firms require neither experience no advertisement. What they want is production. they could double their maximum potential output for 1920, they could sell it; and they are not vast afraid of the inevitable slump, for they mostly posse sufficient "goodwill" to tide them over a far mo awkward period than the industry will enter who supply outstrips demand. The case of the new firr is quite different. They can sell their stuff at the moment, partly because it is new, partly because the is a famine in machines, and partly because some the new stuff is better than some of the old stu But the slump may come before some of the new firm have time to convince the markets that their machindeserve to survive. A sensational showing in the T.' -and this year's T.T. should be a huge draw, held-would go far to establish some of the ne 'buses on a level with the best of the old stuff. quite expect there may be a good deal of intriguing procure the cancellation of the 1920 T.T. I sincere hope it will be held; because I want the new machin to have a fair chance to prove their quality under-t sternest tests of all.

Two Miles of 1 in 4.

THIS phrase is the keynote to Mr. W. R. Broo ing's letter in our issue of January 20th. 'F statements and arguments are accurate-mot cycle engines might be better cooled than they a and aero experience has shown us how to provi supercooling. The A.C.U. report, which Mr. Broc ing supports, called for such supercooling. The tracat issue with the report and with Mr. Brooking, inclined to hold that existing cooling is adequate. I A.C.U. considers that engines should be sufficient cooled to enjoy a week among freak hills., Brooking's ideal is that he shall be able to hold l hand on the cylinder head after climbing two mi of 1 in 4. For once I rather incline towards the tra side of the controversy. Most of my riding is do amongst freak hills, and I do not think that more the one machine I have owned since 1911 has overheate or, if you prefer the term, has been "under-cooled They say the dark places of the earth are full cruelty, and I dare say a few mugs buy dud machin which overheat on ordinary roads under kind usag



ccasional Comments.-

hose which I buy do not overheat, and so I have no ersonal yearning for additional cooling. If superooling is going to increase cost or weight, ordinary nachines built for ordinary users had better stay as ney are. Omitting one duddish engine of a good take, my principal sufferings from overheating since gir have occurred on baby two-strokes-when brand ew-and on friends' cars.

1,000 Miles on Electric Lamps.

ITHIN the last two months I have covered just over 1,000 miles of night driving on electric lamps, the vehicle concerned being a rele car with five lamps. In that period I have done in " five bulbs-all new 1919 stuff-and about ven inches of fuse wire. None of these stoppages ere lengthy or troublesome: so long as you have are bulbs and fuse wire you can absolutely rely on i electric installation to get you home, provided it not old and rickety. I have used this system of thing intermittently for ten years, and, barring cumulator trouble with the primitive sets first inoduced for solo machines, I have only sustained one rious stoppage, which was due to the dynamo bearzs-collapsing after a long mileage. There are ur points to which the unaccustomed user should end:

- i. Keep your cells filled up with acid to the correct level.
- ii. Don't take it for granted that the dynamo is charging; to inspect the ammeter by night a match must usually be struck; on the London-Exeter, carry a flashlamp, and inspect the ammeter once every ten miles.
- iii. Carry a complete set of spare bulbs.
- iv. Carry a spare length of fuse wire.

Contrary to popular supposition, short circuits are remely rare with lighting sets.

Hope for the Little 'Uns.

N the past, lightweight machines have never had a chance to come into their own. My knowledge of them is far from exhaustive, but my stable usually contained at least one example until war broke out. I had two objections to most of them. As a class they were grossly uncomfortable, and many of them were rather uncertain hill-climbers. I know that individual examples have done excellent stunts in the Six Days from time to time; but the standard machine, bought by an amateur and ridden by him in delivery tune, was seldom equal to reproducing the trade form of the Trials. I believe the little fellows now evince a marked advance in general efficiency. High prices have endowed the cheaper machines with a special attraction. The growth of utilitarian motor cycling is bringing in new riders with whom light weight counts for much more than it did amongst the veteran stalwarts.

Dangerous Advice.

IY new machine was accompanied by an extremely exhaustive and praiseworthy "book of the words." Delight at this novelty was tempered with wonder when I perused an audacious suggestion that, if I suspected air leaks in the induction system, I should run the engine inside a closed shed and hold a lighted taper near the joints. I hold my life cheap enough, goodness knows, but an air leak does not drive me so far towards despair that I leave it to the Fates whether I should die by fire or by asphyxiation. On the technical point, I nevertheless confess that I do not know of a really good detective agent for air leaks in the induction system, and I daresay many of our readers would value a counsel which is not absolutely insane. There must be some sound garage tip on the point, and perhaps somebody will pass it along. Personally, I generally put a little flour on the suspected spot, but this not too perfect wrinkle is, naturally, useless when there is any draught about.



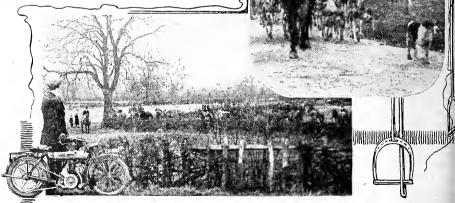
THE "HAIRPIN" IN THE COLMORE CUP TRIAL. W. E. Smith (Triumph sc.) and J. Cooper (32 h.p. Norton) negotiating the bend in Sudeley Park which gave some of the competitors a good deal of trouble.





REAT are the possibilities of the motor cycle, and strange and varied have been the uses to which it has been put. But possibly there is no occasion under which greater circumspection is needed than when it is used to "follow the hounds."

There is a fascination to the country lover in following the fortunes of the field, and if one cannot ride across country and experience the exhilaration of taking the ditches and fences, it is possible, with the aid of the motor cycle, to slip along the by-lanes,





A PLEA FOR THE "WIND-WAGGON."

Some Notes on the Advantages and Disadvantages of Air Propulsion.

By M. A. S. RIACH F.R.Ae.S., etc.

UTOMOBILES are becoming more and more difficult to obtain, and nore and more expensive. At the same time, the problem of road transport bids fair to become each year more insistent. Consequently the attention of engineers is naturally directed 'o other, if less conventional, means of locomotion.

One such presents itself in the realisation of a cheap and elementary form of "wind-waggon." A "wind-waggon" consists of a chassis of the more or less conventional motor car type, in which is incor-

porated a car or motor cycle engine and an air-screw which it drives, directly or through some simple form of reduction gearing.

The advantages of this type of cycle car (such a machine may be roughly classed as such) are immediately evident. They may be roughly classified as follows:

 Cheapness of manufacture.
 Light weight.
 Few working parts, hence rapidity of output. No gear box or differential necessary.

(4.) Power unit can be air-cooled efficiently at all

speeds from rest upwards.

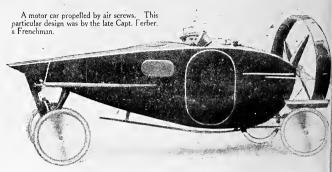
(5.) The equivalent of an infinite number of possible gear ratios, enabling the correct gear ratio to be employed for any gradient, and that entirely automatically.

(6.) As a result of (5) the full power of the engine can be employed whenever necessary, no matter what the gradient may be or other circumstance of the motion.

(7.) Very small wear on tyres.

Best in the Open Country.

There are doubtless other advantages that could be found for this type of automobile. However, all good things have their drawbacks, and the "windwaggon" is no exception. It is not, for instance, suitable for driving in congested traffic, where the draught of its propeller might cause some annovance. although no danger if effectively cowled. draught, whilst exactly analogous to that of the aeroplane propeller, is most acute when the "wind-waggon" is stationary and the engine and propeller running. When once in motion, at any normal speed, this draught would automatically become reduced to quite a small amount, and would be no more troublesome than a light breeze. Even when standing the propeller draught would not be very terrible, although greater in velocity than when the car was in motion. The propeller diameter necessary to secure a reasonably efficient drive would not have to exceed. 5.5y. aft. 6in. This, with a wheel track of 56in., would permit of a suitable guard being attached to protect



the propeller from any possible obstruction. The being no "overhang," all danger to pedestrians, et would be impossible. Whilst for use in towns t "wind-waggon" undoubtedly has its disadvantages, the open country roads it could be used with the sar and in certain cases greater, safety as the conventio type of automobile.

The body of the "wind-waggon" would con: of a shell of three-ply or other suitable material, which the driver would sit. The chassis would vin ally be composed of four idle wheels and the us simple type of springs and frame, all of which co be made very light. There being no transmiss To the road wheel other than the air, all stresses wo naturally be very much smaller than in a motor carl the same weight, which in turn means less weight I round. This type of vehicle is not new, having ban used in France before the war, and also in this count

Some Disadvantages.

There are perhaps one or two further disadvantals peculiar to "wind-waggons," such as possible diraisers, and also on account of the noise of the revol ing air screw. At the same time it must not be gotten that the "radius of action" of the air scw is a small one, considered as a dust-raiser, being fined by a circle having a diameter approximaly the same as that of the air screw. As regards no it is improbable that this would be sufficiently gut to be audible above the noise peculiar to the enge itself. It is probable that any noise due to the ir screw revolving would make itself apparent as a slit " hum."

Head Winds.

Apart from all personal and individual-considations, the only real objection that can be offered the "wind-waggon" lies in its vulnerability to a hid wind of sufficient velocity. Without denying sh vulnerability, two modifying conditions may be not tioned. In the first place, really bad head was are not often encountered in this country—at w rate inland; and when a gale is blowing at a sufficint velocity to be capable of seriously affecting the eth velocity of aeroplanes, it is felt on the main road at

A Plea for the "Wind-wargon,"-

ground level considerably reduced in velocity. ther, there is likely to be, on the average, the same number of tail, as head, winds in the course of a year's road travel, which naturally would augment the ordinary normal velocity of a "wind-waggon," so that, if sometimes the air-propelled car is compelled to reduce speed in the teeth of a high wind, at other times it is equally capable of taking every advantage of a strong "tail" wind in its favour, and so verily to coast before the wind.

Of course, the conventional type of motor car is by no means entirely immune from the effect of a strong head wind, but it has an advantage in this respect over

the " wind-waggon,"

Suppose an ordinary motor car is capable of a velocity of, say, fifty miles an hour on a level road in calm air. Then, at this velocity, it is overcoming two principal resistances to motion: (1) Ground or frictional resistance, and (2) wind resistance. Now. (1)

An experimenta, wind-propelled light car built by the Beacon

Engineering Co.

is practically a constant quantity at all road velocities, whilst (2) varies approximately as the road velocity squared (since the car is supposed to be travelling in still air). The sum of (1) and multiplied. by the car's road velocity, is then a measure of the power output of the car's engine.

Consider, secondly, the case of the same car

travelling against a head wind of twenty miles an hour velocity. Suppose that the car is only travelling at thirty miles an hour over the road. Then (1) and (2) are the same as in the first case, because (1) is independent of road velocity, and (2) is dependent only ipon relative air velocity, which in both cases is the ame. Thus the total resistance to motion is, in both asses, the same. Call this resistance R lb. Then in he first case the horse-power absorbed in driving the

ar at 50 m.p.h. will be $\frac{R \times 50}{375}$, and in the second

ase it will be $\frac{R \times 30}{375}$, so that there is evidently in ne second case less power being used up in driving the ar than in the first case: that is, the engine is deeloping less power than in the first case considered. lence it is evident that, for equal engine power outits in both cases, the car will attain a velocity excess of 30 m.p.h. in the second case. Then the lative velocity between the air and the car will be *eater than 50 m.p.h. in the second case, and hence e wind resistance will be greater than in the first se: that is, the total resistance will be greater in e second case. Thus the road velocity will be less an 50 m.p.h., and greater than 30 m.p.h., the

balance being made up in resistance by what is lost in velocity. Thus, for a constant power output, the road speed of a car should be greater than the difference between its "still air" speed and the speed of a head wind. An analogous case presents itself when travelling in a motor car uphill on a gear below top. It may be asked what bearing the toregoing has upon the case of a "wind-waggon" encountering a head wind. It has a very definite bearing upon it. Since the only real difference between the "wind-waggon" and the conventional motor car lies in the method of final transmission (the air screw) adopted in the former case, it becomes necessary to compare the working efficiency of the air screw driven vehicle with the motor car under all conditions of travel, one of the most important being the effect of a head wind.

Comparisons.

For running in still air, the efficiency of the "windwaggon" should compare favourably with that of the

motor car; and in the case of a following wind the "windwaggon " has an advantage in the matter of speed. It is only in the case of a head wind that its efficiency as a road vehicle compares unfavourably with the

The reason lies in the medium adopted for transmitting the engine power to the car. Since, in the

motor car.

"wind-waggon" system of transmission this is effected by means of an air propeller or air screw, it is evident that anything in the nature of a strong head wind will considerably curtail its efficiency as a system of transmission, with the result that a falling-off in road speed must result greater in magnitude than in the case of the motor car under the same conditions.

The real difficulty lies in the fact that, whereas in the motor car moving against a head wind, advantage may be taken of the fact that (by employing a changespeed gear) the force driving the car may be increased to balance the increased air resistance. In the case of the air screw driven car, the relative air velocity definitely limits the performance of the air screw to a particular road speed, and it is difficult to see how this feature of this particular transmission can be avoided.

In conclusion, it is hoped that the foregoing short notes may perhaps arouse some interest in the "windwaggon" type of road car: a type which possesses many advantages over the conventional type

The author considers that a future lies before the "wind-waggon" as a cheap and reliable form of motor car, unless smothered at birth by the "mentality" of the borough councils. It should also have its colonial uses.

PETROL AT 2s. 101d.---WHY NOT?

The Sub-committee, appointed under the Profiteering Act to Investigate the Price of Petrol, lind Present Charges "Grossly Excessive."

'(THE charge of 3s. 84d. a gallon for petrol is grossly excessive.'' Such is the result in a nutshell of the investigations of a Sub-committee appointed under the Profiteering Act to

investigate the present price of petrol. It is suggested by the Committee that the following prices would be fair to

user and producer alike :

			Pres	ent rate	١.
		s. d.		s. d.	
No. 1 petrol		2 101		3 81/2	
No. 2 petrol	۸.	2 8		3 61	
Benzole .		2 8		3 1	
		1 17 2	C	ta ta Ad	1

A limitation of retailers' profits to 4d. per gallon is also declared to be a fair rate. At the present time the control of the world's motor fuel supply is in the hands of two enormously powerful combines. This, the Committee state (as has been pointed out by The Motor Cycle and The Autocar for several years past), constitutes so dangerous a power if it happens to be improperly used that it is imperative that the Governments of the world should

give some attention to it. "In view of the world-wide operations of these trusts," it is added, "it does not appear possible for the British Government to deal effectively with the

problem.' The Committee found that present high prices for motor fuel are mainly due to a demand which is tending to outstrip the world's present supply, and that advantage is being taken of this tendency to raise prices.'

Dealing with the cost of production, the Committee say, "We are satisfied that petrol sold at £23 per ton satished that petrol sold at \$250 per ton of 300 gallons, f.o.b. New York, reveals a grossly excessive profit," and proceed to state that, according to a high authority in the petroleum trade, the average cost should not exceed £7 10s.

It is pointed out that the greater bulk of the protein leaded in this country.

of the petrol landed in this country is produced by American, Dutch, or Mexican companies, which are outside the control of the British Government, and that the whole question of the production, price, and distribution of motor fuel is one which should engage the attention

of the League of Nations, or otherwise be made the subject of international agreement between the Governments of the principal importing nations, with a view to co-operation in fixing at a fair level the price chargeable for so vital a necessity of modern industrial life.

Reference is made to the fact that the British Government holds a controlling interest in the Anglo-Persian Co., with the suggestion that steps should be taken by the Government to ensure that the products are sold at a reasonable price in this country without reference to excess. sive prices ruling in other fields. In 1922. when existing contracts expire, it will be in the power of H.M. Government to give protection to British users of petrol.

Cost of Transportation.

The Committee report that the cost of transportation could not exceed £5 per ransportation could not exceed 25 per ton (4d. per gallon), even at Gulf ports. Six months ago freights were quoted nominally at £4 5s. per ton; to-day £10 is the figure, and in isolated cases in excess of this amount. The recent advance to 5s. 84d, in the price of petrol is, according to public announcements, based on the increase in freight, and the Committee make it extremely clear that, in their opinion, the nominal market price of freight, if it be in excess of £5 a ton, should not be taken as any justification for raising the price of petrol.
Sir Marcus Samuel, who is head of

the Shell Group, in an interview with The Daily Mail, said that the italicised statement given above "is simply the most extraordinary piece of stupidity ever seen." "The Committee," he said, "have made themselves the laughing stock of the world. As it any committee can fix the price of an article where the changes are not weekly, but day by day, on these three principal things: cost,

rate of exchange, and freight."
Reverting to the report, we find that the Committee recommend, in view of the fact that petrol is stored here on the average for well over three months before it is sold, the retail price be fixed by the Government for periods of three months.

Benzole.

As regards the price of benzole, the Committee find that the price has been regulated by the National Benzole Assoregulated by the National Benzole Asso-ciation simply to conform with the price of petrol, and is not based on the cost of production. The rise of 4d. per gallon which took place on January 1st this year, it is added, "is probably due partly to the fact that the Anglo-American O Co. have secured a large refinery in Yorkshire, and are competing with the National Benzole Association to secur crude benzole.

crude benzole.

The "Committee's general findings in clude: "There is a grave danger of permanent world famine of motor spirit even at fabulous prices."

"The only ultimate solution of it."

motor problem is the production of hon and Empire-produced power alcohol." Probably the most important finding

the following:

the following:

As the companies producing petroleu
owning freights and distributing mot
spirit are so intimately allied, their i
terests are so closely interwoven, a
the retail price of No. 1 petrol (as
sold at 5s. 8½d. a gallon) should be fix
for the present at 2s. 10½d., made up
follows: follows:

6 Duty Distributing charges Garage remuneration Freight Marine charges, including insur-ance, and ocean leakages ... Profit on distribution 10. Cost of production ... 2. Add rate of exchange 34 Per gallon ...

The figures relating to benzole are

To producers, including profit To refiners Cost of distribution Remuneration to garages ...

Per gallon

2

A MINIATURE OPEN FRAME BI-CAR.



N interesting machine is in course of construction in Keighley by Messrs. Lister and Co., of that town, who aim to produce a miniature bi-car on lines which are quite unconventional. The designers intend to steer the machine by the rear wheel.

It will be seen from the illustrations of a model of the machine that the whole of the power plant, with tanks and front shield, form a unit, which may be re-moved. The specification will include 24in. \times 3in. 4yres, steel disc wheels, and $2\frac{1}{4}$ gallon tank. No forks are fitted to the rear wheel, which is well guarded, and the nature of the stong mechanism is not clear. The fra tubular, completely encircling the soul wheel. It forms the supporting meders of a wide platform, and is turned bu form a loop over the rear wheel.

A PETROL DENSIMETER.

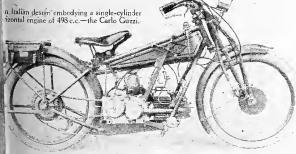
SIMPLE little instrument for determining the density of motor spirit, which should appeal to motor clists who are anxious to obtain the

hest results from their machines, has been devised by Mr. Arthur Smith, 61, Church- Road, Higher Tran-mere, Birkenhead. The Cosser densimeter consists of a glass float, the stem of which is provided with a graduated scale When placed in a glass jar filled with spirit, the position at which the surface of the thuid intersects the scale denotes the specific gravity of the fuel. If the broad red line is above the surface of the petrol, it signifies that it is too dense to give good results, whilst the lower the densimeter sinks into the spirit the better the quality. In cold weather the red line marked "winter," and in mild weather the coloured line marked "summer," should not be above the surface of the petrol. By the frequent use of this little contrivance much useful ine Cosser formation as to varying grades nsimeter of spirit may be obtained.



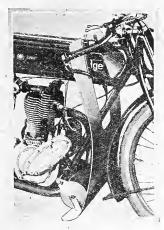
ETAILS of a motor cycle of original design, a photograph of which is reproduced below, has been sent to from Italy.

he engine has a bore and stroke of (82 mm (498 c.c.), its single cylinis horizontal, and it has overhead es operated by an overhead canshaft. ignition is by two plugs and a relli double-spark magneto. The gear an extension of the crank case, construction of the crank case, case, case, construction of the crank case, ca



A SIMPLE MUDSHIELD.

A NEAT splashguard and leg shield, which is formed from a single sheet of aluminium, was recently shown to us. It was fitted to a Rudge-Multi, and the netal was bent round underment



A leg-guard of simple construction designed for Rudge machines.

the silencer, and secured to the nuts of the latter with suitable brackets.

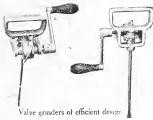
-To allow a cooling draught to reach the cylinder, a space is cut out rather wider and deeper than the tank. A piece of rubber tubing is slit and inserted between the edge of the aluminium sheet and the tank to prevent rattle and damage to the tank.

Such a fitting can be cut out of the sheet metal by almost anyone, and the cost is almost trivial.

A NEW VALVE GRINDER.

THE laborious operation of "grinding in" valves is rendered extremely simple by the use of the efficient little tool invented by Mr. Davis, of Sutton Coldfield. The tendency to cause ovality of, or grooves in. the valve or

sent is obviated, and the work is autonatically done with the skill of an expert. By rotating a handle continuously in one direction the valve has imparted to it an oscillating movement, but the backward movement is smaller than the forward, so that the valve progresses forward. This movement is obtained in an ingenious manner by means of a worm meshing with a toothed wheel, the worm consisting of right and left-hand portions of could pitch, but with an additional



right hand section to give the progressive movement. The frame is intended to enable the operator to maintain a downward pressure, and to resist the torque of the spindle. Enquiries should be addressed to Messrs. Heaton Ward, Ltd., Cliveland Street, Birmingham.

THE LM. SPARKING PLUG

PRACTICALLY ever since we have motored, we have had experience with the L.M. sparking plugs, now handled by G. H. Smith, 12. Mortimer Street, London, W.1, and manufactured in Great Britain.

It is an interesting fact that while a few years ago porcelain was the most satisfactory material known for sparking plugs, at the present time other insthating materials, such as steatite and mica, are frequently employed, but Messrs. Macquare, Ltd., have stuck to porcelain,

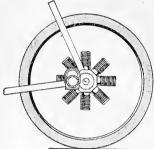


and certainly their porcelain is remarkably successful. Even so far back as the old days of the air-cooled Lagonda tricar, when the L.M. plug was famous for its bright blue porcelain insulator, these plugs used to stand the heat of the engine to a remarkable degree.

The modern plug is of the single-point variety, with heavy electrodes, and should be eminently satisfactory for use in air-cool-1 engines.



ONSIEUR. A. Weidknecht of Paris or sextremely ambitions. Utterly discarding the conventional, he propounds a rotary-engined motor bicycle. Not content with this innovation, he locates his engine inside the rear wheel, which is probably the best location for an engine of this type; but must bring him up with a bump against the ancient difficulties with which the Singer Co. struggled in the days of their motor wheel, which include inaccessibility, spoke breakages, and road vibration, all raised to the nth power. Finally, as the cog-



No. 129,303, Weidknecht's radial engine. 15 7, 17.

noscenti will gather from the sketch which depicts an even number of cylinders, he departs from the standard combustion cycle. Having recovered my breath which was taken away by his audacity, I proceed to notice the details of the mechanism.

The wheel spindle is fixed in the rear fork ends, and forms the (stationary) orankshaft. Two circular side plates

form the cheeks of the crank case, carry the cylinders and wheel spokes, and are formed with cups at their centres, riding on ball bearings on the crankshaft.

Alternate cylinders are used for compression and power strokes. The carburetter is fixed on the chain stays, and a sleeve connection transfers the mixture to inlet pipes communicating via inlet valves with the compression cylinders, into which the mixture is drawn, and wherein it is compressed in the normal fashion. After compression the mixture passed through another valve into an ex

plosion chamber situated above the head of the compression cylinder, and is fired. Upon explosion the charge does not expand downwards into the combustion pand downwards into the combistion cylindey, since the intermediate valve is now shut; but the gas, still under ex-plosion pressure, passes through yet an-other valve into a "reservoir," whence other valve into a "reservoir," whence it travels via a conduit and yet another valve to a "driving" cylinder. When the piston in this "driving" cylinder is halfway down on its stroke, a fresh charge of gas under explosion pressure arrives from the "reservoir," so that a steady pressure is maintained on the driving piston. According to M. Weidknecht, resulting smoothness is comparable to a steam engine. Surely an excellent mount for a beginner!

Spring Footboards.

Many riders prefer footboards to foot-rests, but complain that a fixed footboard conveys vibration and obstructs access to various items of the machine. Mr. F. E. Steer's design is free from such objections, and has the further merit of being cheap to make. The footboard is freely pivoted at the forward point of attachment, so that it can be swung up when the rider wishes to adjust any mechanism; when the board is dropped into riding position, the free end of a cantilever spring, bolted to its under-side, rests against a cross arm fixed to the bearer bolt. A ratchet adjustment permits the angle of the board and the action of the spring to be reset to please individual tastes.

· Front-driven Three-wheeler.

M. A. A. H. Tisserant has certainly evolved a novel tricar, which, in outline, roughly resembles the well-known Phanomobile type, though the details are widely different. An enormous spring fork

gear. The fork is actuated through wheel and inclined steering column. the steering head is mounted a flat to

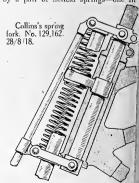
spindle by a conventional crown and be

Tisserant's three-wheeler. No. 1,745. 23/1/19.

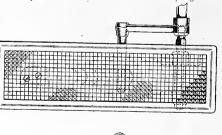
air-cooled engine set across the take \dot{a} (a A.B.C., and provided with a urbox of the sliding type. One end of he layshaft carries a beyel pinion, by well the drive is transmitted to the verial propeller-shaft enclosed in the stern column. The fore peak of the chass is a large section vertical tube, forming he steering head.

Another Spring Fork.

Mr. Osborn Collins protects a spug fork, of which the wheel-carrying poon is hinged by side links to a pair of tional side steering columns, and insu ed by a pair of helical springs—one in m-



pression and the other in tension. fork is strong, but is novel only s a combination of items previously em ved separately by other designers.

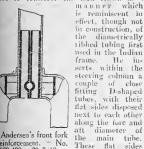




Steer's footboards. No. 129,174. 23/7 '18.

To Strengthen Front Forks,

Mr. R. A. Andersen, of Denmark, pro-



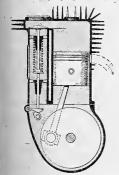
reinforcement. No. 129,499. 20,7/18.

a transverse bolt o which the front mudguard may be ttached.

are curved to clear

A One-valve Two-stroke.

Mr. R. G. Erridge protects a onealve engine, working on the two-stroke orinciple. Its working is fairly obvious rom the accompanying sketch, and its

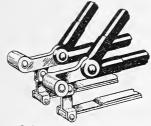


Erridge's one-valve two-stroke. No. 128,042. 19/6/19.

cial interest lies in the fact that a er plate is fitted in the transfer sage to give rapid access to the valve, ilst the sparking plug is located right the path of the entering gases and I away from the exhaust port.

Rear Springing.

The type of rear springing shown in the accompanying electch has certain obvious merits. Wide hearings are provided to ensure lateral algidity in cornering. The fittings are by no means heavy, and the belt tension is not unduly varied. The system is patented by Mr. F. A. Coulson, and consists, as shown, of carrying the rear wheel spindle in a pair of short arms pivoted in what would normally be the rear fork ends. The swing of the arms is limited by a pair of quarter

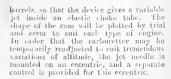


Coulson's suspension. No. 129,214.

elliptic springs, the thick ends of which are held in brackets fixed to the chain stays, whilst the thin ends are shackled to swing links on the spindle-carrying arms. This is by no means a bad method of insulating the rear frame of a light machine.

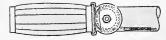
A Venturi Carburetter.

Mr. C. G. Pullin is busily patenting inventions which smell of aeronautics, but I know that motor cycling has not lost its charms for this fine rider. His latest is an ingenious carbureter. It is floatless, but the flow of petrol may be controlled on cars and bicycles by a valve opened by cylinder suction. Its top spots are as follows: The main bore is variable over wide limits by using the space between two rotatable barrels as the suction tube, the jet being located in the centre of the gap between them. The drawing shows these barrels in two positions, a venturi effect being given in all positions; the barrels are controlled by the "throttle" lever. Furthermore, the chrice is varied by means of a needle, which needle is controlled by the cam operating the throttle



Twist Grip Controls.

Individual tastes are equally rabid in favour of the radial control levers beloved by British designers and the twist grip preferred by American engineers. Mr. Geo. H. Rogers has patented a twist grip, which is sufficiently explained by the sketch. It is obvious that for a very small expenditure this grip could be sub-

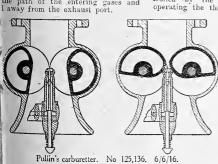


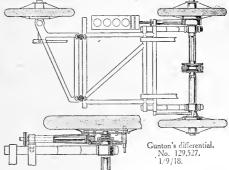
Rogers's twist grip. No. 14,234.

stituted for radial levers on existing machines; and it occurs to me that manufacturers with a largo output could easily give their clients a choice between the two systems by adopting some such design as Mr. Rogers's patent for their twist grip option. Both systems employ Bowden wires of approximately the same length, and I should not be surprised to learn that the manufacturing cost of the Rogers system is less than that of a fixed grip, plus a radial lever. The inventor does not deal with the problem of actuating two controls from one grip.

The Design of Three-wheelers.

The three-wheeler tends to grow more complex, and Mr. F. W. Gunton is of the opinion that it is desirable to fit differential axles to such chassis. His design is of the sidecar type in ground plan, with a four-cylinder engine and shaft drive. The tail pinion of the propeller-shaft meshes with a crown wheel mounted on the exterior of the off side axle sleeve. Both axle sleeves are rotatably mounted in roller bearings at their outer ends. Planetary bevels inside the central bulge of the axle convey the drive to the usual internal pair of half axles, which are, of course, rotatably mounted inside the sleeves.





HILL-CLIMBING ON LIGHTWEIGHTS.

Driving Methods which are Conducive to the Successful Negotiation of Steep Gradients and Treacherous Surfaces.

WNERS of under-powered lightweights who wish to attain the summits of abnormally steep hills will find two methods open to them. The first is to leave the machine below and walk up, and the second is to go round by the easier road which is invariably to be found on a twenty-mile detour, according to Bartholemew.

But those aspiring souls, however, who are determined to essay the climb at all costs, there are certain precautions to be taken. It must be remembered that on single figure gradients the miniature machine is likely to be called upon to give its maximum power for a considerable time.

Cooling and Lubrication.

To do this, efficient cooling must be maintained, and, before commencing a long climb, it is advisable to allow the engine to cool down. The internal parts of most engines partially depend for cooling upon the oil supply, and this, while adequate, should not be excessive. One of the surest causes of failure on a hill is over-lubrication, which increases the internal resistance in the engine, tends to soot the plugs, and also, on two-stroke machines, seriously upsets

the mixture. Carburation also requires considerable attention if the best results are required. Over-rich mixture must be avoided, and the best settings are usually obtained with low level and large jet.

While it is important to maintain a good speed when climbing with a low-powered machine, excessive speed is not advisable if the surface is bad or greasy. Under these conditions the attention should be devoted to choice of the firm parts of road, so that no power by wasted in wheel slip. No notice should be bestowed upon the remarks of casual observers, whether appreciative or derogatory, since a momentary side glanc may result in a skid which will end in the hedge-side.

Such a *contretemps* may not matter very much i willing hands are there to assist in retrieving rider an machine, and helping the restart, but if help is no given there is no alternative but to descend and sta again.

The Revs. that Count.

It is false pride which induces riders to hang of to top gear unduly. Revs. are the life and soul miniature engines. The low gear should always engaged before the engine commences to labour, a the throttle should be set so that the engine runs a speed which, while not great, will always leasufficient in hand for a lightning acceleration emergency.

WHARFEDALE.



A PRESSED STEEL FORK.

WE have recently been afforded the opportunity of examining a new form fork which, owing to its elver construction and sound design, should appeal to motor cycle manufacturers. As will be seen from the illustrations, the fork sides are composed of two steel pressings, formed to fit together in such a manner as to give maximum strength. The web between the two tubular portions consists of four thicknesses of 20g, steel. A special and advantageous feature is the adoption of adjustable plain coned bearings for the link pins, which method gives great lateral rigidity. In proof of this, a machine

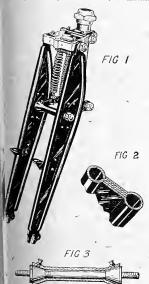


Fig. 1.—The Arden pressed steel fork. Fig. 2.—Section of fork side. Fig. 3.—Section of coned bearings.

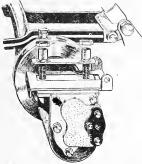
ted with these forks was "cornered" speed with no trace of side play. The springing is by means of two coilings, the tension of which can be justed to suit varying requirements. The whole fork which is made by the

used to suit varying requirements. It whole fork, which is made by the den Motor Co., of Balsall Common, rkswell, near Coventry, is attractive appearance and soundly constructed oughout.

SOME COULSON-B. IM-PROVEMENTS,

HE popular little spring frame 23 h.p. Coulsen B. motor cycle has one or two small inprovements added ch will greatly enhance its value to rider. The first of these is a new and emely simple form of stand, which is ged- on the rear stay which supports the boards and, passes through the engine





The new method of carrying the gear box,

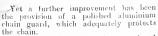
cradle. When out of use it is kept in position by means of a strong spring attached to the base of the gear box casting. On its cross member is a short flat piece of steel, to which a leather pad is attached, so that when the stand is out of use no rattle takes place. Normally, the front wheel is kept off the ground, but in the event of it being found necessary to repair the rear tyre, the withdrawable spindle is taken ont, and the wheel removed. The front wheel



The improved chain case on the Coulson B.

then drops to the ground, leaving the machine in position for easily replacing the back wheel.

Some modification has also been made in the method of attaching the gear box, which is now held on a slotted plate, the forward end of which is held by the bott securing the front end of the chain stays, while the rear end is attached to a cross stay running across the chain stays. By this means the gear box can be ensily removed or adjusted, and owing to the slot in the plate registering with the square casting on the top of the gear box, alignment is always maintained.



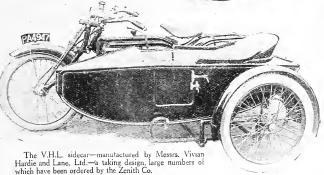
The change speed lever is now placed well forward against the tank, in order to be quite clear of the rider's legs, while the front brake has been discarded and two band brakes fitted, one on each side of the rear wheel.



Another detail addition is a spring stand

Many of these improvements are due to the ingenuity of Mr. H. Guy, the new works manager of the F. Aslett Coulson Engineering Co., who has had considerable experience with Scott and Sunbeam motor bicycles. Coulson-B. motor cycles are now fitted with a well-made and well-equipped tool kit.





THE RAY TWO-STROKE.

A New Single-cylinder Two-stroke Machine of 331 c.c.

NEW large single-cylinder . twostroke motor cycle has been recently placed on the market by the Ray Motor Co., 49, Brick Street, Piccadilly, London, W.1, fitted with an engine having a bore and stroke of 75×75 mm. (331 c.c.), which is rated at 3 b.h.p.

It is not the object of the manufacturers to produce a machine bristling with advanced features in design, but to offer to the public a well finished and reliable article at a reasonable price. A great fault with two-stroke engines is the in-efficient scavenging of the cylinder. The design of the Ray unit greatly facilitates the dispersal of the exhaust gases by the use of twin exhaust pipes, which allow the gases to pass into an unobstructed silencer of a capacity considerably greater than that of the cylinder. In this design there is no possibility of any detrimental back pressure.

A very useful improvement consisting of a circular plug which may be removed for inspection or cleaning purposes is incorporated in the transfer passage. A large diameter outside flywheel is used,

Attractive Specification.

The C.A.V. magneto and the new single-lever Amac carburetter are fitted as standard.

Conventional chain-cum-belt transmission has been adopted with a Burman two-speed gear box and clutch. present Saxon spring forks are used, but it is hoped to replace these by a new fork, made in a one-piece steel stamping, of the manufacturer's own design.

The top tube slopes in order to give a low riding position, and the appearance of the whole machine is attractive.

The petrol capacity is one and a half gallons and the oil capacity one quart.



The Ray engine unit. Observe the twin

The machine thus has a consider: e range.

The Ray Motor Co. are also placing a the market a 2½ h.p. two-stroke m 2 (70 × 70 mm.). The magneto fitter of (70 × 70 mm.). The magneto fitted this machine is driven direct from main shaft, and is located at the sid of the crank case. Both big end and ring bearings are fitted with roller bearings. The gear box is a Roc two-speed, and le transmission is chain-cum-belt. On of these machines successfully followed he Colmore Cup Trial on the 29th ultin



A two-stroke 331 c.c. marketed by the Ray Motor Co.

A SIMPLE MOTOR CYCLE DYNAMO.

VERY modern car is equipped with a dynamo lighting set, and it may not be long before the motor cycle will be considered incomplete without electric lighting equipment. At the present time, however, the cost of the generator rather limits the fitting of dynamo lighting, as, undoubtedly, owners of moderately priced machines hesitate before investing in what

is at present regarded as a luxury.

Mr. Douglas Holt, of 9, Little Turnstile,
Holborn, W.C.1, has introduced a modified

M.I.R.A. dynamo at a moderate price, and, from particulars before us, it is a rather attractive instrument.

It is practically a miniature edition of the M.I.R.A. car generator which has been on the market since 1910. The "carcase" of the machine is a die casting, which supports a tungsten steel magnet, between the poles of which revolves a laminated armature complete with com-mutator and windings, exactly in the same way as the more conventional types.

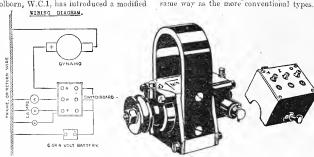
Hoffmann ball bearings are used, with are so fitted that the removal of he armature for inspection is a matter of only a few minutes.

The output of the machine is goveled by armature reaction (i.e., the arm we when revolving generates a reverse eld in opposition to that of the perm ent magnets), and as the reverse field inreases with the speed of rotatic a point is reached where the armunifields equal that of the field magest thus preventing the voltage and cuent claimed that this results in autogic regulation of the output, and that here is no danger of overphysics.

To obviate the necessity of a cubut, the windings are so proportioned had the voltage of the battery will no flow backwards through the armature to adangerous rate. Although it is necessity to switch off when leaving it stiding for any prolonged period, a small elay or a stop in traffic will not ru the accumulator down to any detriental

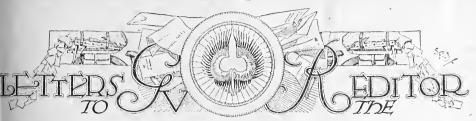
mulators.

Complete with switchboard, the generator, which has a capacity amp. 4 volt. is £6 2s. 6d. A large set of 6 volt 3-5 amp. costs £8 8s.



The wiring diagram for the Mira dynamo

The Mira dynamo.



The Editor does not hold himself responsible for the opinions of his correspondents. All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Covening, and must be accompanied by the writer's name and address.

TYRE MILEAGE.

Sir,—It has occurred to me that if riders would relate their experiences as to what mileage could be expected from tyres in various machines, novices would obtain valuable inormation on the probable yearly cost of the most expensive tem (petrol perhaps excepted) in the motor cyclist's budget. I it would be of any use, I could supply you with the letails of 15,000 miles running on a 1914 6 h.p. A.J.S.

E. S. BOVELL. Sir,-It has occurred to me that if riders would relate their

We should be glad to receive the details of which our correspondent writes.—Ep.]

ROMPT DELIVERY.

Sir,—It is not very often that one hears of manufacturers eeping to the date in delivering machines, and this prompts eeping to the date in delivering machines, and this prompts to twitte and tell you of a happy experience I recently ad. Just before the Show I placed an order for a Tamplin rele car for delivery during the last week in January. To sy surprise the car was delivered the week before it was no, which speaks well for a firm that honestly tries to give s prospective customers fair treatment. The car is giving tisfaction in every way. Further than being a satisfied ader, I have no connection with Messrs. Tamplin in any PAUL TAYLOR.

TEST OUESTION.

Sir,—For many years I have watched the various Questions and Replies" and correspondence in *The Motor yele*, but, hitherto, have never entered the arena of disssion, although I have often felt tempted to do so. I have it it to others more brilliant than myself. I wonder how my of your readers can answer the (to me) interesting oblem put forward as one of the tests given to some of the tending despatch riders at the outset of the war. You a out with your single-cylinder motor cycle quite out of ach with all such luxuries as shops, when your only plug uses work, and refuses all efforts at repair. What do you to get going?

I have discussed this problem with many motor cyclists, t, so far, no one has been able to offer a workable solution, with them, would feel interested in hearing an explanation. erefore, I hope you will find me space. . T. F. SMITH.

CCOTINE FOR LEAKY PISTON RINGS.

sir,-The following wrinkle may prove useful to some of re overseas readers outside the reach of a garage.
lecently, I had occasion to dismantle the cylinder of my
h.p. Baby Triumph, with a view to removing carbon h.p. Baby Triumph, with a view to removing carbon losit, etc. Contrary to my expectations, there was very le on the cylinder and piston head, but the rings were I filled up behind with a hard deposit. I removed this roughly, cleaned the cylinder, piston, etc., and rembled the engine, not forgetting a liberal dose of thick or reterms and cylinder. For the country the cylinder I could on piston and cylinder. On trying the cylinder, I could get the ghost of a kick out of it—no compression!

thereupon dismantled the engine again, and as the rings e considerably worn, sent piston and cylinder to a local

ir shop to have new rings fitted.

fter some considerable time I received them back. s were certainly better than the old ones, but the hanc's idea of a "fit" would have made a saint swear. uniferentially, they were not bad, but there was con-rable up-and-down play, and the gap was bigger than hould have been. The natural result of this was still compression, and the machine could not fire.

In despair, I cursed loud and long. My wife, hearing the noise, enquired what was the matter. I explained, and she said why not try seccotine? Well, to make a long story short I removed the rings, filled the grooves with secotine, replaced the rings, and assembled the engine. Result: About 6 m.p.h. on low gear, and, after some more running, 12 m.p.h. Now the machine can do about 20 m.p.h., and

is improving every day.

Moral.—If your two-stroke is running well, leave it alone. Morat.—It your two-stoke is faming, it is an old mount. And do not clean the deposit from the back of the rings if they are at all worn, unless you can make sure of getting good fitting new ones, in case of accidents.

Lahore.

W. A. ANDERSON.

SPEED ON THE ROAD AND PILLION RIDING.

Sir,-A letter from Mr. E. B. Ball on the above subject

Sing.—A letter from M. E. B. Ban on the above subject struck me as distinctly humorous.

He leads off by suggesting that any rider who has experienced "speed wobble" does not know how to drive, and, to strengthen his argument, states that he has done 65 m.p.h. and over many times on the road on different machines.

He then proceeds to suggest laws which ought, in his opinion, to be passed, presumably to clear the roads whilst

he experiments further with his speed tests.

I would beg to remind your correspondent that there is already a law existing, limiting the speed of motor vehicles on the public roads, and until he learns to comply with that law, he should at least refrain from suggesting further restrictions upon the liberty of the motorist.

Meantime, the roads continue unsafe, and motor cyclists in general get a bad name while Mr. Ball hurtles about the roads at 65 m.p.h., imagining everybody he meets a tool, including

A NOVICE IN 1903.

London, S.E.

EASING THE SPINAL COLUMN.

Sir,-There is much controversy now on the advantages and disadvantages of spring frames; also there are high prices for new innovations. My remedy, as applied to a lightweight machine, for more comfort may be useful for those who have not long purses.

My theory goes on the fact that the human body takes up

strains, etc., to the spinal column by flexion of the lower limbs. Take away their full action and the spine receives more bumps and jars. On my machine, fitted with touring handle-bars, and having to sit bolt upright, after a long run over bad roads I felt inclined to take my meals off the mantlepiece. To obviate to a certain degree this discomfort, manticipece. To obviace to a certain degree this disconnect, I fitted semi-T.T. bars, so transferring the action of the lower limbs to my arms, and received comfort by having partially done away with the bodily resistance to the jarring of the back wheel. My wrists and arms, after a little practice, did not get sore after a run, and I found much greater ease in steering.

All the summer I have been troubled with the tool-bags

at the rear shedding parts of their anatomy, so I fitted a toolbox to the top tube of the tank. Result, no trouble, and a

better knee grip.

Regarding the ordinary front rim brake and its efficiency, I have used mine consistently in tight corners in conjunction with the rear brake, and find it reliable if applied at the right time and in a proper manner.

SATISFIED.

Greenock.

A COMPETITION FOR SCHOOLBOYS.

Sir,—In reply to the letter from "In Bono Vince," re a Public Schools hill-climb, in The Motor Cycle of February 26th, may I point out to him and others interested that a club exists and caters only for past and present members of public schools. A hill-climb will be held this year (probably in August), also speed trials at Brooklands, besides

many other competitions of a sporting nature.

If anyone interested will communicate with me, I shall

be glad to give him fuller particulars.

H. B. BROWNING.

Hon. Sec. Public Schools M.C.C. Loftus Hotel, Earl's Court, S.W.

Sir.—In regard to the letter written by "In Bono Vince" in *The Motor Cycle* dated February 26th 1920, I feel sure that such a competition would fully justify any trouble met with in arranging it.

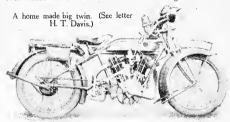
I am sure there are many Public Schoolboys waiting to

see some official views on this matter.

PUBLIC SCHOOLBOY. Newmarket.

BUILT AT HOME.

Sir,—Having noticed several machines are now being built by motor cyclists, I am forwarding you a photograph of one I have lately built. The engine is one of the type over which there was a lot, of letter writing a short time



ago, viz., $90 \times 77_{\frac{1}{2}}$ mm. overhead valve twin, geared on top 3 to 1, on which it pulls a sidecar without trouble. I think if only others would try building their own machines we might get prices down.

H. T. DAVIS.

SPEED WOBBLE.

Sir,—I am interested in your correspondent Mr. Hare's remarks on this subject. His references to the Rudge machine I can heartily endorse. My Rudge has the I.O.M. frame of 1914, and a fixed gear with adjustable pulley. It is very light, but holds the road extremely well, and it is quite easy to ride hands off at 30 m.p.h., and corners can be taken with the greatest confidence at high speed. I must confess that, for general balance, I have never had a better machine. It seems to me-that a great deal depends on the handle-bar shape. Mine are full T.T., which, admittedly, are rather low for ordinary purposes, but, at the same time, they certainly do give a much more efficient control for cornering and on greasy roads.

I, too, am in accord with some of your contributors re the sporting solo mount. A few of the new machines that one sees about are certainly the weirdest looking assortment of tubes, control levers, etc., that could possibly be imagined. and what some of them must weigh heaven only knows! I recently travelled on my Rudge with the gear at 4 to 1 from London to Seaton in the South of Devon, with a large suit-case on the carrier, with no mechanical trouble of any sort. With careful handling, the engine was quite powerful enough for any hill that was encountered on the route with the single exception of Chard Hill, for which I had to lower the gear. One thing appears to me quite clear—that is the fact that almost all the riders of such machines as Norton, Rudge, T.T. Triumph, etc., know far more about a petrol engine than the riders of these massive mounts which appear to be so popular at present. They have to, for a singlespeeder of about 31 h.p. is precious little use to anyone unless it is kept in fairly decent tune; but, at the same time, it well repays the attention bestowed upon it, which attention must surely be considerably less in the long run than that

given to the heavier machine. I should like it to be quite understood that my remarks refer in particular to the rider who considers motor cycling as a pastime for one person. For the man who uses his machine for passenger carrying. or for business, I am quite ready to admit that gears, etc. are essential. Usual disclaimer. GUY S. FISKE.

Sir,—Seated with my left elbow resting on a cushion, and with most of the "angular" parts of my body remarkably sore, I feel a strong interest in the discussion on speet wobble. For a little while past I have been tuning up 5-6 h.p. James for a hill-climb, and seeing what speet I could get out of it. Fitted with touring bars, I reached 55 m.p.h. on the level five months ago, and recent I reached 55 m.p.h. (a smaller jet used). In both thes cases it was absolutely steady. After a lot of trouble had fitted a pair of T.T. tars, and, having removed th footboards and substituted rests, I took the machine or on the road. I had put in a larger jet, and it had jus passed the 55 m.p.h. mark when it gave a suspicion of wobble. In a second the wobble had become a second an a third, but it never reached a fourth; it gracefully co tinued on its side till its energy was expended. Now feel certain that nothing could have prevented me falling at the first suspicion of a wobble I shut off just enough keep my speed, but not to have a braking effect.

My opinion is that the T.T. bars, which necessitated

slight tilting of the saddle, threw the weight of my bor too much on the front and too little on the back where Anyway, the fact remains that with the touring bars it absolutely steady at a greater speed.

As regards wobble at lower speeds, a short time ag having moved my handle-bars, I failed completely to tight the steering head. It was not enough to notice, but E. ROY KING. produced a wobble at 20 m.p.h.

TAXATION.

Sir,—At the present time a great deal is being written the subject of the proposed licence duties on motors: p

haps my views may be readable.

The revenue is presumably for the maintenance of troads, and road users should therefore pay in direct p portion to the use made of the roads. The only relia nodex of the extent of this use by the motoring public from a revenue standpoint, the amount of petrol used. most cases, the heavier the vehicle the more petrol is us-and the more speed indulged in the greater consumption motor fuel

It has been said that the cost of collecting the mo spirit duty is too great. Perhaps it would be nearer mark were it said that the cost of repaying this duty doctors and tradespeople is too great. The remedy wo seem to be the discontinuance of this repayment of du seem to be the discontinuance of this repayment of du Merchants, doctors, veterinary surgeons, and motor hin use the roads, and the public whose wants are supplied them has a right to help to pay for the upkeep of the ro which enable these privileged people to carry on the occupations. If this economy would not save as much the proposed taxes would bring in, then let the motor sp duty be raised.

Further, why should tradespeople pay no local taxat Further, why should tradespeople pay no local daxing licences for their motors, and why should doctors veterinary surgeons pay only half the usual rates, motor hirers greatly reduced rates? The public benefits the existence of these people, and it should bear the bur of taxation as it would indirectly if the fuel duties we paid in the first instances by their benefactors. At president part of the benefactors are the benefactors. the benefactors are the beneficiaries.

In short, my views are:

(1.) Abolish all motor spirit duty repayments.

(2.) Levy local taxation licences at the private car refrom all users of the roads irrespective of occupation.

(3.) Institute a new system of ascertaining the h.p.bi motors-if you will.

(4.) Continue the import duty on motor spirit, and

introduce the Excise duty.

(5.) If revenue is then deficient, raise the petrol dutie Perhaps the most economical would be the abolitions all local taxation licences, and raising substantially the nor spirit duty, or. State purchase of the motor fuel indu But that time is not yet. [This was written before the publication in The Motor of Captain E. de Normanville's suggestion.—ED.]

ARIABLE JET CARBURETTERS.

Sir,-Re the Bradford carburetter, recently described in The Motor Cycle. I beg to point out the fact that the idea s not new.

designed an identical carburetter for a friend, who

The eagined an identical carbineties for a friend, who hade and fitted it to his Scott two years ago.

'It was so successful that I made and fitted one to my war Scott. Furthermore, another friend of mine is_busy making one for his Scott, which is at present fitted with a lifferent make; and another friend is thinking of transformaths are his relative to the second of the secon

interent make; and another reduct is tunking of transforming the carbivretter on his Radge.

I may also say that I have designed an improved carbivretter on similar lines. The improvement consists of the et needle being so arranged that it automatically varies he jet opening with the throttle opening, with this important production of the control of ortant addition: The comparative position of the needle and throttle may be varied from the handle-bars, thus giving icher or weaker mixture while still retaining its automatic JAS. THOMPSON.

The last-mentioned idea is not new; it was incorporated in the Cox streamline carburetter several years ago .-

Sir,-Kindly allow me to point out to readers in your orrespondence columns the risk run in using the control or the W.S.R. jet adapter. The control of a needle valve patented in two or three specifications, and legally which his will come under I am not certain. Needle valves are atented to work with Bowden wire or a lever mechanism nder patents No. 6694, 19616, 16755, and 27060, and this ill come under one of these patents, so that anyone using is liable to be proceeded against for infringement of tent.laws.

J. T. BRADFORD.

ANTED-A LUXURIOUS SIDECAR.

Sir.—I have been a reader of *The Motor Cycle* for some ansiderable time, but up to now I have taken no active ut in the correspondence. I should be pleased, however, you would allow me to say a few words in answer to Xenes," whose letter appears in *The Motor Cycle* of

ebruary 19th.
I wonder if "Xenos" realises what an unfortunate note

letter struck to readers like myself.

The perfect gentleman remains what he is under all contions. A few mud splashes or a weather beaten appear-ice cannot transform him into a "bounder." Nor can his ount, however dilapidated, have that effect. But a man o depends on heatly brushed hair, perfect clothes, and a nerally spick-and-span appearance to earn the title of ntleman—well, of course, it is well-known he is the Bounder."

Doublet:

On his own confession, "Xenos" is not a "youthful iot." If he had been so, well, I could have said there is hope for him: that it was a question of age, and he hald ultimately grow out of having ideas so reverse of

My husband and I ride a powerful Matchless outfit. Our aal week-eud trip is to a select residential town some ndred miles distance to see our people. Weather condisas do not count with us. I think "Xenos" would have nted with horror at our appearance on our last trip. mething weut wrong with the mudguard on the sidecar eel, and as we could not fix it ourselves, we took it off d put it in the sidecar, to be adjusted at the end of the armey. Imagine my peachy complexion decorated with eaks of brown mud, my cunning little motor bonnet tied when the wind got very bad, with a piece of thicking hunted out from the tool box. But I am sure these ails had no effect on my character. I am sure that mediately I got a little travel stained I did not cease to a lady nor become a "bounder."

and not become a bounder.

may say that after half an hour, when I had had time don some of the glad rags packed in the sidecar, we were the ready to pay our round of visits to our friends, whose ages shelter luxurious cars, but who are still pleased to I us friends, in spite of our mount and our road

searance.

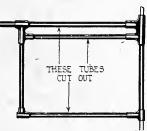
Jearance. Here's luck to the "impossible grids"! And here's luck their sporty owners, who can afford to defy appearances. Id Bill," bless him, and his cronies were perfect gentlen (nobedy dare doubt it), but it was not their make-up it made them so,

I do not know if "Xenos" would like me to advise him on his choice of a mount, but the only thing I can recom-mend him to ride and still preserve his faultless Bond Street appearance is a bassinette, Millom.

IMPROVING A SIDECAR CHASSIS.

Sir,-I have lately converted an old pattern sidecar chassis to an underslung type with great success. Not only is the appearance much enhanced, but I find that the steering is very much improved. The old sidecar was of the cane

bath-chair pattern, and the weight was well over the back axle, and I always found the machine steer badly, especially when empty, in spite of the most careful lining up. also noticed that when I had an extra load, i.e., with a child sitting in front of the ordinary passenger, the machine ran more steadily.



The original chassis design.

Now that I have the dropped chassis and fitted a ceachbuilt body where the weight is practically all in front of the axle, the machine runs steadily, whether loaded or empty. I find that there is far more weight on the front wheel now, and it is to this I attribute the good steering and steady running.

It may interest your readers who have one of the old type chassis to know how the conversion was made.

The plan of the old chassis was like the sketch. clean through the tubes as arrowed, and put bent tubes in



The old chassis converted to an underslung type.

place of the pieces cut out, so as to give the chassis 6in. drop and lengthen it at the same time. One of the tubes was of larger diameter

the others on the old chassis, so I cut this right out and replaced it by a been tube right through the lugs. The joints were made end to end, with a stout piece of small tube for a liner, the joints nearest the axle being covered with lugs, and a crossbar put in to give extra strength. The whole job only cost about £2, and has made my machine look 50% better.

W. M. BEAR.

2/3

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle.

MOTOR CYCLES AND HOW TO MANAGE Price By THEM. The standard handbook on the motor net, post cycle; its care and management. It deals with every part of the machine, and with all types of machines, 286 pages, 400 illustrations. Twentieth edition ... 2/6 2/10

"HINTS AND TIPS FOR MOTOR CYCLISTS."
Coataining over 400 useful "wrinkles." and helpful hints in regard to motor cycles. Seventh Edition.
Just published.

TRACING MOIOR CYCLE TROUBLES."

A rehable system for tracing motor cycle faults and of remedying any trouble when found. Fourth Edition.

"THE MOTOR*CYCLE." ROAD MAPS
En land and Wales, Sectland. London (showing
roads into and out of London and avoiding London),
Mounted on linen. Set of three, complete in case.

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd, 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.



Times to Light Lamps.

GREENWICH TIME.

Mar.	11	 		p.m.
	13		6.28	
22	15	 	6.32	,.
,,	17	 	6.35	11

Scottish One Day Reliability Trial.

The Edinburgh and District M.C. are holding an open reliability frial on the 27th inst.

Import Duty into U.S.A.

The duty on British motor cycles imported into the U.S.A. is 25% ad valorem, and not 45% as inferred by a contributor a few weeks ago.

D.R.'s of the Third Army.

Notices have been sent out where pos sible to ex-despatch riders of the Third side to ex-despatch riders of the Third Army Signal Company, with the idea of arranging a reunion. Mr. D. Coard, Clyde House, Cheam, Surrey, has the matter in hand, and will be pleased to hear from D.R.'s who are interested in the idea, and who belonged to the Signal Company in predict of the Additional Company in prediction. Company in question, at the earliest possible moment.

International Show at Antwerp.

An International Motor Show is being organised in connection with the Antwerp Exhibition, and will be held from May 15th to June 14th. The show will be held in the Hall of Sports, which is 500ft; long by 180ft. wide. motor manufacturers are invited to be thoroughly represented as early as possible. The Director of Concessions for Great Britain is Mr. John Bellham, 303, High Holborn, London, W.C.1, from whom further particulars and plans can be obtained. On March 15th stands will be allotted by ballot.

An Artistic Sidecar.

Personal taste expresses itself in some peculiar ways, but perhaps the strangest example of this connected with things motoring was a sidecar we recently saw, the panels of which were thickly cnamelled a bright yellow as a back-ground for intricate Chinese designs in black, gold, and red lacquer work. This highly ornate vehicle was attached to a New Imperial twin, and was apparently a private turnout, and not an advertising stunt. If this sort of thing goes on we shall be having sidecar bodies panelled with valuable oil paintings, or decorated with cameo carvings, or perhaps the newly ultra-rich will indulge in repoussé panels of gold.

All-day Traps.

Particular care is necessary on the London Rōad, Bromley, in either direction, as all day traps (Sunday and weekday) are in operation. Also at Bromley Common and between Orpington and Green Street Green.

Further Police Activity.

We are informed that the police are specially active in the neighbourhood of Gracechurch Street, London, E.C., with regard to noisy machines; also, that there are traps working in Woodford and Wanstead, between Snaresbrook Station and Warren Wood, and between the Napier Arms and Warren Wood.

We also hear that the police are on the alert at Castle Bromwich, Coleshill, Stonebridge, and other districts which come under the police jurisdiction of Coleshill.

The Institution of Automobile Engineers.

The London graduates of the Institution of Automobile Engineers are about to renew their pre-war practice and hold a dinner and concert. The gathering will take place at Anderton's Hotel on Satur-day, April 10th, at 6.30 for 7 p.m., and will be limited to forty-five graduates and guests, so that early application should be made. Single tickets will be 10s. 6d. each, and double tickets admitting a graduate and a lady will be 15s. 6d. A musical programme is being arranged to follow the dinner.

Special Features.

WIND - WAGGONS. PETROL POSITION. RECENT DESIGNS.

Roadside Adjustments.

With modern motor cycles, tools not often required on the road, and ca less riders are apt to leave them in th garages. Motor cyclists should reme ber that when a tool is required, it generally wanted badly.

Motor Tankers.

It is not perhaps generally known the modern tank ship which brings petrol to this country is driven by intercombustion engines. The latest ships be built for this trade include a num of 2,500 tonners, each propelled by 1 550 b.h.p. Diesel engines.

Motor Cycles on the Riviera.

Though cars on the Riviera outnum motor cycles in the proportion of possi motor cycles in the proportion of possi-500 to I, a certain number of local ric are to be seen in and around N. We recently observed P. and M.; field, and Triumph riders at differ times, and actually three scooters have arrived. An Autoped rider—apparer an American—amused himself by ric up and down the promenade with a n solemn expression, visitors to La (d'Azur making funny ejaculations as

passed. The A.B.C. Skootamot now in the Nice age hands, and was c sionally to be taking the ozone:

Seeing that the sidecar is more fully recognised in this country as a passenger vehicle than in France, it is anomalous that it should be left to Frenchmen to develop the idea of forming a sidecar taxi service. The outht shown is another of the taxi outfits—thatley-Davidson now plying for hire on the streets of Paris.

MOTOR CICLE

Eight Hundred Replies.

A correspondent writes to say that he recently received over 800 replies to one small advertisement in The Motor Cycle.

No P. and M.'s in This Year's T.T.

Messrs. Phelon and Moore, the makers of the P. and M. motor cycle, advise us that they took the lead in the matter of negative decisions, and were the first firm officially to notify the A.C.U. that they did not intend to compete in the T.T. this year, as they found it necessary to concentrate upon production.

Motor Cycle Touring in Algiers.

Subsequent to the Paris-Nice trial, Jesse Baker (Scott) and J. A. Newman (Sunbeam) crossed to Algiers with their motor cycles. Two postcards received from Baker are full of their delightful holiday and first-class roads encountered—in fact, the Algerian roads are referred to in the communication as the "finest roads in the world." The machines have behaved excellently, and a final trip to Morocco was proposed.

The A.J.S. to Compete in the T.T.

In consideration of the preparatory work already done by the A.C.U. and the Isle of Man authorities for the T.T. Races, Messrs. A. J. Stevens think the event should have all possible support from the trade. It has been decided definitely that an A.J.S. will defend its title. It will be remembered that a 23 h.p. A.J.S. is the present holder of the Junior T.T.

Rezearch.

We wish to draw attention to the leaderette on the first page of this issue on the subject of research. The subject is a vital one, as the possibilities of the motor cycle are not yet fully realised. Under existing circumstances almost any form of self-propelled machine finds a ready sale, and this is apt to cause a fack of enthusiasm towards promising developments, and a dimming of future possibilities. The C. and M.C.M.T.U. have in hand the beginning of a scheme

to further research work, and it is to be hoped that they will receive the assistance which they deserve.

London-Land's End Trial.

Arrangements have been made with the Berkeley Arms Hotel, Cranford Bridge. Hounslow, for cold supper to be provided for competitors in the London-Land's End trial. The supper will be served from 8 p.m., and all desirous of participating should notify the proprietor, Mr. A. Powley, by telephone (Hayes 29) or letter at least two days before the event.

The A.C.U. General Committee, 1919-1920 Session. Affiliated Clubs' Representatives.

Attendances at Meetings,	;
Name, Possible, Actual	l.
Arter, A. D 5 2	
Bass, E. J 5 2	
Brook, Maj. R. V. C. 5 3 Buckley, 1 5 1	
Arter, A. D	Retain seals for
Forse, T. F. S 5 3	a further twelve months.
Hardy, F. A 15 13	montus.
Horsman, V 5 2	
Reynolds, A. G 15 11	
Whitworth, F. S 5 5	
Applebee, F. A 5 4 Barnes, F. W 5 2	
Barnes, F. W 5 2 Ebblewhite, A. V 15 13	Retire, but are
Egginton, W. II 5 2	eligible for re-
Egginton, W. II 5 2 Murray, F 5 3 Norton, J. L 5 2 St. John, J 5 4	election.
Norton, J. L 5 2	
St. John, J 5 4 /	
Martin, L ,. 5 0)	Forféit seals
Martin, L	under Rule 43.
Weldon, W 5 1	

"The Autocar" Overseas Number.

To-morrow, the 12th inst., The Autocor British Empire and Overseas number will be on sale all over the country. Readers interested in the progress of the automobile industry will be pleased with the special contents of this bulky number. An article that will make a special appeal to motor cyclists is a description of a 750 miles test of the air-cooled C.A.R. This vehicle, it will be recalled, has a three-cylinder air-cooled radial engne, and the illustrated description of its performances on the famous hills of Somersetshire, Devoushire, and Cornwall-including Porlock, Lynton, and Beggar's Roost-constitute the first prolonged test of a new British air-cooled light car.

Motor cyclists wishing to keep themselves au fait with features of modern cars will note with interest The Autocar illustrated review of 1920 models.

Designed to cultivate British trade Overseas, the whole issue is a remarkable one, and is on sale at 3d. as usual.

The Circuit de Paris.

The Circuit de Paris, a trial organised by the Auto-Cycle Club de France, consisting of a two-day run, starting from Versailles, will be run off at Easter. The average speed will be thirty kilo-

The average speed will be thirty kilometres an home. In unrestricted sections competitors will be penalised for arriving late in the controls. In the observed section the competitors must keep between two cars travelling at thirty kilometres an hour, placed two kilometres apart. Competitors will be penalised five marks if passed by the second car, and one mark for each five minutes behind this car. Further particulars can be obtained from M. E. Cheilus, 6, Rue du Rocher, Paris.

The A.C.U. 1920 Elections.

The annual general meeting of the A.C.U. will be held on Saturday, March 20th, at 3 p.m., at the First Avenue Hotel, High Holborn, London, W.C.I. This will be followed by the election of individual meeting to sit on the General Committee.

The A.C.U. is considering the organisation of a rally or meeting of ex-despatch riders, and it has been suggested that the resunion should take place at Brooklands on Easter Monday.

How it Happened!

We cull the following from "Court, Society, and Personal" in Saturday's Daily Mail:

"Sir Philip Sassoon, the Premier's private secretary, returned to his duties yesterday after a week's absence owing to a motor scooter accident. While 'scooting' in Hampshire he wanted to stop urgently, but through not having leanned the mechanism sufficiently he pulled the accelerator instead of what he thought was a 'stop' lever. The result was a bad spill into a gravel bank. Sir Philip has now given up the scooter, and also an aeroplane which he bought last summer."

Whilst sympathising with Sir Philips in his unfortunate accident, we can safely predict that he will give up all his mechanical toys if he persists in "pulling the accelerator" when he desires to stop!





AT THE INTER-VARSITY HILL-CLIMB. L. P. Openshaw, on an overhead valve Zenith, who made the fastest time of the day and J. V. Prestwich (Diamond), winner in the lightweight class

NOTES ON THE COLMORE CUP TRIAL.

Random Jottings by Members of "The Motor Cycle" Staff who Observed the Trial at all Places of Interest.

Snaps from Saintbury.

THE single-cylinder Sunbeam has an exhaust note of its own.

Seymour Smith (Ivy) had bad luck in puncturing at Saintbury.

Vale (Norton) overshot the corner_at the top of Saintbury through the arrow being torn.

The little Connaught ran well-as it did in the Paris-Nice.

Who discovered that by dropping valve parts in between his wheel discs it is possible to obtain a new noise, so far without classification?

Gibb on a Levis is a new combination, as is Colliver on an A.B.C.

How to make a noise like a Scott. Take one well-tuned Levis and "rev." it in low gear.

Albert Milner's hat was obviously designed for the opposite sex. A white "tammy" with a dash of pink.

Our frequent contributor Wharfedale competed in the event, and rode steadily throughout.

The acceleration of the Levis and A.B.C. machines was the subject of much comment.

Gambols on Gambles Lane-and Other Matters.

We had a long chat with Capt. Jack Woodhouse, D.S.O., M.C., who was watching the trial at Gambles Lane. One wonders if he will return to competition work.

Greasy hills and solo machines with foot-operated clutches are not a good combination. This was very obvious on Saturday week.

Two 10 h.p. Reading standards—one solo and the other with sidecar—took part in the trial and ran consistently. These big American machines are newcomers to British competition work.

G. Hands brought his sporting Calthorpe light car up Sudeley in great style.

Three single-geared machines were entered, and their performances show that had the roads been dry the hills would not have stopped their plucky

The George-in-the-Tree is the name of the hotel over which Albert Milner presides, and has no reference to a well-known competition rider and a certain incident in a pre-war Scottish Six Days.

It was particularly noticeable that the old hands changed down early, and CIO

negotiated the grease on their lowest gear ratio with the throttle only open so far as was necessary to a steady climb. There was considerable and unavoidable baulking at the foot of the hill, owing to passenger machines failing, and to this was added a certain amount of trouble, owing to the thoughtless behaviour of non-competitors, whom, it appears, nothing will prevent from unnecessary attempts (which usually fail) to climb the fill while the competition is in progress. Unfortunately, car owners are sometimes as bad as motor cyclists in this respect.

The hairpin bend test would have been an excellent feature in a sporting trial Non-competitors who appeared unable to persuade 6 h.p. and 7-9 h.p. outfits upered to hower part of Willersey migh have walked up. They deprived severa of the descending competitors of the non-stops on the outward trip.

The two most difficult portions of th route were apparently unobserved; the were the descent of Willersey and jusbeyond the top of Sudelev.

The acceleration test formula neede another factor d (coefficient of persons dexterity!). Such a test should have been carried out on a safe road, but a no marks were lost by ignoring it. was better to preserve the non-stop the



In Sudeley Park. The Premier three-wheeler, which ran consistently throughout.

among individuals, but we think in a reliability trial, supported by manufacturers in order to prove the reliability of their machines on the road, it was scarcely fair. The bend is erroneously termed a hairpin. It is a very sharp V country lane. So here again, as in the flexibility test, the human factor was greatly in evidence. There was considerable discussion among spectators at the point regarding the merit of the test.

Comments on Route.

A splendid run, well organised, and thoroughly enjoyed, but-too much main

Kuhn's Levis must be "very special," judging by its resonant explosive "puffle." attempt heroics. Some who did study the rules overlooked this, came to grief in attempting to do much here.

The A.B.C. machines appear to very stable at speed on grease, but the frightful "pops", when changing annoying. Porter appeared to he trouble with oiled plugs, the inferesteing that drip feed oiling is by no me as easy to design as might be imagined

Discussing with F. W. Apples (B.S.A.) at lunch-time as to how a should get back up Willersey, we or cluded that it would be safer to Il over the loose stones than to attent the 6in. strip at the side of the hear As events proved, we were both unwe, and we certainly "rolled"!

MOTOR (FCLE

Vlew-points on the Colmore Cup .--

The wily birds had been practising Willersey, and they knew that the narrow strip of unmetalled surface was rideable.

On picking himself up after a fall, a competitor was surprised to see W. F. Newsone helping him to restart. Quite a reunion, as they were stationed at the same M.T. repair depot during the war.

Consistent and steady running was the outstanding feature of the Premier three-wheeler. We ticked along for miles together at 20-22 m.p.h. On the Roel Gate stretch, which was deep in puddles, it throw out a bow wave, like a destroyer at 40 knots.

We congratulate Eric Williams and the makers of his N.U.T. on winning the Colmore Cup. It was the machine's debut in competitions. Eric Williams is the present holder of the Junior T.T., which he won on a 23 h.p. A.J.S.

Gibb's performance on his 2½ h.p. Levis, in winning the Calthorpe Cup for machines under 257 c.c., was good. On general marking he has been awarded a first-class certificate. On account of touching the ground with his foot on the hairpin he lost ten marks. He secured a gold medal for the hest performance in his class.

The second and third best performances were by drivers of sidecar machines, L. Newey (6-7 Ariel sc.) and G. Dance (3½ Sunbeam sc.) respectively.

The "hairpin" was rather appalling. At the last moment some decided to use the grass as a banking; luckily, it worked!

The Cex Atmos carburetter on a Scott appeared to interest several local enthusiasts who gathered together at Cheltenham. Truly, its appearance is fearsome as its performance is de-

F. Porter made a marvellous show, iding a single-geared Levis, which he persuaded up the hills in a manner which would not have disgraced a machine of louble the engine capacity.

Milner rode a Diamond fitted with a pecial overhead valve cylinder fitted to J.A.P. crank case-an adapted job very eatly carried out.

Busby (Verus) actually went through is hairpin bend test twice—he merely-blowed the arrows. He was successful oth times, but the slip lost him twenty inntes. It was Busby's first competion, and he rode very well throughout is trial. He is only a little over sixteen is as of acc. ars of age.

The team prize has not yet been warded. Why?

It is somewhat astonishing that ten itys after the event the official results and not been announced. Usually the atton Club is very prompt in this direcKershaw (Verns) was using a modified engine intended for the T.T., but Verus machines will not compete this year.

Fancy head wear is again fashionable. One of the Ariel riders had a neat stocking cap of white, his passenger the same thing in scarlet.



A. Milner (2³/₄ o.h.v. Diamond) on the slow section on Saintbury.

PROVISIONAL - RESULTS. COLMORE CUP.

Eric Williams (3)2 N.U.T.). Second best performance.-L. Newey (6-7 Ariel sc.).
Third best performance.—G. Dance 31/2 Sunbeam

CALTHORPE CUP

(FOR MACHINES UNDER 250 c.c.).

1. W. B. Gibb (2½ Levis).

2. F. Porter (2½ Levis). SPECIAL PRIZE FOR BEST PERFORMANCE BY AN AMATEUR.

J. A. Watson-Bourne (4 Blackburne).
 H. Boyuton (5-6 James se.).

BEST PERFORMANCES IN EACH CLASS.

BEST FERFORMANCES IN EAUG CLASS.

250 cc.—W. B. Gibb (2½ Levis).

550 cc.—B. Kershav (2½ Verus).

500 cc.—Eric Williams (3½ X.U.T.).

750 cc.—L. Scaley (4½ R.S.A.).

1,000 cc.—H. J. Willis [10 Reading-Standard).

500 c.c.-G. Dance (3½ Sunbeam sc.). 750 c.c.-H. Boynton (5-6 James sc.). 1,000 c.c.-L. Newey (6-7 Ariel sc.).

LEVIS CUP. F. Porter (21 Levis single gear). GOLD MEDALS (NON-STOP AND FULL MARKS).

| D. MEDALS (NON-NTOF AND FULL MARKS).
| H. Roynton 1:6-6 James v., |
| J. J. Stocks (6-7 Ariel se.).
| J. J. Stocks (6-7 Ariel se.).
| L. Sealey (9/2 R.S.A.).
| Heart Kershaw (22/2 News).
| L. Sealey (9/2 R.S.A.).
| L. Sealey (1-7 R.S.A.).
| L. Sealey (1-7 Aliel se.).
| L. Newey (6-7 Aliel se.).
| L. Williams (3/2 N.U.T.).
| J. A. Watson-luarne (4 Brackburne).
| G. A. Strange (3/2 James).
| H. J. Stectton-Ward (8 British Excelsior se.).
| R. J. Stectton-Ward (8 British Excelsior se.).

G. A. Strange (3), Janues).

H. J. Stretton-Ward (8) British Excelsion sed.

FIRST-CLASS CERTIFICATES (Loss of NOT MORE THAN 10 MARKS).

W. B. Glibt (2/4 Levis).

H. Lane (4/4 B8 AJ.

T. P. G. Valo (3/5 Norton).

Tom Peck (3/5 Arriel).

H. Denk (3/5 Arriel).

H. B. Punk (2/4 Levis).

L. E. Cluele (Aldays-Allon)

H. Morgan (Morgan).

H. Poolo (6/4 BS-Arriel se).

W. Johnson (3/4 No.Triel se).

H. Johnson (3/4 No.Triel se).

H. Johnson (3/4 No.Triel se).

W. Johnson (3/4 No.Triel se).

W. Rateliffe (3/2 Humber).

E. A. Appleheo (3/4 Humber).

E. Kahn (2/4 Levis).

G. Kohn (2/4 Levis).

W. Rateliffe (3/2 Brough).

G. Stobart (5/6 Janue).

H. W. Gendmany (8/4 Borden sec).

G. Stobart (5/6 Janue).

H. W. Gendmany (8/4 Brough).

G. H. W. Gendmany (8/4 Brough).

H. W. Glendmany (8/4 Brough).

H. W. Glendmany (8/4 Brough).

H. Detty (Norton).

K. T. Achop (2/4 Levis).

H. B. Liene (8/4 Morgan).

H. Petty (Norton).

K. T. Achop (2/4 Norton).

Reg. Brown (3/4 Subsens sec).

G. W. Walker (3/4 Norton).

Reg. Brown (3/4 Subsens sec).

G. W. Walker (3/4 Norton).

Reg. Erown (3/4 Subsens sec).

Reg. Brown [31/2 Sunbeam so.).

SECOND-CLASS CEPTIFICATES (Loss of Not More and More

A. W. Sims (6-6 Acme sc.).

THRD-CLASS CERUIFICATES (Loss of NOT MORE HAN 35 MARKS).

J. C. Walker (24) Edmund-Japl.

Sub-Lt. Jameson, R.N., (10 Henderson).

F. W. Applebee (44), B.S.A.).

H. Harper (8 Matchless sc.).

H. Smytheman (3 Ivy).

B. Porter (3 A.B.C.).

T. W. B. Urwa (24), Levis).

C. G. Smith (Norton sc.).

C. G. Smith (Norton sc.).

BEST PERFORANCE IN ACCELERATION HILL-CLIMB TEST. F. A. Applebee (3 A.B.C.) | tied. Equal E. A. Colliver (5 A.B.C.) | weight and time.

THE AWARDS ANALYSED.

	_		Solo.				Sidecars.		
,	Single 2-stroke.	Twin 2-stroke.	Single 4-stroke.	V twin,	Flat Twin.	4-cyl.	Single.	V twin.	Cycle cars.
Started	21	I	26	6	6	1	12	15	4
Special prizes, etc	4*	-	2†	3‡	. –	-	2	2§	
Gold medals	1	. – 1	3	. 2	1 —		2	4	
First class certificates .	10	- 1	8	r	4	- 1	2	5	2
Second class certificates		I ı i	6	1		_	4	3	1
Third class certificates .	3		2		т .	~ т	i i	ĭ	
Retired	1 4	_	I	r	1		1	2	_

*W. B. Gibb (Levis), Caliborpe Cup and best performance in 250 c.c. class. F. Porter (Levis), second for Calihorpe Cup, and winner of Levis Cup. B. Kershaw (Verus), best performance in 350 c.c. class.

† L. Scaley (4\frac{1}{2} B.S.A.), best performance in 750 c.c. colo class. J. A. Watson-Poourne (4 Biackburne), best amateur performance.

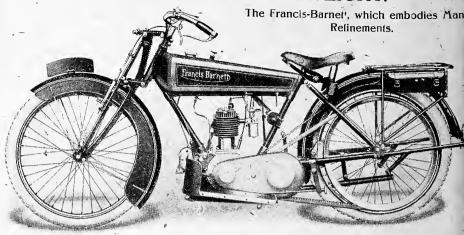
‡ Ente Williams (3\frac{1}{2} N.U.T.), Colmore Cup. H. J. Willis (10 Reading Standard), best solo performance,

1,000 c.6. Sunbeam sc.), third best performance and best performance in class.

§ L. Newey (6-7 Ariel sc.), second best performance, and best performance in 1,000 c.c. sidecar class.

H. Boynton (5-6 James sc.), best performance in 750 c.c. sidecar class.

A HIGH-CLASS LIGHTWEIGHT.

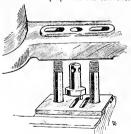


A new lightweight-the 23 h.p. Francis-Barnett, of interesting design.

If only on account of the pre-war connection of Capt. Gordon Francis with the Lea-Francis firm, a new motor cycle designed by him is of more than usual interest.

The machine we inspected last week certainly comes up to expectation, although there is nothing of an unorthodox nature in its make up. In place of novelty, refinement is apparent at many points, while on the road it handles easily, is exceptionally quiet, and provides an unusually comfortable riding position.

The engine is the 23 h.p. four-stroke J.A.P. with side-by-side valves, and has a long tail exhaust fitted in conjunction with a very large silencer. The transmission employed is the conventional



The gear box adjustment of the Francis-Barnett.

chain-cum-belt through a two-speed Sturmey-Archer gear box, the driving chain being totally enclosed in an aluminium dustproof case.

A frame of the diagonal top tube type is used in conjunction with a saddle tank of handsome design finished in red with black panels. This tank has rounded edges, and contains a recess at its forward end partially enclosing the steering head.

In order to facilitate chain adjustment, a rather neat device is embodied in the gear box mounting, consisting of a short vertical shaft carrying an eccentrically disposed pin. This engages in a slot in a steel plate lying on top of the gear box, and on being turned slides the gear unit backwards or forwards as required.

Brake Adjustment.

Another refinement is the method of adjusting the parallel motion rear brake. This is shown in one of the illustrations, from which it will be seen that the cperating rod is fitted with a hand-operated disc on the end of the pull rod. This is quite common practice on cars, but we think it is the first time it has been used on a motor cycle. Lubrication is effected by a plain hand pump, which is neatly let into the tank.

Large footboards with toe shields add to the comfort of the rider, and a well fitting undershield and belt guard protect the engine, gear box, and belt from mud and water.

Two exceptionally large toolbags, containing a complete tool kit, are other

good features of this handy little smount. Altogether the new Fram Barnett, is a very smart and attract proposition, and one which promises take a front rank position in the wo of motor cycles.

The equipment includes C.A.V. meto, B. and B. carburetter, Brampt forks, and Dunlop 26×24in. tyres.

price is eighty-four guineas.



Details of the parallel action brake and car type adjustment.

MOTOR CYCLE SPRING NUMBER AND BUYERS' GUIDE.

MARCH 25th has been fixed as the date of the Annual Spring Number of The Motor Cycle. Special articles are in course of preparation, and a feature of the issue will be an illustrated Buyers' Guide.





Motor Cyclists at Oxford and Cambridge Universities -Organise Sporting Event.

THE first post-war inter-'Varsity motor cycle event was held last week end, and resulted in a dead heat, each

University gaining 32 marks.

The day-was beautifully fine, though the wind was cold. This, however, served to dry the surface of Aston Hill, which to dry the surface of Aston Hill, which was in pretty good condition, though a trifle bumpy in places. The hill is ideal for the purpose, and has long been popular among motor cyclists. There were numerous spectators. The event created a great deal of interest, and, considering the fact that the delivery of new machines is slow, the number of competi-tors was quite remarkable. Of the two tors was quite remarkable. Of the two Universities, Cambridge produced by far the most entrants, and it is a curious fact that motor cycling has always flourished that motor cycling has always flourished to a greater extent on the Cam than on the Lais. Among the numerous machines to be seen at the start, we noticed two of the new N.U.T.'s, a Beardmore-Precision, and one of the new flat-twin Harley-Postland Davidsons.

Among the competitors, the best known rider produced by Oxford was Openshaw, who is now a professor of engineering at the University, and is riding an overhead valve Zenith, the only machine of its type in the competition, which, as usual, was

in the competition, which, as usual, was wonderfully fast, and well ridden.

On the side of Cambridge, we noticed J. V. Prestwich, son of Mr. J. A. Prestwich, of J.A.P. engine fame, who was iding a Diamond. The organisation was good and the field telephone worked with the width. out a hitch, while the events were quickly un off.

Class A (250 c.c.) was supported by Sambridge only. Result:

1. 2. 3.	J. J. E.	V. Prestwich (Diamond), Cambridge L. Giles (Radco), Cambridge W. D. Madoo (Levis), Cambridge	m 1	5
Ι	11	Class B (300 c.c.)		

F. Wilder (Omega), Cambridge 1 3 Class C (350 c.c.) was also supported by Cambridge only. Result:

1 S. J. Bassett (Douglas), Cambridge ... 53 2 S. Robinson (Douglas), Cambridge ... 1 0 3 A. Richardson (Douglas), Cambridge ... 1 6

IMPORTANT DATES.

Mon . March 1st, to Tues , March 16th— Lyons Fair.

Fri . April 2nd-M C C. Lond n - Land's End Trial,

Fri., April 2nd— Inter-club Meet at Richmond, Yorks Fri., May 21st— M.C.C. London Edinburgh Run.

Sun., May 30th— Motocycle Club de France Grand Prix Race

Tues., June 15th-Junior T.T. Race, Isle of Man. Thurs.. June 17th— Senior T.T. Race, 1s'e of Man.

Mon., July 5th, to Sat., July 10th— Scottish Six Days Trial. Wed, and Thurs., July 7th and 8th— Arbutbnot Trophy Trial.

Wed. July 7th— Union Motocyclist de France et Automo-bile Club de l'Ouest, Grand Prix Race for Motor Cycles and Cycle Cars.

Mon., July 12th, and Tues, July 13th-Irish End-to end Trial. Sun., July 25th, to Aug. 1st International Six Days Trial in France.

Sun., Aug. 1st, to Wed., Aug. 4th -Anglo-Dutch Trial.

Mon., Aug 23rd, to Sat , Aug. 28th -A.C.U. Six Days Trial.

CLASS D. \$\frac{1}{2}500 \text{ c.c.} F. P. D. Scott (Rudge), Balliol, Oxford
 J. R. Thomson (Norton), Cambridge ...
 P. G. Kennedy (Rudge), Oxford ...
 CLASS E.—600 c.c.

 B. A. Hall (Triumph), Cambridge ...
 J. M. Pattinson (Triumph), Cambridge
 L. C H. Cave (Triumph), Cambridge 50 CLASS F .- 600 c.c. (SIDECARS).

 J. A. G. Dent (Triumph), Cambridge
 R. G. Cotter (B.S.A.), Oriel, Oxford ...
 G. J. Davis (Ariel), Merton, Oxford ... 1 13 CLASS G .- 800 c.c. (Solo).

 E. R. King (James), Oxford
 H. S. Herr (Zenith), Magdalene, Oxford
 J. G. Pillerv (Brough), Exeter, Oxford CLASS H .- UNLIMITED (SOLO).

m. s. 371

403 CLASS 1 .- UNLIMITED (SIDECARS).

1. L. P. Openshaw (Zenith), Oxford ... 45 2. P. Riddoch (Matchless), Oxford ... 56; 5. O G. Smart (Sunbeam), Cambridge ... 1 1

The event concluded with a slow hillclimb over a distance of 100 yards. Slipping of clutches or touching the ground with the feet was forbidden.

with the feet was forbidden. Three Cambridge owned cars were first, second, and third respectively, and the slowest motor bicycle was Rathbone's Rover (Oxon). Time, Im. 15s.

In attaining the results, five marks were awarded for first place; three marks for second place, and one mark for third place. The first three classes were not counted, as Oxford could provide no entrants, so that Cambridge had a walk over in these events. over in these events.

A Scottish Trial 'Amidst Highland Conditions.

Glasgow Western Club's Trial for the Palmer Trophy last Saturday.



Glasgow Western M.C.C. Reliability Trial. 1. Robinson, club sec., negotiating the hairpin at the top of the Rest-and-be-Thankful.

THE first tarpaulin-swathed and begoggled competitors began to appear at Bell's Showrooms about 8.30 a.m. on Saturday, and soon fifty-eight of the sixty-four entrants were lined up by the starter in a driving drizzle. A large crowd kept the police busy, for practically every well-known make of machine was represented. The Harley-Davidson was present in force, including several flat twins. A. Lindsay sported a Scott, D. S. Alexander was mounted on a very knuttish N.U.T., W. Deans on the latest Lea-Francis, and H. Fairley on an A.B.C. The Verus team, consisting of B. Kersham, Busby, and Bird, had arrived from Birmingham to participate, and A. Brown stamped himself a sportsman by appearing on an ancient Rugde-Muthi.

Rest and be Thankful.

From Glasgow to the first check at Inverbeg nothing served to enliven the monotony of pot-holes and drizzle, save for a fleeting vision of James Beck repairing a puncture in the slush. On skirting Loch Lomond, the real Highland scenery began. At Inverbeg, most of the competitors, having ridden in fear of the promised secret check, had no time to lose.

Leaving the main road, the non-stop section began with a stunning little gradient rearing suddenly from the chaos of crags and heather. Most of the riders were new to the country, and the first right-angle corner came as a surprise to many. After this the real work of the day began in earnest. Over wet sand and protruding chunks of bedrock we crossed the summits against a hurricane, but the view of Loch Long from the heights was well worth the climb.

Rest and be Thankful found many with

Rest and be Thankful found many with hot engines and no reserve gear; but, on the whole, the performances were good. A. J. Lindsay (Scott) made a very clean ascent, the A.B.C. climbed steadily, J. V. Russell (the only Morgan entrant) took the terrific gradient cleverly, and Steels (3½ Douglas) climbed well. The two trade Verus riders, equipped with three-speed gear boxes, seemed safe; but H. Mortimer Batten, mounted on a two-speed Verus, had-nothing in hand at the final corner. The hurricane almost unsaddled him, but he got through by delicate clutch wangling. It was noticeable that at every corner the wind was blowing in a different direction, and at the worst corner I. Robinson (4 Blackburne) struck a sidecar and the wind simultaneously, and had the misfortnet to fall.

The check was half-a-mile away, and the massed descent of the mountain face was, at any rate, thrilling. As a result Deans lost time, and therefore gave up the trial, which seemed unwise. For a solid hour we rested by the bleak margin of Loch Restill, while the whirling sleet crusted our onter garments and penetrated to the impermost recesses of our clothing; but descending to the valley we found the air mild and the sun shining.

The Lunch Stop.

An excellent hunch, amidst trophies of the Highland Chase, was served at Arrochar Hotel, and here we were delighted to find our friend and erstwhile colleague Alan Hill checking in. Hill, who has recently undertaken a post in the competition department of the Palmer Tyre Ltd., was driving the Morgan he so skilfully piloted through the Scottish Six Days, and later he succeeded in scaling Glen Douglas, no mean feat on standard gears. This hill was perhaps the tit-bit of the day, for, in addition to numerous hairpins and stiff gradients, the surface is difficult. Many of the sidecars failed utterly, and not a few of the solo mounts,

so that the line of riders was now assu-

ing a somewhat weedy aspect. The greatest difficulties were now owthough, that haunting terror, the sec check, still compelled us-to ride dead time whatever the conditions. Varia non-stop sections and unexpected a served hills were encountered, and have a dim recollection of seeing dring the second of the sec

fitties had passed us in the interim.

One competitor caught fire, and noticed an English rider storm an uknown gradient at terrific speed, the fail hopelessly at the first hairpin.

little experience of Scottish trials teach one to go canny on unknown hills, at to keep a wee dram in the bottle.

The Finish.

The day finished at Cannisburn, whe most of the muddy and weatherwo riders appeared in excellent spirits, for though trying in many respects, the eve had proved thoroughly sporting, and we so excellently organised that no murm of possible improvement reached our ear

of possible improvement reached our ear At mid-day on Sunday the officials we still wallowing in a sea of figures, and were informed that two of the checke had not yet drifted in from the mounta top. We were told that, while there me to the sea to the others, the following at any rate he got through with clean sheets, and the cup will probably go to the be performer, horse-power, otc., taken in account: J. Alexander (A.J.S.), Jam Beck (3½ Sunbeam sc.) Harry Fairl (A.B.C.), Busby (2½ Verus), B. Kersha (2¾ Verus), at A. J. Lindsay (Scott).



Herts County Club (M.C. Section).

The motor cycle section of the above club has been revived, and numbers of new members are being chrolled. Berk-hamsted will probably be the official headquarters,

N.M.C.F.U. (Leeds).

A most successful musical evening was held at the Hotel Metropole on the 3rd inst., Mr. James Roberts presiding. Over 300 were present, including representatives of the York and Wakefield Motor Clubs.

Nottingham and District M.C.C.

A general meeting will be held at the Welbeck Hotel on Tuesday next, at 7 p.m. Nominations for the following are required not later than Saturday: Captain, two vice-captains, hon. secretary, hon. treasurer, and eight members for the committee. All motor cyclists are invited to attend.

Oxford University M.C.

A most successful and well-contested hill-climb was recently held, with results as follows: Unlimited solo and unlimited as tollows: Onlimited solo and unlimited sidecar classes, L. P. Openshaw (8-10 Zenith); 550 c.c. sidecar class, G. I. Davies (3½ Ariel); 750 c.c. solo class, E. K. King (5-6 James); 500 c.c. solo class, J. E. G. Harwood (3½ Calthorpe).

N.M.C.F.U. (Sheffield).

Organised by the above Union, a mass meeting will be held on Saturday, March 13th, at St. James's Hall, Bailey Street, Sheffield, beginning at 7 p.m. sharp. The speakers will be Mr. Douglas Vickers, M.P., Mr. Torkington, of the A.C.U., Mr. E. S. Shrapnell-Smith, and other influential gentlemen. The subjects for discussion are petrol prices and

Loughborough and District M.C.C.

A hearty invitation is extended to all motor cyclists of the County of Leicester to join the above club, which is affiliated to the A.C.U. An attractive programme is being arranged, and teams will be entered in the leading 1920 competitions. The opening social run will take place on Sunday next, when a good turnout is expected. Full particulars may be obtained from the hon. sec., Mr. K. S. Topping, 64, Frederick Street, Loughporough.

East Lancashire M.C.C.

Mr. A. Morton presided over the an-lual meeting, held on the 26th ult., and an interesting address discussed the ligh price of petrol and the suggested ubitrary method of taxation. The pre-ent membership total is 90, but it is uped nearly to double this figure in the near future. An open hill climb he near future. An open hill climb vill be held on July 3rd, in addition to which a most ambitious programme for he year has been arranged.

Ilkeston and District M.C.C.

A general meeting will be held at the Rutland Hotel on the 18th inst. at 7.15 p.m. On Easter Sunday, a run to Bake-well has been arranged, starting at 1 p.m. from the Rutland Hotel.

Reading and District M.C. and L.C.C.

At the annual meeting held recently, a resolution protesting against the suggested form of motor cycle taxation was unanimously adopted, and a copy forwarded to Lt.-Col. Leslie Wilson, M.P. for the borough of Reading.

Middlesex M.C.C.

Mr. J. A. Prestwich, of engine fame, has accepted the position of president. On the 21st inst. the opening run will On the 21st inst. the opening run will take place to Bedford, the start being from the "Red Lion," Barnet, at ten o'clock. The hon. sec. is Mr. S. A. McCarthy, 2, Nightingale Road, Lower Clapton, London, N.

Burton and District M.C.C.

A new club, with the above title, has recently been formed, and has been enthusiastically supported. A general meeting will be held at the Station Hotel on the 19th inst. at 7.30 p.m., when all motor cyclists are invited. The hon, sec. is Mr. A. E. Cook, 60, Outwoods Street, Burdonen Trans. Burton-on-Trent.

Bedford and District M.C. and L.C.C.

Already four silver challenge cups have been presented, and it is hoped that more will be forthcoming. In addition, a number of gold and silver medals are to be awarded to winners of events. The opening run will be held on Sunday next, weather permitting, meeting at John Bunyan's Statue, Goldington Green, at 2 p.m. A meeting will be held on Saturday at headquarters, Rose - Hotel, High Street, at 8 p.m.

Manchester M.C.

The opening run will be held on the 21st inst., and is open to all local The start will be made at 2.30 p.m., from the Swan Hotel, Bucklow Hill, Cheshire. All intending competitors are asked to assemble at 2 p.m. The honsecretary is Mr. W. A. Cottrell, 75, Broad Street, Pepdleton, Manchester.

Have you Signed the A.A. Petrol Petition?

Remember patrol prices affect others than motor cyclists therefore GET YOUR FRIENDS TO SIGN ALSO.

Every Signature counts!

Cross Keys and District M.C.C

On the 21st inst., the opening run will be held, and all old and prospective members are asked to attend. Mr. A. G. Dunn, 39, Gladstone Street, Crosskeys, is the new hon, secretary,

Motor Cycling Club.

An excellent entertainment followed the dinner given to past and present members of the M.C.C. Committee at Pagani's Restaurant on the 2nd inst, Some excel-lent songs were sung by Miss Head, daughter of the popular chairman.

Ilkley M.C. and L.C.C

A useful booklet, containing a list of officers, members, and fixtures for 1920, is now ready. At a general meeting, held on the 2nd inst., it was decided that the Open Reliability Trial, on June 5th, should be held over a distance of boat 100 miles. about 140 miles.

Swinton and District M.C.C.

The opening run to Chester will Le held on April 3rd. Prospective members should apply in person at the weekly meeting, held every Tuesday, at 8.15 p.m., at the Bull's Head Hotel, or communicate with the hon, secretary, Mr. L. H. Harris, 15, Kersal Avenue, Pendlebury.

North Derbyshire M.C.C.

A meeting of the affiliated clubs' representatives will be held at "The Mallet Tool," Chesterfield, on the 27th Maint 1001. Chesterneid, on the 2/th inst., at 3.50 p.m., in order to frame rules governing the competition for the East Midalad Centre Challenge Trophy, which is to be awarded to the club making the hest performance in the three open trials allotted to the East Midland District.

North Eastern A.A.

Representatives from the Sunderland and District, Durham and District, and Newcastle and District Motor Clubs attended a meeting of the Motor Cycle Board of the above association, and decided to protest against the suggested system of taxation. It was provisionally decided to include in the programme of events a reliability trial for Whit-Monday, a hill-climb for June 26th, and an inter-club team trial for August 24th. A competition committee was elected.

Ealing and District M.C.C.

Over forty members and their friends attended the annual dinner, which was held recently at Buol's Restaurant, with Major A. M. Low in the chair. The hom. sec., Mr. F. Longman, remarked that the amount of support accorded in 1919 was disappointing. The Longman trophy was presented to Mr. Malone, the winner of the half-day reliability trial held a short time ago. An excellent concert followed the dispersion and was much assentiated. the dinner, and was much appreciated.

Cab News .-

Proposed New Hull Club.

It is proposed to form a new club for Hull, to be called the Hull Motor Cycle Club. All motor cyclists are invited to join, and should communicate with the hon, sec., whose name and address will be published shortly in these pages,

Widnes M.C.C.

On the 14th inst, the annual meeting will be held, and the usual business transacted. Particulars as to time and place will be published in the local press. All motor cyclists are cordially invited. Prospective members should apply to the hon. sec., Mr. A. J. Bailey, 57, Regent Road, Widnes, for all information.

Bolton and District M.C.C.

At a meeting held recently, the opening run was arranged to take place on the run was arranged to take place on the 28th inst. The following officials were appointed for the current year: Mr. H. Catlow, chairman; Mr. S. Parker, trials hon. sec.; Mr. Crompton Guthrie, captain; and Mr. C. Walmsley, subcaptain. The hon. sec. and treasurer is Mr. J. E. Whittaker, 205, St. George's Road, Bolton (telephone 1320), to whom all intending members should apply for particulars. The subscription is now 7s. 6d., which sum includes affiliation (under scheme A) to the A.C.U.

MOTOR (YCLE

Future Club Events.

HITTE CHUB EYENIS.

Mar. I. 2-nd 13.—Bath ond West of England M.C.
Reliability Trial.

Mar. 13.—Coventry and Warwickshire M.C. Opening Run.

Mar. 13.—Devices, 2.39 p., 10.

Mar. 14.—Beliam. 2.30 p., 10.

Mar. 15.—McC. Opening Run to Brighton.

Mar. 15.—Belgiord and District M.C. and L.C.C.

Meeting, 8 p.m.

Mar. 16.—Berry Cathem, and District M.C.

Mar. 19.—Belliord and District M.C. Opening Run and District M.C. Opening Run and District M.C. Opening Run and District M.C. Opening Run.

Mar. 19.—Belliord and District M.C. Annual Meeting.

Mar. 19.—Belliord and District M.C. Penalty

Run.

Mar. 19.—Eastbourne and District M.C.C. Penalty

Run.

Run.

Mar. H.— Hanes M.C.C. Annual Meeting.
Mar. H.— Narbourne and District M.C.O. Pennalty
Mar. H.— North London M.C.C. Paperchase.
Mar. M.— Surbiton and District M.C. Opening
Mar. Run.
Mar. Surbiton and District M.C. Opening
Mar. Run.
Mar. M.— Woolwich, Plumsteed, and District M.C.
Home Counties (Open) Hill-climb, organised
by Essex Motor Club.
Mar. H.— Middlesex M.C.O. Opening Run.
Country Headquarters.
Country Headquarters.
Mar. 11.— Stalpbridge and District M.C. Sociol.
Mar. 12.— Rechester, Chatham, and District M.C.
Short Run.
Mar. Short Run.
Mar. Short Run.
Mar. Short Run.
Mar. L.— Country Headquarters.
Mar. 14.— Stalpbridge and District M.C. and L.C.C.
Mar. 14.— Stalpbridge and District M.C. and L.C.C.
Mar. 17.— Unton and S. Beds. A.C. Opening Run.

Mar. 3.— The thron and S. Beels. A.C. Opening Run.
Mar. 4.— Essee M.C. Open Hill-elimb.
Mar. 2.— Esinburgh and District M.C. Winter
Rial.
Mar. 3.— Establish and District M.C. Winter
Mar. 3.— Establish and District M.C. Winter
Mar. 3.— North London M.C.C. Run to Stevenage,
Mar. 3.— Estabourne and District M.C. Breakfust Run.
Mar. 3.— Bolton and District M.C. Opening Run.
Mar. 3.— Bolton and District M.C. District M.C.
Inter-club Run.

AMERICAN

An owner of an Indian outfit enjoying the trail in winter. A

SNOW

SCENES.

North London M.C.C.

Twenty-two members took part in the opening run to Great Missenden recently and a most enjoyable time was spent and a most enjoyable time was spent.

An exceedingly sporting programme habeen arranged for Easter, and moto cyclists of both sexes are cordially in vited to join the club, and the strengthen its position. Mr. Bernare, Staley, Victoria Avenne, Finchley, N. Staley, Victoria Avenne, will be pleased to give all particulars.

Stalybridge and District M.C.

The programme of events for 1920 ha now been provisionally fixed, and shoul prove of considerable interest. For the current month two events are scheduled a social opening run on Sunday nex and a social on the 21st. Intereste motorists are asked to communicate wit the hon. sec., Mr. G. E. Watts, Balmor House, Stalybridge, when all particula will be given.

Manx M.C.C.

Recently the first hill-climb organis by the club was held on Creg-na-Baa Hi three-fifths of a mile being the distar timed. The fastest climbs were made J. Mylchreest (3 A.B.C.), 58s.; T. Shes (7-9 Indian), 58.5s.; and L. Dyer Triumph), 60s. Dyer's performance v particularly interesting, in view of 1 fact that his machine was a 1911 mod The winning A.B.C. was only delive: the day previous to the climb.

Eastbourne and District M.C.C.

A booklet, containing a list of A.C. fixtures, club runs, and competitions nxtures, club runs, and competitions. 1920, is now available. On the 14th penalty run has been arranged, demencing at 10 a.m. Prizes for this evwill be presented by Mr. R., A. Niemayer. On the 21st a run (starting the 1st and 1st mayer. On the 21st a run (startin p.m.), and on the 28th a breakfast to Cranbrook (breakfast, May Garlar starting at 7 a.m., will be held. A f days' tour of Devonshire has also b arranged, to commence on April 1st.



Woolwich, Plumstead and District M.C.C.

The booklet containing a copy of the rules and fixture list for 1920 is now ready. On the 20th inst, the Home Counties open hill-climb, organised by the Essex Motor Club, will be attended, and on the 28th an inter-club run with the Rochester M.C. to Tunbridge Wells has been arranged. A special prize is to be awarded to the member who introduces the greatest number of new members during the year. The subscription is 10s. per annum, payable in advance, and all correspondence regarding membership should be adressed to the hon. sec., Mr. F. J. Ellis, 3, Nightingalo Place, Woolwich, S.E.18, who will gladly furnish all particulars.





A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," ao, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are triged to write clearly and on one side of the paper only, numbering each query separately, and keeping a c-bpt for ease of reference. Letters containing ligal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Endorsement of Licences.

Recently I was summoned for riding a motor cycle and sidecar with the side light out. Will you please inform me if the Court had the power to endorse my licence for so trivial an offence? Up to now I have a clean licence.—

Your licence may be endorsed for any offence under the Motor Car Act, except for the first two occasions on which you are sunumoned for exceeding the speed limit.

Four Stroking.

(1.) I have a 1915 Baby
Triumph motor cycle which is
constantly four-stroking; is this
harmful to the engine, and if so,
how am I to remedy it? (2.) I
can only obtain seventy odd miles to
the gallon; is this good enough? if not,
how can I get more mileage per
gallon? (3.) Please explain how to
time this engine.—W.H.McK.

(1.) It is not harmful to the engine in any way, but a common failing with all two-stroke engines. You might try the effect of lowering the petrol level slightly and a different plng. (2.) This would also improve your petrol consumption.
(3.) Time the engine in the following manner: Place the piston exactly on top of the stroke and connect up the magneto with the points just broken and the ignition lever fully retarded.

The Rule of the Road.

(1.) Does such a law as the following exist? "II a 'car is entering a main road from a by-road, the driver of that car must first stop his car and see that the main road is clear before entering it." (2.) Could any claim be made by a car on the main road if an accident happened, and this precaution was not taken by a car entering the main road 2—E.S.S.

(1.) While there is actually no law on the subject, it is understood that a car entering a main road has to take due precaution and give way to any vehicle proceeding along the main road. (2.) While we doubt if any claim could be made by the driver of a car travelling on a main road in the event of an accident having happened to him through the carclessness of anyone entering the main road from a side road, we think this fact would be duly taken into consideration in fayour of the former in a court of law.

Fixed or Variable Ignition?

I should be much obliged if you could give me some assistance in making an improvement in the running of my 1915 four-stroke 23 h.p. single-cylinder engine. I find that it does not run as well as other machines fitted with the same a metallic tapping noise, which appears to emanate from the region of the exhaust valve. This noise is apparent up to speeds of about 22 m.p.h., when it disappears. It can be heard when the engine is both hot and cold, and is always there when running under normal load. It is suggested that the noise is a common "knock," but I doubt this, as it has been there since the machine was new, and, moreover, I have just had the engine down for thorough overhanl and find the bearings in excellent condition. The engine seems fairly powerful, but does not climb hills as well as a similar machine. Personally, I am inclined to think that the ignition is too far advanced. Could you give me the correct timing for ordinary tour-ing? I should say that the magneto has fixed timing. Do you know if any attachment is made that can be fitted to make this variable ?-R.H.E.B.

Without actual inspection, it is impossible to diagnose the cause of the knocking. It may be due to excessive clearance at the

may be due to excess.

short valve tappet. You do not say if the machine against which you have compared your own, is fitted likewise with fixed ignition timing. Fixed timing is not nearly so satisfactory as variable, especially with machines which have only a small reserve of power; but we do not know of any method to the word of any method whereby you can



A SOVEREIGN'S WORTH OF PETROL.

2700 MILES

it would be as well to sell this and obtain a more up-to-date one of British manufacture. With this magneto the spark should be timed to occur 8 mm, before the top of the compression stroke. You can usually vary the timing with the type of magneto drive fitted to your engine, remembering that the position of the intermediate wheels has no effect.

Lightweight Queries.

(1.) My machine is a 2\frac{3}{4} h.p. 0.K.-J.A.P., but, unfortunately, the cylinder is cracked right at its base, although compression is excellent. Would it be necessary to fit a new piston if I fitted a new cylinder to have good compression? (2.) I wish to fit a gate change gear lever, as on the New Imperial, in place of the quadrant at present fitted. Is this practicable? (3.) What is the highest speed attained by a lightweight?—T.W.D.

(1.) Before going to the expense of a new cylinder, we should recommend that you submit it to a reliable firm of welders, as it may be possible to make an efficient repair. (2.) Not having the actual details of your machine before us, we regret that we are anable to suggest a fitment such as you require. (3.) On Brooklands, speeds exceeding 60 m.p.h. have been obtained by 2½ h.p. machines; on the road, however, 45 m.p.h. is an extremely good speed for a machine of this size.

Drip Feed Lubricator Trouble.

I should be glad if you could help me in the following matter: Machine, 1914 3½ b.p. Sunheam; Millford Skiff sidecar; Inbrication, Best and Lloyd feed. This lubrication works hadly, and sometimes not at all. I have had the machine down three times, and sent it once to the garage. It is perfectly clean, as is the tank. The oil is Gargoyle, as recommended. I fancy the cause is the ball and spring valve, between the pump and the drip feed; but I cannot see the reason for it, as it is quite clean. Any advice you can give me will be appreciated.—J.E.H.A. Faulty action of the non-return ball valve, between the pump and the drip feed, may cause trouble, also leakages round the top and base of the sight-feed glass. These are sometimes caused by the glass being cracked. Correct action of the pump depends largely upon the cleanliness and correct working of the pen-steel disc valve at the base of the sight-feed body.

S.C.

MOTOR (YCLE

High Petrol Consumption.

I have a 4 h.p. Douglas sidea true a 4 n.p. Doughas side outfit, new last month, fitted with an Amac carburetter (No. 28 jet), which does only 36 miles per gallon on No. 1 petrol. It has covered 217 miles up to the present without my having to open the tool bag. It runs beautifully at all the presed with the second true of the second with the second period to the second period tool bag. It runs beautifully at all speeds, and takes full air and throttle. It has so far taken all hills on top gear. The other day it went up a 1 in 5 gradient on full air and two-thirds throttle on top gear with a passenger. I tried a No. 26 jet, but it will not run on this. -It starts easily, and I rarely exceed twenty-five miles an hour.-N.E.E.

The trouble is probably due to the level of the petrol being too high and to a leak in the tank or petrol pipe. The best way in the tank or petrol pipe. The best way to lower the petrol level is to place an aluminium washer or two under the spring clip above the float.

Reliability of Dynamos.

I have ordered a new 8 h.p. outfit, and I am wondering whether I shall have a lighting dynamo fitted, as advertised in the makers' list. The dynamo is manufactured by a famous firm of lamp and accessories makers. Would you please tell me whether these things are yet looked on as reliable? Are they likely to last a good proportion of the motor cycle's "life"? Is there much trouble, except bulb trouble?-

You need have no fear as to the satisfactory performance of a dynamo light-ing set manufactured by one of the leading makers. The dynamo itself may easily prove to be more reliable than the motor cycle engine, but you may have a certain amount of trouble with the bulbs, unless the machine is a spring frame model, as the filaments suffer occasionally from vibration.

Firing on One Cylinder.

May I ask your advice con-cerning my 1914 6 h.p. twin? The trouble, whatever it is, came gradually. When starting out the engine would run all right. until it felt the load, when it would miss and nearly stop, the throttle having no effect for about 200 yards. After ing no effect for about 200 yards. After this it would go fairly well without further trouble. The symptoms got worse, until finally the front cylinder gave out completely, and after adjust-ments it would go on front and only badly on the back. Compression is good, it sparks well at the plugs on the cylinder, the valves are correctly timed, and the petrol passages are free. The magneto was recently overhauled. There is a flame from point to point across the contact breaker at all speeds, but varying in intensity with speed. Is that as it should be?—A.W.P.

The trouble you experience is evidently due to a magneto defect, as there should certainly be no sparking across the con-tact breaker points. We would suggest that you submit the magneto to a reliable firm of repairers. The symptoms also point to an air leak in the induction system.

Valve Timing.

I have an old pattern 5 h.p. a.i.v. twin motor cycle, with handle starter, Schebler carburetter, and Simms-Bosch magneto. Will you kindly give me the correct timing of valves for this machine?—L.H.

The correct timing of your engine is as follows: Inlet valves, automatic. Exhaust valve should be timed so that it just closes when the piston reaches the top dead centre of the exhaust stroke. Ignition should be timed to occur at top dead centre of the compression stroke: that is, one complete revolution after the exhaust valve has closed, the ignition control lever to be two-thirds retarded when timing.

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read



the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successful automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

RECOMMENDED ROUTES.

BIRMINGHAM TO BIGGLESWADE .- D.G.O'C. Birmingham, Solihull, Warwick, Southam, Daventry, Northampton, Yardley Hastings, Bedford, Sandy, Biggles-

GLASGOW TO SHEFFIELD .- V.C.M.

Glasgow, Lesmahagow, Abington Inn, Beattock, Lockerbie, Ecclefechan, Long-town, Brampton, Alston, Middleton-in-Teesdale, Barnard Castle, Scotch Corner, Leeming, Boroughbridge, Wetherby, Ferrybridge, Pontefract, Barnsley, Shef-

EDINBURGH TO OXFORD .- A.G.

Edinburgh, Leadburn Inn, Moffat, Lockerbie, Ecclefechan, Gretna Green, Carlisle, Penrith, Kendal, Lancaster, Freston, Wigan, Warrington, Tarporley, Whitchurch, Wellington, Bridgnorth, Kidderminster, Bromsgrove, Headless Cross, Aleester, Stratford-on-Avon, Shipston-on-Stour, Enstone, Woodstock, Oxford. Approximately 345 miles.

NORWICH TO BOURNEMOUTH .- C.W.M.

Norwich, Wymondham, Attleborough, Thetford, Barton Mills, Newmarket, Six Mile Bottom, Whittlesford, Royston, Baldock, Stevenage, Welwyn, Wheat-hampstead, St. Albans, Watford, Rick-mansworth, Harefield, Uxbridge, Staines, Bagshot, Hartley Row, Basingstoke, Winchester, Romsey, Cadnam, Lyndhurst, Christchurch, Bournemouth. Approxi-mately 205 miles.



A New Title.

The Ahingdon Ecco, Ltd., Birmingham, are changing the name of the company to Ahingdon Works, Ltd., Birmingham.

New Hudson Productions.

The price of the two-stroke motor cycle is now advanced to £75. The company, however, guarantee that this price will not be increased on any machines delivered before Whitsuntide.

"The Link."

"The Coventry" Chain Co., Ltd., Coventry, inform us that they are issuing a special number of their interesting house magazine The Link, and that they will be pleased to send a copy to readers upon receipt of application.

Show Catalogues.

A further supply of catalogues of the last Olympia Show having been printed, copies may be obtained from the British Cycle and Motor Cycle Manufacturers' and Traders' Union Ltd., The Towers, Warwick Road, Coventry, price 1s. 6d. each.

A Check on Mileage.

Cowey speedometers were used by all members of the winning team in the recent Paris-Nice Trial. One successful competitor used a special Cowey gradu-ated in kilometres, which proved invalu-All instruments were in good condition at the conclusion of the event.

Oiltight Jointing.

We have received a sample of a new jointing for gear boxes and crank cases: It is known as Syzol, is tougher than brown paper, makes an oiltight joint, and is practically indestructible. It is being sold by Messrs. Brown Bros., Ltd., 15, Newman Street, London, W.1.

Popular Tyres.

The successful machines in the 250 350, and 500 c.c. solo classes, the 500 and 1,000 c.c. sidecar classes, and the cycle car class, of the Paris-Nice Trial, were all fitted with Hutchinson tyres, as were also the winners of the 500 c.c. as were also the winners of the 500 c.c. sidecar machines in the succeeding Nice-La Turbie hill climb.

Catalogues Received.

We have received from Messrs. F. Pratten and Co., Midsomer Norton, Bath, an interesting catalogue of motor cycle sheds of all sizes, suitable for housing motor cycles and sidecar outfits.

A comprehensive catalogue of motor accessories has also been received from the Woodward Manufacturing Co., Ltd., of Dudley Street, Birmingham.

The New Hadson lightweight is illustrated and described in a new booklet, just to hand, from this company.

ADVERTISEMENTS in these columns -First 12 words 3, and 3d. for every adlitional word. Paragraphs of under 8 words re charged double rate. Each paragraph is harged separately. Name and address must be counted. Series discounts, conditions, and pecial terms to regular trade advertisers will e quoted on application.

Postal Orders and Cheques sent in payment for dvertisements should be made payable & Co. o ILIFFE & SONS Ltd., and crossed_ reasury Notes, being untraceable if lest in ransit, should not be sent as remittances.

All advertisements in this section should be companied with remittance, and be addressed the offices of "The Motor Cycle," 20, Tuder treet, Lenden, E.C.4. er 19. Hertford Street, oventry. To ensure insertion letters should e posted in time to reach the offices of "The loter Cycle." by the first post on Friday torning previous to the day of issue.

All letters relating to advertisements should usto the number which is printed at the end of ich advertisement, and the date of the issue

t which it appeared.

The proprietors are not responsible for clerical r printers' errors, although every eare is taken savoid mistakes.

NUMBERED ADDRESSES.
For the convenience of advertisers, letters may be dressed to numbers at "The Motor Cycle" Office, hen this is desired, the sum of 6d, to defray the cost of hen this is desired, the sum of 6d, to defray the cost of gistration and to cover postage our epicks must be added the a levertisement charge, which must include the null Box one, c/o "The Motor Cycle." Only the number II appar in the advertisement. All replies should be dressed No. one, c/o "Motor Cycle." or, Tudor Street, C.4. Replies to Bax Number advertisements containing millumers should be sent by registered post, but in all such sets it is advisable to make use of the Deposit System. In the case of motor cycles offered for sale under a box immer, as it is unusual for these to be soid without first lag laspected by the intending purchaser, advertisers will sillitate business by embodying in their advertisements me mention of the district in which the machine ered may be seen and tried.

DEPOSIT SYSTEM.

PEOPOSIT SYSTEM.

Perons who besitate to seen innone to unknown persons by deal in perfect safety by availing themselves of our posit System. If the money be deposited with "The tor Cycle," both parties are advised of this receipt. The time allowed for a decision after receipt of the olds is three days, and if a sale is effected we remit the count to the seller, but, if not, we return the ornount count to the seller, but, if not, we return the ornount riage one way. For all transactions up to f. to, a posit fee of 1- is charged; on transactions over f. to a under f. f. o., To; and on all transactions ef. f. o., \$\frac{1}{2} \text{.} \text{.} And the green and inney to the first of the country of the co irous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no wer to their enquiries are requested to regard the may on an indication that the goods of courtised have sady been disposed of. Advertisers often receive so my conquiries that it is quite impossible to reply to the one by post.

MOTOR CYCLES FOR SALE.

A.B.C.

B.C. Solo, £10 deposit paid; delivery promised early May; what offers?—Box 2,187, c/o The otor Cycle. [7474

B.C. Solo, £10 deposit paid; delivery promised carly May; what offics?—Box 2.157, c/o The star Oyde.

B.C. T.1 model, actually delivered, very sportly rad—Box 2.2 with the bightet premium secures; ready rad—Box 2.2 with the secure of the se

You had better ORDER A NEW MOTOR CYCLE NOW-

il you are anxious to secure a machine in time for the coming season's riding. As everyone interested in motor cycling knows, there are exceptional difficulties handicapping the trade just at present. It is by no means certain that you will be able to obtain the new machine of your choice without some delay, for the effects of the recent moulders' strike and of transition difficulties generally are still with us. But of one thing you can be certain, and that is that WAUCHOPE'S can give you the best possible service, and can offer you exceptional facilities for securing the new machine of your choice at the earliest possible moment.

If your circumstances are such that any period of delay is impossible, we should advise you to

BUY A SECOND-HAND MACHINE

At our well-known from our stock. premises in Shoe Lane we have always an exceptional range of Second-hand Motor Cycles, Sidecar Combinations, Light Cars Motor Scooters, and every type of machine for economical motoring. Although it is very difficult just now for the average buyer to find a stock of second-hand machines which offers him a variety of choice, this facility exists at WAUCHOPE'S. Everyone requiring a mount is cordially invited to come to Shoe Lane and make a selection

FROM OUR

If this is inconvenient, a letter, wire, or telephone message will receive our very best attention.

Wauchope's

9, Shoe Lane, Fleet Street, London, E.C.4.

'Phone: Holborn 5777. 'Grams: Opificer, Fleet, London.

MOTOR CYCLES FOR SALE,

A.B.C.

A.B.C., 4-speed, just returned from makers in February after complete overland, including cam-elling and plating, at a cost of ±50; best efter over \$140 secures; seen Limmkshire.—Box 2,090, cla The Maker Confe.

1902 1915 3 3 ½ 1, 1. A B.C., engine No. 892, 4 sepsed and electr b, spring traine, alle-bain drive, Charled single lever embardette, Lieus bead lainy and horn, electronic treat high, new Palinet cord on back, in good condition, and very tast; offers—Bowen, Melbox, Argoed, Mon.

Abingdon.

Abingdon King Dick, new 1920, 515h.p., 3-speed, with sidecar, complete; \$150.—Frank Whitworth, Ltd., 139, New St., Birmingham. K8543 A BINGHON King Dick, 355h.p., 1914 engkraft Condition; Saturday attennoons; £55.—27, Fairbridge Red, Upper Holloway.

ABINGHON Sh.p. C.R. Combination, 1914, but mile-use only 2,000, Morage S years, 3-speed, K.S., lamps, horn, speedometer, perfect order; £95.-40, Upper St. Miny's Rd., Bearwood, Birmingham, (Xe268 A BIN(110N-K.D., 1916, 315h.p., 4-speed countershant model, kick starter, enamelling, plating unscratched, tabes unpanetured, P. and H. lamp set, Lucas hour, any trial; £72.-10, Lyndburst Terrace, Burking Rd., East Ham, E.

A.J.S.

JACK HEALY, Cork, official A.J.S. agent.-Rotational delivery. No premiums accepted. [6485]

CROW Bros. High St., Guildford, A.J.S agents since 1912, accept no premiums. [X7943 A.J.S. 1919 Military Model, and Milliord best side-car, spare wheel, Lucas lamps, horn, etc.; £168.

A.J.S. 6h.p. Twin, 3-speed, kick start, clutch; £90-41, Cavendish Rd., Brondesbury, N.W. Write.

23h.p. A.J.S. Motor Cycle, 2-speed, complete accessories, perfect condition; £50.—Butten B ← 4 accesso
Cullompton.

Cullompton. [6633]
1920 A.J.S. Combination, ready at works for delivery
now; what offers?—Mills, 2S, Ifield Rd., West,
Brompton, London. [X6213]

Brompton, London.

B RAND New 1920 A.J.S. Combination, delivery this week; first cash £215.—Raymond Yeoward, Porterock, Blundellands, Liverpool. (K2206 A.J.S. 5-6h.p. Twin 1914 Combination, very nice condition, 5-speed counterbart; £115; die mywhere.—356, Lordship Lane, E. Dulvich. [685]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 6h.p. A.J.S. combination, spare wheel, detachable wheels, 1918 or 1919 model; £197/10. [7422

A.J.S. Combination, brand new, all green, spare wheel, hood, hood bag, screen, storm amon; best offer; seen any time.-26, Morton St., Royston, Herts. [7316

19 16 6h.p. A.J.S. Combination, Lucas dynamo, electric lamps and horn, spare wheel and tyre, shabby but sound; £165.—Crow Bros., Guildford. A J.S. 25th.p., 2-speed countershaft, speedometer, tools, etc., 1e-enamelled and overhanded; any trial Coventry district; £65.—Box 281, c/o The Motor Cycle.

A J.S.-Exster Motor Cycle and Light Car Co., Ltd., Bath Rd., Exster, and 28, Taxistock Rd., Promoth. Sole agents. Now booking for earliest deliveries.

A.J.S. Specialists, The Walsoll Garage, Wolverhamp-ton St., Walsol. Tel. 444. Can give favourable delivenes of these grand combinations, Book early tor your spring outlit. [7215]

your spining outfit.

A. J.S., 1920, new combination, hood, screen, sparfe wheel, inst delivered, owner bought car; offers.—A.B., 39, Westbourne Terrace, North Paddington. 'Phone: Padd, 3418. [7110]

6 h.p. A.J.S. Coachbuilt Combination, 1914, count shalf kick starter, good condition, £100; a Fainir, 3h.p., 2-speed countershalt, £28; Durham Box 2,086, c'o The Motor Cycle. [56 counter-

J.S., 6h.p., 1915, 3-speed, speedometer, overhauled perfect condition, new tyres, £130: or with C.B. Bramble sidecar, wind screen, £140.—Westfield House, Gloucester. (D) [7044]

A J.S. 1914 Combination, 6h.p., roomy sidecar, lug-gage grid, wind screen, apron, good condition, done under 1,000 miles, ready for anything; offers over £120,—Rudd, 23, Mornington Rd., Wangtead,

A J.S. Spares; engine and gear box repairs; prompts delivery.—Cyril Williams, Chapel Ash Depot, Wolverhampton, T.A.; Parts. (2237)

Alldays.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— New Allon 2-stroke, delivered from stock. [7423 19 15 25th.p. Allon, clutch, good running order; offers.—Chester, Steeple Ashton, Trowbridge.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B17

MOTOR CYCLES FOR SALE.

Alldays.

A LLON 1917, LON 1917, 25th.p., 2-speed, perfect, lamps, Klaxon, accessories; £55.—191, Southgate Rd., etch. Islington. A LIDAYS Combination: £52.—Mount Engineering Co. supply parts for any make.—Warwards Lane, Eirmingham. [X5781

19 19 Allon 25(h.p., condition perfect, fast, and specially tuned, insured; £63, no offers.—9, Bedford Rd., Bedford Park, W.4.

A LLON 1919 254h.p., single speed, very little what offer, or exchange.—W. Andrews, 41, George's Rd., Leamington Spa.

19¹⁵ Alldays-Matchless, 234h.p., new front ty enamelling, plating as new, fully equipped; £6, 141, Crofton Park Rd., S.E.4.

A LEON 2-stroke, 2-speed, head and tail lamps, mechanical horn, splendid condition; a bargain, £59/15.—Wilkins, Simpson and Co., opposite Olympia, London. [6661

A LLON, late 1919 2-speed, hand clutch, kick-start, bute lighting outfit and electric horn, condition as new; £83.—Shell, 7, Devonshire Row Mews, Devonshire St., W.l.

A LLON, 1919, perfect condition, accessories; £70.— George Smith's Motor Cycle Depot, 268, Lavender Hill (opp. Arding and Hobbs), Clapham Junction, London, S.W.11. Anzani.

ANZANI 7-9h.p. a.i.v. Twin, engine as new, fixed gear, coil ignition, pacing cycle, requires tyres, hrakes, etc. £15; seen London.—Box 2,156, c/o
The Motor Cycle. [7473] Ariel.

OW Bros., High St., Guildford, Ariel agents. supply at makers' prices. [X7944 CYRIL WILLIAMS, for early delivery of Ariels.— Chapel Ash Depot, Wolverhampton. [X8625]

FOR Early Delivery of Ariels, all models, apply, Bedford Garage, Walsall. 'Phone: 270. [5302] A RIEL 3½h.p., in perfect order, just overhauled, new tyres; nearest £35.-28, Clydesdale Rd., Romford.

ARIEL 3½h.p. Combination, delivered last August, httle used, complete: £135.—68a, Crawthew Grove, Lordship Lane, Dulwich.

ARIEL, all models, early deliveries; all parts stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [7414] 19 New Ariel 6-7h.p. Countershaft 3-speed Combination; £167, no offers.—W. Owens and Sons, Brunswick Rd., Lane Eod, Buckley. [X6353

19 19 Ariel 3/h.p. Countershaft 3-speed, new December; £110, no offers.-W. Owens and Sons, Brunswick Rd., Lane End, Buckley. [X6152] 1920 Ariel Combination, all lamps, Lucas horn, under month old, as new; £145, list price about £155; after 6.-64, Gladsmuir Rd., Highgate, N.19.

A RIEL 1919 5-6h.p. 3-speed Combination in splendid order and complete with all accessories; £145.—
E.C.3. (X6350)

19 9 Ariel Combination, 5-6h.p., engine No. A6078, 3-speed countershaft. Lucas best lamps and horn, Cowey speedometer, storm apron, luggage grid tools, spares, internal, cxlernal condition, perfect, mileage 850; 2415,—2, York Rd., Woking.

ARIEL e.7h.r. Combination, electric lightings disc wheels, bood, screen, and lugsare grid, criminal tyres and belt good condition, late 1919 model, exactly as 1920, would cost £190 today, just been decarbonised by makers for first time; price £155; Coventry (district -Box 266, (c) The Motor Cycle.

ARNO 31/sh.p., free engine, good running order, new tyres, Mabon variable gear, Bosch mag., good ap-pearance; accept flist £35.—Norton, Station Rd., Prove-Auto-Wheels.

AUTO-WHEEL, nearly new; £16.-146, Southfield Rd., Chiswick, London. [7292

A UTO-WHEEL, perfect running order; bargain, £8/10. -424, High Rd., Leyton, E.10. [6585 WALL Auto-Wheel, splendid condition throughout, little used; £14.-B. 35, Manor Rd., Westchifton-[6947]

A UTO-WHEEL, good order; seen by appointment;
Rampstead; £10.-Box 2,161, c/o The Motor [7479] A UTO-WHEEL. 1920 model de luxe; £25; in stock, brand new.—Wilkins, Simpson and Co., opposite Olympia, London. [6664]

A UTO-WHEEL, in splendid condition, nearly new tyre; £14, or near offer.—Folds, Breachwood Green, Welwyn, Herts.

Green, Welwyn, Herts.

A TO-WHEEL, perfect order, only inn one season, original tree still good, B.S.A. fittings; gife.

Marshall, The Gables, Bridge St., Witham, Essex, [6481]

A LTO-WHEELS, modele do luxe; cash £25, or £5

Metropolitan 37/6 monthly—M.C. Dept., The Metropolitan Machinists Co., Ltd., 248, Bishepsatte, E.C. 2.

THE BIRMINGHAM HOUSE

FOR MOTORISTS

87-91, John Bright St.

'Phone: 662 Mid. 'Graph: "Lytcar, B'ham."

Agent for the following famous Motor Cycles:

A.J.S. INDIAN ENFIELD NORTON TRIUMPH ZENITH JAMES ROVER HUMBER NEW IMPERIAL **EDMUND** CALTHORPE CONNAUGHT METRO-TYLER

There are many scenes of great natural beauty in Britain that are visited but little because they are so far from the beaten track and difficult to reach.

A Motor Cycle brings them very near, and makes the journey to them easy, enjoyable, and comparatively inexpensive, provided your mount is a thoroughly reliable one, such as you will get by placing your order with

MOTOR CYCLES FOR SALE.

B^{ATS} for early delivery, apply, Bedford Garage, [5305] BAT, 1920, early deliveries,-Place orders Clapham (Motors), King George St., Greeov

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London,—Ghp. Bat, new 1920 3-speed model, for immediate delivery.

8 h.p. Bat-Jap, 2-speed, chain drive, new sidecar, excellent order; £75.-1, Norwood Rd., Herne Hill, S.E. 'Phone: Brixton 1964.

BAT-J.A.P. 1914 4½h.p., 3-speed, clutch, Bosch and B., spare wheel, perfect condition; £60 nearest.-20, Abercrombie St., Batterses.

B.A.T.-J.A.P. 6h.p. powerful twin solo. 2-speed, fice, cintch, trres and appearance excellent; sacrines, 49 gns.—14, London Rd., Stevenage, Herts. [6347] B.A.T.J.A.P. Sh.p., P. and M. 2-speed, Wh. Bosch, platting and enamelling like new, sidecar; price £65; letters only.—26, Lower Denn Ashford, Kent.

6 h.p. Twin Bat, 2-speed countershaft gear, clutch, all-chain drive, complete with torpedo cane sidecar, good tyres, in excellent running order; £65.270good tyres, in excellent ru Springett, Billericay, Essex.

19 15 Bat-Jap 8h.p. Combination, 3-speed counter-shaft, K.S., clutch, Bosch, spring frame, perfect condition; first cheque 295; just been overhulled-driffiths, Queen's Studio, Llanelly, S. Wales. [6498]

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L'ANCASHIRE (West) and Cheshire.—Beardmore Precision, the most advanced and practical motor cycle yet designed.—Enquiries invited by J. Blake act. Co., 110. Bold St., Liverpool.

Blackburne.

CROW Bros., High St., Guildford, are old Black burne agents, and invite enquiries. [X794]

BLACKBURNE.—Egertons, Northgate St., Ipswich can offer early delivery if ordered now. [765] STANLEY BUSSELL, Newport, sole Isle of Wigh agent for Blackburne motors; early delivery. [529]

BLACKBURNE Motor Cycles, delivery 4h.p. mode from stock.—Agents, Lonkester Engineering Co. 53, Brighton Rd, Surbiton. [212]

1920 Blackburne 4h.p., 3-speed Stunney-Archer gee box, all chain drive, 28×3 yheels, semi T. bar £114.—67, Queen's Park Rd., Brighton. [686]

Blumfield.

5-6h.p. Blumfield Combination, 3 speeds, coachbuil sidecar, in perfect condition; £77/10.—16, Rossly, Rd., Walthumstow. [657]

BOWN-VILLIERS, new 1920, 2½h.p., 2-speed, klol starter and clutch; £69/5.—Frank Whitworth Ltd., 139, New St., Birmingham. [X634] 19 14 Bowns Lightweight, Dalm engine, overhauled 2 Mb.p., 2-speed Albion gear, lamps; ride mway £40.—Parkes, Woodbridge, Suffolk. [662]

Bradbury.

19 14 Bradbury 4h.p.; £45; no offers.—Teague, 24 Park Rd., Harlesden, N.W.10. [723]

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BRADBURY, 1911, 3½h.p., Bosch mag., B. and Fracarburetter, Cowey speedometer, machine requires attention; £30.—Nowman, Lyndhurst, Alderham Av., Radlett, Horts.

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Connaught.

ONNAPGHT.—Immediate deliveries from J. Barran-Ackroyd, Hyde Park Corner, Leeds. [6593] ONNAUGHT 1919 25 th.p. 2-stroke, clutch; nearest £55.-Fowkes, Marsden Terrace, Dewsbury, [6814

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tONNAUGHT 2-stroke, lamps, horn, spare belt, nearly new types, oil pump fitted; £35,-25, solberry Grove, Finsbury Park, N.4. [6931

Y Auction at Goodwood, Lausdown Rd., Sideup, at 5 p.m., March 16th, Connaught 2-stroke, ieved 1916, ride away.—Box 2,751, e/o The Motor cle. [7468

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18, 6.4. (Muer o.).
18 Stock ready for immediate delivery, 1920 Coulson B, spring frame, 25 hp. Blackburne engine, 2-ed, Brampton Bifex forks, Capac carburetter; enires invited.—Oldbury Motor Repair Co., Halesowen Okthour

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OVENTRY EAGLE, doctor's order to sell, 2-stroke, single gear, condition as new, acetylene lamps, essories; best offer over £40; letters only.—Coleman, e Firs, Evington, near Leicester. [7297]

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AXTON, 2-stroke engine, just overhauled by makers, good condition; £30, or close offer.—Darke, North 17026

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) 20 Diamond, both models; list price; in stock.—Youngs, Heath Garage, Newmarket. 'Phone: [0117

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19¹¹ Douglas, new belt, perfect running order; offers.—50, High Rd., Balham. [7105]

3 h.p. Douglas, 1915, fine condition; £50.—199, √4 King's Cross Rd., London, W.C.1. [7522]

4 h.p. Douglas, Nov., 1919, mileage 400; £110.-142 Malvern Rd., Winton, Bonnemouth. [652]

19 18 Douglas, 2-speed, done about 250 miles, W.D.; £75.-Gibson, 29, Neville St., Llanelly. [6745

DOUGLAS Combination, £105; also 2°; h.p. 2-speed, £68; 1916.—1, Cedar Rd., Cricklewood, N.W. [7185

DOUGLAS 1915 25/h.p., 2-speed, splendid condition; £52, offers. 87, Truto Rd., Wood Green. [4301

19 Douglas, 254h.p., 2 speeds, complete lamps, etc.; £80.—Cross, Agent, Rotherham. [X6298 DOUGLAS 1914 25th.p., 2-speed; £55.—Spencer, County and Westminster Bank, Salisbury. [6468

DOUGLAS 25th.p., W.D., brand new, in crate; 275.-P. J. Hucker, Hillsborough, Acock's Green BRAND New 1916 W.D. 25th.p. Douglas, 2-speed, Dunlon tyres; £70.-66, Church Rd., Briggs,

DOUGLAS 1915 25th.p., lighting set and accessories, excellent condition; £50.-54, Burton Rd., Brix-

19 19 Douglas Combination, Nov. 28th. as new, 300; best offer.—Coryn, Sawmills, Eastly Hants.

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10 19 Douglas, 1916 W.D. model, splendid order, Villa, Lucas lamps; £80.—Bright, Willeston Villa, [7345] Topskam.

DOUGLAS 25/h.p., 3-speed, hand clutch, touring model, 1917, small mileage.—Egertons, Northgate [6431 model, 1 St., Ipswich.

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DOUGLAS 25/h.p., 2-speed, uncrated August, 1: Rd., S.W.9.

3h.p. Donglas, 1915, overhauled and repainted, like 4 new: £58.—Aikwright, 16, Elgin Mews South, Maida Vale. DUGLAS 25th.p., 1916-17, 2-speed, equal to new; £59,-38, Shirley Grove, Lavender Hill, Batter, 6834.

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19¹⁵ 2⁵4b.p. Douglas, full T.T. hars, re-enamelled, fine engine; £60. — 30, Riggindale Rd., Streatham, S.W. [7134

DOUGLAS 234h.p., 1916, 2 speeds, buffer forks, new condition gnaranteed; £65; all on.—Stanley Biss, Waltham Abbey. [6265 £95.—1917 4h.p. Douglas and coachhuilt sidecar, engine 4297, tools and lamps.—Box 2,158, c'o

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£110.—Apply, F. Broomfield, Baker, 322, Wh.
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DOUGLAS 25 h.p., 2-speed, 1919 model, as new, complete with lamps, horn, and tools; £85.—Brook Bros., Burnham on-Sea.

DOUGLAS; 55 gns.; in splendid condition, not used much; seen any time; no offers.—Miller, 62, Hampstead Rd., N.W.1. [6506]

DOUGLAS 254h.p., 1911, exceptionally good condition; £40, or nearest; privately owned.—Laburum, Hedge End, Hants. [6513

SMITH'S for 1916 overhauled 25th.p. Douglases: 60 gns.—Smith's, 10-16, Haverstock Hill, opposite Chalk Farm Tube Station. [0127

DOUGLAS 234h.p., W.D. Models, from £65.—Clift ford Wilson Mfg. Co., 70, Royal Hospital Rd., 8.W.3. Kensington 7113.

JAMES MOFFAT, Douglas Agent, Yeovik-254h.p. model, clutch £95, less clutch £90; 4h.p. combination, £155.—'Phone: 50.

DOUGLAS 4h.p. Combination, everbauled, enamelled and plated, new tyres, condition as new; £105.—Griffin, Coombend, Radstock. [0103

DOUGLAS 1915 27th.p., 2-speed, good condition, just overhambed: £58.—R. Wills, London Honse, Hershum, Walton-ou-Thames, [655]
23h., Douglas, 2-speed, almost new, unscratched, Alexander Park, Manchester. [X6558]

DOUGLAS 254h.p., single speed, fine condition, foot-boards; bargain, 132: seen appointment any time. -31, Cromer Rd., Watford. [6715

DOUGLAS 23 th.p. 2-speed, good condition, lorn, recent new tyre, belt, chain; £44.-man, 1, Bath Rd., Exeter.

19 19 Donglas, brand new, mileage 250, lamps, horn; price 85 gns.—Laughlin, Rye Lane, Peckham, London.

DOUGLASES.—Call at Smith's for your next Douglas.—Smith's, 10-16, Haverstock Hill, opposite Chalk Farm Tube Station.

19 20 Douglas 25/h.p., 3-speed, clutch, kick start as new; immediate delivery; £104.-2, Nigingale Rd., Lower Clapton, N. [72]

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19¹⁶ Donglas 2³4h.p. W.D., replated, re-enam makers' colours, excellent condition; £65 Townshend Rd., Richmond, Surrey.

DOUGLAS 25(h.p., 2-speed, 1915, overhauled, re-painted like new, lamps and accessories, fast no-chine; 258.—Underhill Farm, Barnet. [6531

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2 3h.p. Douglas, 1913, 2-speed, lamps, speedon 4 etc., just overhauled: £55.—1, Norwood Herne Hill, S.E. 'Phone: Brixton 1964.

19¹⁷ Douglas Combination, lamps, wind screen fect condition; £120. Phene: 6776 Gerrar write Butler, 46, Newlands Park, Sydenham.

DOUGLAS, 1911, stored during war, overhauled, I tyres, belt, etc., fine condition; £30, no offer Taylor, £37, Seven Sisters Rd, Tottenham. [6]
DOUGLAS 256,p., 1916, W.D., uncrated Agg, 1919, overhauled, brand new condition, him horn, etc.; 275.—Lindsay, St. Monance, Fire. [X6]

DOUGLAS 234h.p. 2-speed, uncrated July, 19 equipped, perfect condition, practically new; &cafter 6 p.m.-75, Bradenell Rd., Tooting, S.W. [70]

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London.

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TENDERSON 10h.p., 3 speeds and kick starter, brand new, numsed; £180.-3, Parker Lane, Burnley. (X6261

915 Henderson Combination, 2 speeds, Cameo, Wattord, lamps, original tyres perfect; £130.—B ylor, Lodge Farm, Grimston Lynn, Norfolk, [X6317] ANCASHIRE, Cheshire, North Wales, and Isle of Man.—Enquiries for Henderson 4-cyl, wanted.—Blake and Co., Official Dealers, Liverpool-Man

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UMBER, 31h.p., Oct., 1919, ridden 200 miles, makers' guarantee; £110.—Morgan, 23, Rendez makers' guarante is St., Folkestone.

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[Imp set, Amac, Roc speed wheel.—Northfiele
unton, Crescent, Cheltenham. [724]

[740] [UMBER Combination, just overhauled, new tyre, belt, rings, valves, etc., decompressor, perfect; rest £70.—Facey, Hillhead, Colyton. [704] [1, h., Humber, chain drive, new tyre, spring forks, 2 battery, excellent condition, running order; 3.—Hammond, Queen's Rd., Wivenhoe. [6687]

5.—Hammond, Queen's Rd., Wivenhoe. veo. 143 3'the, Humber, 3 speeds, clutch, hick status, 17. hars, disc wheels, electric lighting, condition new; 255.—K., 163, Peckham Rye, 8.5.—L. (6519) UMBER 3'th.p., 2-speed, freen engine, handle start, lamp, horn, good condition; 837/10; seen yr 7 and week-end.—137, Marsala Rd., Lewisham, 6926

19 (Sept.) 314h.p. 3-speed Clutch Handle Starter Flat Twin Humber, solo or combination, gunan-letter; what offers?-Coyte, Woodville, Kings-lge, Devon.

ATEST 31/h.p. Flat Twin Humber Combination, practically as new, wind screen, mudshields, ps, horn, new speedometer; £160.—Gue, Felden, moor, Herts.

[7076] UMBER 1914 3½h.p. C.B. Combination. 3-speed, kick start, helt and tyres as new, plating and melling perfect, lamp and horn; £100.—140, Forder, Catford, S.E.6.

18 Hunber C.B. Combination, flat twin, 3-speed countershaft, chain drive, speedometer, new ps. Dunlops, good condition; £98/10.—32, Wycliffe Battersea, S.W.11.

UMBER Combination, 1914, 3½h.p., 3-speed, K.S., 2 new Dunlops, unused during war and now in ect condition; 578, or offers; sale essential; trial in 25 miles. — Rowlinson, 9, Lawrence Rd., ldersfield (6890

UMBER, 3½hp., 19:2, single speed, ridden 30 miles since 'overhauled, engine rebored, new m. connecting rod, bearings, bushes, timing gear; or nearest offer, including head lamp, generation.—12, Dysart Pernsee, Newtown, N.W. [5000

Indian.

DIAN 5-6h.p., clutch, discs, fully equipped; sacrifice, £55.-21, Fordel Rd., Catford. [7111 h.p. Indian, 1915, clutch, perfect, numerous spares; £95.—Sole, 260, Well Hall Rd., Eltham. [6844]

THE MOTOR CYCLE.—(Supplement xiii.)

Disprietors - Erling L. Newberry Cribbett & Cedric Cr sthweite MOTOR CYCLE DEPT-

The Leading South Western Motor Cycle Agency.

We are also Age nts for the following machines B.S.A., A.J.S., JAMES, RUDGE, READING STANDARD, WOOLER. EXCELSIOR. METRO-TYLER, NEW HUDSON, F.N., LEA-FRANCIS

Be Ready for

We can supply a

COULSON B KLACKBURN

BEFORE EASTER.

TRY MOTOR CYCLE CAMPING FORIDEAL. HOLIDAY.

Come and See, or Write for Particulars.

WE WANT TO BUY SOLDS AND COMBINATIONS 1918 or 1920.

BALLARD'S MOTORS, 92, Gloucester Road,

S. Kensington, S.W.7. Telephone: Kensington, 6312. Telegrams: Efembalmot, Southkens, London.

MOTOR CYCLES FOR SALE.

Indian

19¹⁵ 7.9h.p. T.T. Indian, chitch model, full equipment; £58.—Green Man, Waltham Abbey. 7 9h p. Indian, very tast, perfect condition; £68. Arkwinght, 16, Eigin Mews South, Manda Vale

19 14 5-6h.p. Indian, clutch model, complete with resources; £65.—Barnett, Barnett and Co., 1)

1915 Indian Combination, 3-speed, kiek start childs, good order; £80.—Horwood, 138, Mill Rd., Cambridge.

INDIAN 1915 carburetter and pair of cylinders and pistons, perfect; £5 10.-36, Winelester St., Coventry. [X6362

1 920 Indians: prompt deliveries.—E. Brown, Indian Spacealist, 3 and 7a, Parket Lane, Burdey, Tel.: 194. [X6264]

INDIAN, 7-9h.p., 2-speed, clutch, guaranteed per-fect running order; any trial; £65.—C., 26, Powell Rd., Clapton. [X6339] Total Compton (A6359)
7 -9h.p. Indian Combination, 1914, 2-speed, complete, 6 and in very good running order; £75.—Reynolds Bios., Barnsley. (5452)

1 14 7-9h.p. Indian Combination, 2 speeds, chitch, lamps, horn, speedometer; 85 gns.—Stow, Mile End. Colchester. [7143] End, Colchester.

INDIAN Powerphrs Combination, T.T., 5-speed, ac Lessonics, powerful, fast, reliable; £155,7-895, Pulham Rd., S.W.

19 20 Indian and Indian Sidecar, electric lighting, Fisher write only; £250.—Box 2,155, 7472 The Motor Cepts.

19 19 Indian, 79h.p. Powerplus, condition as new 2,152; immediate delivery.—Box 2,152; c/i
The Motor Cycle. [7469

19 15 7-9h.p. Indian, speedometer, lamps, excellent miniming order; £57.—C. Plummer, Station Rd. Manningfree. Essex. [7149]

NDIAN 5-6h.p., 1916 T.T., 3-speed, clutch, lan concludit siderar, good condition; £125.—Tay 1, Wilmington Terrare, Eastbourne. [6] 19 15 7-9h.p. Indian 2-speed Coachbuilt Combination.
spring frame, hand and foot starter, very powerful; £97/10.—Dee, 1, Victoria Rd., Brighton. [7151]

NDIAN 1913 7-9h.p. Combination, good tyres and condition, overhauled; £75, or Douglas part.—
Turner, 85, Lyall Mews West, Lyall St., S.W. [7101

1916 T.T. Powerplus Indian Combination, n anically perfect, enamelling as new, little expert inspection.—Pope, Littlemoor, Newton, Alfr

TNDIAN 5-6hp. Road Racer, 1916, splendid condition, lamps, Klaxon, new back tyre, 3-speed, clutch model.—Porster, Barrow Hedges, Carshalton, Surrow 17103

10 16 7-9h.p. Indian Solo, hand and foot clutch practically new, original tyre oo rear, a splendid machine; 285; atter 6-85, Wuerton Ru, Sydenson 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871, 1871,

INDIAN 7-9h.p., Swan sporting sidear, discs, C.A.Y.

I dynamo lighting, khaki finish, luxuriously fitted;
c150, close offer.—135, De Beauvoir Rd., N.1. Dalton,
2265.

1915 5-6h.p. Indian and sporting C.B. sidecar, 3-speed, clutch, kick starter, lamps, hooter, in good order; ±30.—J.C.J., 124, Holdenburst Rd., Bourne-

INDIAN Combination, 1915, stored 2½ years, elec-tric lights, 2 horns, speedometer, tyres nearly new, perfect condition.—Simpson, Hampton Lucy, Warwiek. [X6125]

INDIAN 7-9h.p. 1913 C.B. Combination, F.E. clutch, fully equipped, good going order; £75-Apply after 6. Greenwood, 83, Broomfield Av., Palmer's Geren, N.13.

IMMEDIATE delivery, 1920 7-9h.p. Powerplus Indian, never ridden, best offer over list price, owner received delivery of car.—Stratlaird, Rushfield Av., Bellagt. (D)

FOR Sele. T.T. Indian motor cycle, 1915, clutch model, reliable machine; accept £75, or nearest offer; any trial—Apply, Box 777, Skilbeck, Printer, Loftus, Yorkshire. [6907

INDIAN Combination, 7-9h.p., spring frame, 2-speed, clutch, electric lamps and horn, C.B. sidecar, excellent condition, insunance; £95.—Chandler, 27, Loudon Rd., Maldon, Fasex. [7148]

10 16 Powerplus Indian Combination, wind screen, luggare and petrol carrier, pillion seat, original back tyre. Thomson-Bennett mag.; £130.—Middleton, 139, Gt. Charles St., Dirmingham. . [X6305]

19 15-16 7-9h.p. Indian Combination, spring frame, 5 speeds, kick starter, foot clutch, lamps. Klaxon, roomy Indian sidecar; £120.—Capt. Collins, Fairholme, Sunbury-on-Thames. (7196

10 16 Indian 7-9h.p., spring frame combination, 3-speed, dual clutch, electric lighting, voltmeter, aluminium discs, tools, excellent condition; £125-259, Putney Bridge Rd., Putney.

Indian.

NDIAN Combination, 5-6h.p., Swan sidecar, 3-speed, accessories; 105 gps.—George Smith's Motor Cycle Depot, 268, Lavender Hill (opp. Arding and Hobbs). Clapham Junction, London, S.W.11, [7417]

Clapham Junction, London, S.W.11.

7-9h.p. Indian Combination, spring frame, 2-speed, elutch, electric lighting and horn, fine condition: 1110, on exchange for good solo and £60.—Wite, Franklin, 3, Markham Sq., Chelsea.

W.AUCHOPE'S, 9, Shee Lane, Fleet St., London.—Yoh,p. Indian combination, 1914, £67/10; 56 h.p. Indian combination, 1914, £67/10; 79h.p. Indian combination, 1914, disc wheels, £105.

combination, 1914, disc wheels, \$\times 10.5\$

10 6 7-9\text{in}, Indian Concluding Combination, elutch, 4 speeds, kitck start, electule horn and lightnus, overhaused, splendid conduction; best offer over £10.0-Hawthorn, 10, Clarke St., Scunthope, Lincolnshire, 6550

The The Transfer of the Transf

19¹⁶ Indian 5-6h.p. Combination, 3-speed, clutch, disc wheels to unchine, new Montgomery side-car, Klaxon hom, lumps, speedometer, perfect in every way; £135.—Williams, 27, Clitton St., Woltenhampton.

F.O.C.H. have an Indian 7-9h.p., 2-speed and clutch, T.T. bars, excellent order.—Fair Offer Car House, 5. Heath St., Hampstead (pr. Hampstead Touched), Phoce: Hampstead 5752. Hours 9-7, including Saturdays.

cluding Saturdays. [5867]

INDIAN 7-9hp, Powerplus Combination, 3-speed, foot and hand clutch, Brolt electric lightner, Mont gomety sidecar, spring luggage carrier, tecently over handed, in perfect order, Dunlop and Clincher tyres as new; £120-Hall Freenan, Easenbulh, near Rugyers, and the states, Cancel Caschell, hand-foot clutch states, for the states, Cancel coachiunt sidecar quipholsteed red morocco, apron, mat, petrot tin and luggag carriers, Lacus lampe, speedometer, hooter, spair tvr and parts, low milecare, perfect, like new; trial; £125-65, Solon Rd., Brixton.

55, Stoff M.G., BIRKOL.

1 Ort 1912 5h.h.p. T.T. Clutch Indian, Spiltder Chains, torchight for the chains, torchight for the chains, torchight for the chains, torchight for the chains, torchight for West End (see Miscellancens).—BC Garage, 40. Murray Mews, Murray St., Camden Town N.W. Near N.L. Railway.

19 beweching 19.0. Indica, kick start, 3 arests and 19.0. Indica, kick start, 3 arests and 19.0. Indica, kick start, 3 arests and 19.0. Indica start s

seen any time; £105.—237, Iffley Rd., Oxford. [757.]

19 20.7-9hp., Indian, electric model, and Muliford side parts and the state of th

Invicta.

TNVICTA, 1914. Villiers engine, completely hauled and in first-class order, new tyres, 2 hamps, hom tools: £32/10.—Grant, 5, Edmond Pennsylvania, Chepstow.

loner.

IONER 3h.p., sporty little machine, good ord Standing, Ashford, Middlesex.

lvy.

Walsall Garage, Walsall, can supply 7218

TVY 2-speed 2-stroke, Orders booked for early de hivery.—Rothwell and Milbourne, Cowleigh Garage [6186]

IVY 21/h.p. 2-stroke, fine condition, plated exhaust lighting set, photo; £36. — 20, Frankfort St. Birmingham. [726]

IVY 2-stroke, just been re-enamelled, engine overhauled all new bushes; any trial; price £38.—H. Clement Somersham, Hunts.

10 15 Ivy 2-stroke, requires slight adjustment born; £27/10.—Gas Manager, Athy, Ireland. [5712

MMEDIATE Delivery of all Ivy models, the acknowledged finest lightweight.—Full particulars, H. 6 Henly and Co., London and District Agents, 91, 6t Portland St., W.I. Maytair 4684.

Ixion.

 $2\frac{1}{2}$ h.p. Ixion-Villiers, late 1919, lamps, horn, perfect: $2\frac{1}{2}$ 57 gus.—Slater, 9, West Burton St., Salford, Manchester. [7356]

IXION-2½h.p. 2-stroke, 2-speed, free engine, guar-anteed perfect; £53.—Dickinson, 172, Lordship-Lane, Dulwich, S.E. Phone: Sydenham 1021. [6921

James.

THE Walsall Garage, Walsall, for good delivenes of all James models.

THE Winson Society of the Market Mark

NEW MACHINES AT

HARLEY-DAVIDSON, electric model, and Sidecar-HARLEY-DAVIDSON, magneto model, and Sidecar-HARLEY-DAVIDSON, flat twin, sports model HARLEY-DAVIDSON, flat twin, spo OMEGA-JA-P, a-speed, and clutch. RADGO lightweight, 2-speed. ARIEL and Sidecar, 3-speed, 6 h.p. BLACKBURNE, 4 h.p., and Sidecar. QUADRANT, 44 h.p., and Sidecar. O.K., 2³ h.p., lightweight.

...... 48 gns.

Light Cars.

New 10 h.p. SWIFT, 1920, dynamo lighting, 1915 10 h.p. GALCOTT, dynamo lighting. .2395 0 Second-hand Bargains.

Binks Carburetters.

We specialise in these, and carry a big stock.
We will take your present carburetter in exchange.
Write for quotation.

Miscellaneous.

13 h.p. & 3 h.p. Petrol-Paraffin Engines For Farm or other Stationary Work. Hopper-cooled, magneto ignition. Portable, Easy to start.



Weight 3 cwt. Sent out complete with petrol tank, and mounted on wood skids ready for running. Send for List.

Del'very from Stock.

For



HARLEYS, B.S.A.'s. TRIUMPHS. P. & M.'s. INDIANS, and other Machines.

SEND FOR LIST. DELIVERY FROM STOCK. LARGE STOCK OF COACH BODIES.

BOOTH'S MOTORIES Portland Place, HALIFAX

Phone: 1062.

MOTOR CYCLES FOR SALE.

James.

19¹⁷ 234h.p. James, 2-stroke, 2 speeds, lamps, e cellent condition; ride away; after 5; £60,—
Coverton Rd., Tooting.

DAN GUY, Weymouth.-1915 3-speed 414h.p. Jam with sidecar, gear hox overhauled by maker good running order; £52.

3½ h.p. (late) 1916 James. 3-speed, etc., thorough overhauled, perfect condition; £72, with lamp—Ravenscroft, Broom Crescent, Rotherham. 1 9 19 James 2-stroke, 214h.1., 2-speed countersize gear; tools, Jamp, and horn, condition as re-£65.—26, Webbs Rd., Battersea Rise, S.W.

1 9 19 James 4¹th. Combination, splendid condification mileage, screen, spare inuer, valve, etc., logage grid, Lucas hamps—Box 2,098, c/o The Mat Cycle.

J AMES, 1915, 41th.p., just overhanded by make new Duulops, lamps, cylinder, valves, all new, gears and free engine: £60.—1, Curzon S lbstock.

Instock.

JAMES 5-6h.p., 1918, new June, 1919, and Employed Ge Laxe sulcar, last used November, 1919, FL elected for the property of the last of the l

15, Hilbury Rd., S.W.17.

10 14 James, 3/jbh., S-speed, clutch, Bosch, 19:
B. sud B. carburetter, engine and machine
good condition, all good Dunloys, wicker sidecar, sideor; £58.—Miss Llewellyn, 23, College St., Aberdan

J.A.P.

19 14 J.A.P. 4h.p. Combination. Bosch. B. and I new belt, perfect order, would separate; 23 or near.—Millard, Builder, Belvedere. [698]

6 h.p. J.A.P. and sidecar, 1914, 5-speed and kic spring frame, lamps, horn, etc.: £85.-19, W cox Rd., South Lambeth, London, S.W.8. JAP 2/4h.p., Bosch, B. and B., perfect condition £26.-16, Belmont Rd., Maidenhead. [X528]

FINE Condition, new tyres, 414h.p. J.A.P. erc clutch model, handle starter, just overhauled, will lamps, smart appearance; £32.-6. A. Sheifield, 76. A. St., Burton-on-Trent. [X62]

J.E.S., 1916, condition perfect, recently enamelle latest floatless carburettzen; £24.—Halkes, Avo dale, Waddington, Lincoln,

J.E.S. Motorcyclette, better than a scooter, economical, reliable.—Enquiries invited by J. Blake and Co., Liverpool and Manchester.

J.H.

19 25(h.p. J.H. 2-stroke, Thomson-Bennett may
Annoc carburetter, P.H. lamps, horn, tools, got
tyres and belt, everything in splendid order; 248P.G.D., 29, Nelson Rd., Chelmstord.

J.H. Combination, 1916, M.A.G. engine, 6h, Starmey-Archer countershaft gear, Canoelet sider, Ismys, horn, screen, etc.; 6125; after 5 p.m. (12 noon Saturday.—44, Hazelbank Rd., Catford, Loon, S.E.

Kynoch.

3 h.p. Kynoch Precision, 2-speed, good condition £45, offers.—Hazeldene, Storehouse Lane, Hitchin

Lea-Francis

L EA-FRANCIS, Nov., 1919; price and particula (private owner).—Layton Garages, Oxford. [654 19 19 Lea-Francis, 2-speed, 31-h.p. twin, lamps, etc nearly new condition; £105.-266, Lordship Lam Dulwich, S.E.22.

1914 Lea-Francis, excellent condition and opper ance, many extras, including Bowden oir inlet £70.-Write, K., 9, Milton St., Dailington. (X620

LEA-FRANCIS, 1920. - Place your name on commounts. -A. J. Sproston, Ltd., 198, Gt. Portland 5t. W.1.

W.I.

EA.FRANCIS, 1920, only done 25 miles, fitte
J up with Terry fork links, Lucas lamp set, Jaco
horn, electric rear lamp and dry battery, spar will
links for chain, and extra tools; this machine is
hrand new, and open to expert examination; £22;
Richardson, 5, Rosslyn Hill Mews, under 42, Rock
Hill, Hampleted, N.W.3.

E^{ARLY} Delivery Levis.—John Aldrich and Co. Dirtrict Agents, Diss. Norfolk.

A UGUST, 1919, Single-speed Levis, perfect condition £50.—Houy, Nether Wallop, Hants. [730] L EVIS 2 h.p., engine overhauled, makers' lamp etc.; £42.-47, Ordell Rd., Bow, E.3. (706)

19 19 Levis, 21 dt.p., excellent running order: 450.

CYRIL WILLIAMS for early delivery of Levis. Chapel Ash Depot, Wolverhampton. [X862] L EVIS, 1920, new, speedometer, etc.; offers, Lor don.-Box 2,172, c/o The Motor Cycle, 1749

B26 All letters relating to advertisements should quote the number at the end of each accertisement, and the date of the issue

Levis.

316 Popular Levis, in fitst-class order, stored 3 years, £40.-Mitchell, 32, West St., Trowbridge, [6525] 20 Levis Popular Model: list price in stock.—Youngs, Heath Garage, Newmarket. 'Phone. [011t]

BVIS Popular 21'(h.p., 2-stroke, single speed, in perfect running order; E32.-Tye, Barnby Moor ford.

EVIS 245h.p., 1916, Enfield 2-speed and clutch, ac uessories, excellent condition; £48.—B. Ivens, Stane, Kidderminster. [X6216

)20 Levis Popular, 21/h.p., lamps, horn, accessories, anserat-field; £60; hady cannot start.—Wainwight, mere Giove, 1pswich.

EVIS Popular, 1916, P. and H. lamps, horn, tyre perfect, splendid condition; £39; evenings, week s.—29. Wilton Av., Chiswick.

EVIS 244h.p., 2-speed countershaft, lamps, horn, etc.; £48 (lowest); owner buying combination; seen by ciotment.—17, St. John's Rd., Watford. [6622

olotment.—17, 85; donn's rat, mattout.

EVIS, 2°4,bp., 1916, 2-speed, Bosch mag., P.H.
lamps, accessories, just overhaulted; price 50 gns.—

EVIS.—We strongly recommend, and can ample centry, thus tamous 2-strongle.—Distort needs. The soil Garage, Welverhampton St., Walsoli. Thone:

[7219]

EVIS 214h.p. 1920 Popular Model, in stock.—Vivian Hardie and Lane, Ltd., authorised agents, 24 sktock St. (off Oxford St.), Bond St., W.1. Phone fair 6559.

EVIS Populars convertible into 2-speed models-with the addition of the Roc countershaft gear oply. Roc Gear Dept., A. W. Wall, Ltd., Hay 8, Birmingbam.

SVIS. 1916. single speed, perfect condition, 35, gns.; others in stock.—George Smith's Moton is Dept. 268, Lavender Hill (opp. Arding and bs), Clapham Junction, London, S.W.11. [7416] bs), Clapham Junetion, London, S. W. S. Wils, 1919, single, overhauled, no accessories, offers over £45; also I.v., snucle, new, no 200 miles ric lamins, Wattoud, hom, offers over £60,—118, stield Rd., Wandsworth, 'Phone: Battersea 3096 S. Watterskorth, Wandsworth, 'Phone: Battersea 16614.

Lincoln-Elk.

15 Lincoln Ellt Combination, 41 flux, stored 2 years, exceptional condition; £90, or nearest.—
n, Market Place, Brigg, Lines. [7357]

n Market Phase, Brigg, Lines.

NCOLN-ELK 3'-b,p., watertight Bosch, new Annac, Brampton Grado, nearly new Avon tyres, and the second se

L.M.C.

M.C., 1919, 444h.p., 3-speed, clutch, K.S., lamps, accessories, as new; any trial; 90 gns.—47, Jesus 2, Cambridge. [7135] 1. Cambridge. 19 Sh.p. L.M.C., 3 speeds, K.S., Henderson side-car, complete with lamps, etc.; £130.—Seen Complete W. Mews, Devonshire St., off Gt. Ind St., W. car, comple Devonshire R land St., W.

Marloe.

ARLOE Motor Bicycle.—Sole agents United King-dom for the above. 51gh.p. 2-stroke motor bicycle, 1 with clutch, 2-speed gear, and Precision engine: 80gns.

B-AGENTS Interested please apply, H. A. Saunders, Ltd., 230, Monument Rd., Edgbaston, Birbuin, Machines in stock.

Martin.

p. c.b.v. Racing Model Martin, lately rebuilt with the Draud forks, scaled, handle-bars T.T.I., models, now American throughout, all bight plated, also completely engangled, spare left; or nearest often—box 2,178, c/o The Motor Cycle.

Martinsyde.

ARTINSYDE NEWMAN.—Who is going to be the lucky person to be first on our waiting list lor of these splendid machines?—Julian, 84, Broad Reading. Phone: 1024.

WRIINSYDE-NEWMAN.—Barnes Motor Garage having been appointed special authorised arants promise carliest possible deliveries commencing mouth.—Secreton and Mallet, Ltd., 149, Lowther et, Barnes, S.W.15. "Phone: Hammersmith 1743.

ARTINSYDE-NEWMAN Combination, the sea sation of Olympia.—Book you order now for strict ion delivery with J. Blake and Co., the motor experts, 110-112, Bolt St., Liverpool, Britain's let motor cycle saloon; also at Blackfriars Nt. Hetter.

Matchless.

ATCHLESS-J.A.P. 8h.p. Twin, variable gear; 55 gns.-176, South Ealing Rd., W.5. [7206] ATCHLESS Combination, 1917, taken for d 115 gns.-111, Loughborough Park, Brixton for debt; April.—Particulars, M., 6, The Strand, Walmer, [7340]



THE MOTOR CYCLE. - (SUPPLEMENT XV.)

Motor Cycles in Stock.

NEW 1999 MODELS

MEN 1320 MODELS.
BLACKBURNE, 4 h.p., 3 speeds £118 0
CLYNO, 21 h.p., 2 speeds, and clutch £70 0
METRO-TYLER, 21 h.p., single-speed £57 10
METRO-TYLER at hin a speeds 669 10
NEW IMPERIAL, 27 h.p., 2 speeds 64 gns. NEW IMPERIAL, 27 h.p., 2 speeds and
clutch 72 gns.
RUDGE-MULTI, 5-6 h.p 11S gns,
RUDGE-MULT!, 7-9 b.p. twin 140 gns.

NEW IMPERIAL, S h.p., and Sidecar	£14S	0
RDVER, 5-6 h.p., and Sidecar		
These are W.D. machines, purchased Allied Government, and are finished "	from Service	an e"
green throughout.		

They have twin J.A.P. engines, countershaft 3-speed gear, clutch, kick-starter, and allchain drive.

SECOND HAND

SECUND-HAND.	
1919 ENFIELD, 21 h.p., 2 speeds £60	
1919 JAMES, 21 h.p., 2 speeds £60	
1920 RUDGE-MULTI, 5 b.p., and Sidecar £130	
1919 SCOTT, with speedometer £120	
1915 INDIAN, 7-9 h.p., 3-speed Combina-	
tion £110	
1919 TRIUMPH and Sidecar, with lamps, horn, and speedometer £130	
horn, and speedometer £130	

SECOND-HAND LIGHT CARS.

1915 G.W.K., 8-70 h.p., 4-seater... 2240 1916 MORRIS-COWLEY, 11.9 h.p., 4-seater 2460 Both these Cars bave dynamo lighting sets, detachable wheels (with spare), bood, wind-screen. speedometer, born, etc.

Fifty new sidecars of various makes and types in stock.

Eastern Garage Co.,

Official Repairers to R.A.C., A.C.U., A.A. & M.U.-

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Telephone-490 East Ham, felegrams-"Egaraco, London."

MOTOR CYCLES FOR SALE.

Matchless.

CROW Bros., Guildford, West Surrey agents for this first-class outfit. Matchless in name and mality.

19 20 Matchless, Model H - To ensure delivery, send enquiries, Chipham (Motors), King George St., [5094]

MATCHLESS-LAP. 4h.p. Combination, 2-speed, good condition, excellent tyres; ±55,-6, Lawn Gardens, Hanwell, W.7,

19¹⁶ Matchless M.A.G. Combination, perfect condition, new tyres; what offers?—R., 137, Lord ship Rd., London, N.16.

8 h.p. Matchless J.A.P. Combination, 2-speed, speed, motor, 3 lumps, new Dunlops; £80; atter 6,30 Johnson, 52, Solon New, Clapham. [6396

MATCHLESS 1913 8h.p. Combination, 2 speeds, in good condition; £70. — Apply, evenings, 49 Grove Vale, East Dulwich, S.E. [7261 Grove Vale, East Dulwich, 5.17.

MATCHLESS, 1914, JA.P. twin, 8h.p., Cooper Microcare, chiai drive, kick start, splendid condition; £110.—Bisomworth, Acomb, York. (K6117)

MATCHLESS Spring-frame Combination, just de-livered, spare wheel, lamps, horn, glorious outfit; 205 gns.-1, Oakwood Av., Warrington. [X6300

MATCHLESS Combination 5-6h.p., 1914, 3-speed, kick start, gears renewed; £70.—Seen 34, Vicarage Lane, Stratford, 2, Barfield Rd., E.11. [6914]

MATCHLESS-J.A.P. Combination, o.h. twir Sturmey-Archer countershaft, coachbuilt sidecar £75;—Whiteley, 29. Sea View Terrace, South Shield

MATCHLESS-J.A.P. Combination, 3h.p., 4 Jardine, completely overbanded, ready for £120.—Stubbs, Woodford Lane, Winsford, Cheshi

10 19 Victory Model Matchless, little used, spare wheel, tyre, lamps, horn, Tan Sad, screen, bood, spares: 176 gns.—D. B. Fraser, Bartholemen's Hospital, E.C.I.

MATCHLESS.J.A.P., 6h.p., speeds, coach sidecar, hood, screen, good tyres, lamps, fine outfit; £80, or Douglas and cash.—Englemere, Staines Rd., Lale-ham, Staines. [7452]

19 15 Matchless Combination, in good running order, hood, screen, electric lamp with accumulator, speedometer, and tools; £130.-Pugh, Desboro Rd, High Wycombe.

19 14 Matchless, 5-6h.p. twin J.A.P., 3-speed, lamps, horn, speedometer, new Dunlops, recently overhauled, ennuel as new; ±90, offers; no dealers.—Pain, 31, High St., Andover.

MATCHLESS.J.A.P. 1914 C.B. Combination, 3-speed, Bosch mag., recently overhauled nod-enamelled, first-class running order; £85.—Sturgis, 7. Vernon Terrace, Northampton. (X6119)

MATCHLESS Combination, 1919, Victory model, elec-tric lights, and accessories, perfect condition, tyres as new, including spare wheel; ±180.—Chandler, Revia and Williams, Hitchin. Phone: 165.

VICTORY Model Matchless Combination, spare wheel, hood, screen, and all lamps, fully equipped, absorbed A1 tunout; lowest £185; no offer considered.—
53, Leigham Vale, Tulse Hull, S.W.16. [6018

W AUCHOPE'S, 9. Shoe Lane, Fleet St., London.— gine, Gradua gear. £67'10; also 7-9h.p. Matchless, combination, 1917, M.A.G. engine, £185. [7433

MATCHLESS 1919 Victory Combination, 4 detachable wheels, hood, screen, luggage grid, Lucus lamps, Klaxon, msured £170 until next October; trial; £155.-30, Crystal Palace Park Rd., Sydeman.

MATCHLESS 1920 Spigns Frame Combination Avidentification of the large voottrating agents, and can offer early debreies at list price. Demonstration model in stock.—Elee and Co., 15-16, Bishopsgate Av., Camonille St., C.3.

MATCHLESS New Spring-frame Model Orders model on view. Replacements for Marthless models of all dates in stock.—Tassell, 1a, Bloomfield Rd., Planstend, S.E.

MATCHLESS Model H Combination, dynamo light-ing, fully equipped. Book now for early delivert. -Authorised London agents, Virian Hardie and Lane, Ltd., 24, Woodstock St. (of Oxford St.), Bond St., W.1. Prhone: Mayfair 6559.

MATCHLESS, 1914, 7-9h.p. M.A.G. engine, 3-speed clutch, lamps, horn, speedometer, new CB sidecar and Easting screen, tyres as new, all recently overhauled and thoroughly reliable; £140.—Write, H.H., Melfort Rd., Thornton Heath,

MATCHLESS Combination.—Bork your orders with frame 8h.p. Matchless combination. A model alway-on view at above address. Pellveries guaranteed strictly as per criebr received. Retail price as ruling or time of delivery. A large assertment of second-innet or cycles of all makes always in stock. [2212

Matchless.

Matchless.

MATCHLESS-M.A.G., 8hp., dvname lighting all round, Cowey, aluminium routboards and number lottes, interchangeable wheels, automatic labrication, 2. Second States, extra forg hood, side cut times, envelope, and the states of the

Metro.

19 20 Metro-Tyler, 2 speeds, new, in stock.—Cuaniu ham, 25, Water St., Blackburn. [X62]

METRO-TYLER, new 1920 model; seen any time 38, Cavendish Drive, Leytonstone. [72

191 38, Cavendish Drive, Legious-Call 19 Metro-Trier, 2-speed, small mileage: first 25 secures.—Brown, 7, Kirkholm St., Kilmannock. [X6120] METRO-TYLER.—Enquiries from Liverpool and district invited by J. Blake and Co., 110-112, Bold St., Britain's premier motor cycle saloon. [6581]

METRO-TYLER, 1919, reliable mount, in excellent condition, single-speed, semi-T.T. bars, tyres almost as new, long exhaust; £45.—Crompton, Hedge-croft, Walton Heath, Tadworth, Surrey. [6452

METRO-TYLER.—Delivery from stock of the super:
M_2-stroke; 2-speed model, long exhaust pipe.
E69/18/8; or with disc wheels, £72/18/8.—Elce and Co.,
15-16, Bishopsgate Av., Camomile St., E.C.3. [X65

METRO-TYLER.—We can deliver from stock 2-speed models of this super 2-stroke, list price, £6916 8; or with disc wheels and long exhaust pripe, £79148.—City, agents, £10e and Co., 15-16, Bi-hopegate Av., Cunounile St., E.C.3. "Phone: Avenue 5548, [006]

Minerva.

MINERVA, 5'5h.p., B. and B. mag., new tyres ride away; £20. Richmond, 21, Southbrook Rd., Lee. [6943]

MINERVA 5h.p., 2-speed, free engine, mag., new be and tyres, can ride away; £30.—Hingley, Hanbur Wharf, Droitwich, Worcester. [655

21h.p. Minerva, mag., B. and B. carburetter, in nun-ning order: first £15 secures.—F. W. Smith, The Bauk, Old Woodstock, Oxon. [X6291

MINERYA. 2½ hp., Bosch mag., B. and B., good M. tyres, overhauled, and enamelled French grey. 15.—Bostock, Byron St., Illeston. [X6123]
MINERYA. 2½ hp., new E.I.C. mag., B. and B. carburetter, perfect running order; 220.—206 Vanghan Rd., West Harrow, Middlesex.

Vaughan Rd, West Harrow, Middleeex. [665]

B.D. Minerra Twin 2-speed gear, free engine.

Bosch, Amac, horn, lighting set, and sidear fine combination; £55.—Tyler, Axbridge. [X5946]

A.D. T.T. Mineria, modernised, smart, £28, ridaways yh, Kerry, Druids, all good fittings, 25.—Joh, 186, Putney Bridge Rd, Putney, S.W. [735.]

M. LOW and spotty, good condition; £38; Saturday afterneon or Sunday.—The Hut, Summer Gardens, Exist Molesey, Suriey.

Moto-Reve.

Moto: Reve

MOTO-REVE Twin Lightweight, running order, good belt, tyres; £24, offers.—Potts, Timbers brook, Congleton. [7288]

Motosacoche. MOTOSACOCHE Lightweight, overhauled, new tyre and belt; £22.—Bailey, Castle St., W.C.2. [7093]
MOTOSACOCHE 2/3.h.p. good condition, mag., carburetter, spring lorks, tyres; £15.—Bostock, Byron St., Ilkeston.

Byron St., Ilkeston.

19.1 Motosacchie 3/4.p., Twin Enfield, 2-speed gear, good running order; 40 gns. Sidcup, Kent.-Box 2.147, do The Motor Cycle. [19]

19.1 MOTOSACOCHE 2/4.p., very reliable machine, exception order and appearance, Bosch mag., Whittle belt, Impie, horn and tools; expert inspection invited; 222.—C., 24, Heene Rd., Enfield.

New Hudson.

NEW HUDSON 2-stroke for sale; £35, exchange 170, Parnell Rd., Bow. [6

NEW HUDSON Lightweight, late 1919, complet with hom, leg shields, tools, etc., mileage 600, per fect condition; £60.—Alexander, Winkleigh, Devon.

NEW HUDSON. 1920, as new. 2-stroke, 2-speed, full equipped, not run 20 miles; £70; buying con bination.—West Villa, St. Ceorge's Rd., Harrogate,

NEW HUDSON (Sept. 1914) 6h.p. Twin, 3 speeds, scater sidecar, speedometer, jack, and numer sparces, perfect; any trial; £118.—Steward, 57, For Drive West, Leytonstone, £.11

1915 3/sh.p. New Hudson, 3-speed countershaft, chitch and kick starter, thoroughly everhauled and new tyres fitted, lumps and hern; £70.—C. A. Franklin, Swinferd, Eyushum, Oxon. (739)

BY Auction at Goodwood, Lansdown Rd., Sideup, at 5 p.m., March 16th, 1914 New Hudson 6th p combination, perfect in every detail, lamps, etc. ride away.—Box 2,150, c/o The Motor Cycle. [7467] NEW HUDSON 2-stoke 27-sh.p. 2 speed counter with the Medical Park the Medi

COVENTRY MOTOR

LONDON ROAD, COVENTRY.

Telegram:

Selection, Coventry

1920 Models in Stock to-day March 4th.

Zenith, Model H., 8 h.p., clutch kickstart.

Haziewood-J.A.P., 6-8 h.p., comb. Quadrant, 41 h.p., all chain drive. 3-speed, kick-start, comb.

New Imperial, Model No. 1, lightweight. Edmund-J.A.P., spring frame, Enfield 2-speed gear.

Hobart-J.A.P., Sturmey 2-speed gear, kick-start.

Hobart, 2-stroke, 2-speed. Alidays Alion de Luxe, 2-speed, kick-

start. Clyno, 2-stroke, 2-speed. Calthorpe, 2-stroke, 2-speed. Connaught, miniature model, 2-speed,

kick-start. Connaught, standard model.

Quickest Deliveries of INDIAN. SCOTT. HUMBER. P. & M. NEW IMPERIAL. ALLDAYS ALLON. CLYNO. HOBART. CALTHORPE. CONNAUGHT, ARIEL. EXCELSIOR. BAT. IVY. METRO-TYLER.

ZENITH. WOOLER. HAZLEWOOD. ROYAL RUBY. SUN-VITESSE. N.U.T.

LEA-FRANCIS.

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CANOELET. GRINDLAY. MONTGOMERY. MILLS-FULFORD SIDECARS

in Stock.

The COVENTRY MOTOR MART, LTD London Road, COVENTRY.

"Selection, Coventry" Telegrams:

MOTOR CYCLES FOR SALE.

New Hudson. FOR Sale, motor cycle, New-Hudson, 1914 mod-dh.p., 3-speed hub gear, used only one ye owing petrol restriction, guidranteed perfect orde original tyres; £75, or nearest offer. Cork Adagnory, Cork, Ireland.

NEW HUSONY 6th, Twin Coachbuilt Combination at Armstrong 3-speed, clutch, kick-starter, speed cash: deferred parments arranged,—closed Sundays Bunting's Moor Exchange, Wealstone. 124

10 20 New Hudson 2½b.p. 2-stroke, not done to miles, perfect condition; conner buying file power; best offer over £60; seen by appointment accepting after 6 o'clock or Saturday aftermoon; dealers—B., Messina, Blenheim Rd., Bickley, Kert

1916 4h.p. New Hudson, 3-speed countershal lamps, Klaxon, new Dunlop disc wheels, extra own exhaust, B. and B. pilot jet carburetter, extra castarter, excellent hill-climber, rebused, new pitch with the starter, excellent hill-climber, rebused, new pitch with the same as new model, a lovely bitch as 5 cm. Waters, Wheethead, Woking, Surrey.

New Imperial.

19 20 New Imperial 6b.p. Solo, new, at list price £124.—Wells, Alresford, Essex. [X5944] CROW Bros. High St., Guildford, have contracted largely for 1920 New Imperials. [X794]

19 15 New Imperial-Jap 21/h.p., 2-speed, perfectioning order; £50.-74, Boston Rd., Hauwel

19¹⁵ New Imperial 2³4h.p. 2-speed, thoroughly hauled; £48.-28, Abington Grove, Northam 10 16 New Imperial Jap. 21/h.p., 2 speeds, beautiful condition; bargain, £50.-25, Water St., Black [K62]

NEW IMPERIAL-J.A.P., 215h.p., 191 good condition; £45.-42. Shenley berwell. 1916, 2 Rd.,

1 h.p. New Imperial, 2-speed, perfect order; £36. 2 1, Norwood Rd., Herne Hill, S.E. Phone Brixton 1964.

10 18 New Imperial-Jap 254h.p., 2-speed, overbaulet splendid condition; £48.—Leavey. Outlitter Theale, Berks. [698]

NEW IMPERIAL 1915 254h.p., 2-speed, good cond tion. £45, no offers, please.—Scott, 16, Elmston Rd., Fullma, S.W 6. [680

1016 New Imperial, 21th.p., 2-speed, perfect diction, specially mudguarded; bargain, £47/1 Moss, Liphcok, Hants.

NEW IMPERIAL 25th.p., 1916, 2-speed, complet humps, horn, etc., recently overhauled; 250, or nearest.-83, Haddon St., Derby. [699]

10 18 New Imperial-Jap, 2³⁴4h.p., 2-speed, tools, T.T. bars, Smith's speedometer; Mayer, 61, Argyle Rd., Illord.

10 16 New Imperial-Jap 25th.p., 2-speed, all accessories, excellent condition.—Seen at Dixon Garage, Brownhill Rd., Catford.

NEW IMPERIAL J.A.P. 1917 25/h.p. 2-spect clutch, kick start, lamps, horn, fine condition: £55 appointment.-61, Eyershot Rd., London, N.4. [636]

prointment.—61, Eggissor Ru., London, 1914 1916 New Imperial Jap, 2-speed, mechanical hom Jittle used, running order, owner bought car; 4 gas, for quick sale.—Harold Fry, Moordown, Bount (577) ns. fo

1916-17 New Imperial Jap. 2%h.p., splendid cond tion, tyres practically new, complete lumps, horn £55, or part exchange combination.—Hardenstle, 9, Par St., Barnsley.

1 August 1 A

19 19 New Imperial-Jap, 25th.p., 2 speeds, kid starter, hand clutch, appearance and condition as new, small mileage; £70, or near offer.—Wilson, 96 St. Michael's Rd., Aldershot.

NEW IMPERIAL 1919 8h.p. Combination, lamps horn, hood screen, etc., run 1,500 miles only perfect condition throughout; £135.-R. Watson, 132 High St., Aldeburgh, Suffolk.

NEW IMPERIAL-J.A.P. 25th.p., 1916. 2-spectroscopic for countersha't gear box, hand-controlled clutch kick start, sound, efficient, splendid condition; price 8 gms.—Bannington 14, Arundel Rd., Croydon, 17370.

The gas bearings of 14, Request Ed., Crystoff. 124

19. 19. Dec. 8hp. New Imperial, with luxurious 182

detachable wheel, Lucas lamp set, Klasen bort, cote, perfect throughout; £155,—73, Victoria RJ., Strainfern, N.

Green, N.

GOR Enster.—1916 New Imperial-Jap, 25th. p., 2-spece 2 laungs and generators, tool kit, spano last, take specianter, mechanical foin, rebusied, new pister of the special s

New Imperial.

SW IMPERIAL-JA.P. 2%h.p., 2-speed, March, 1916, B. and B., E.L.C., new discs, T.P., bars, good condition, but wanting cylinder and pistons 240, or near offer; photographs on application. cylint, Bradley, Wylam, Northumberland, (7226)

19 8hp. New Imperial, Sepred, educin, kick adulter (delivered Oct.), and Marticancy sideore to inner before Xmas), complete with 5 hangs and Kinxon, inc used for a few short journeys only, and indistibilities from the weight of the control of the

See Hain, anontron, one worm, 2-3 hp., 2-speed, black and white discs, drop bars, horn, and extra cand tube, 1918 model, excellent condition, just a sauded,—Correspondence to Benley, Augelos, Eton way, Windsor: bike on show at Manor House, f, Lancs, What offers? "Deuce of a bis 107, 157, 200.

Perrins, Architect, Redditch. [X6279] Norton, ordered last April, expected any day; offers?-Box 2,145, c/o The Motor Cycle. [7462

CK HEALY, Cotk, official Notion agent.-Reta-tional delivery. No premiums accepted. [6486 20 Norton Big 4 and Norton de Luxe Sideear, just delivered; offers.—16, Baldock Rd., Att-Rd., Didsbury, Manchester. [7540

16 B.R.S. Norton, lamps, tools, knee grips, tub-case, etc., 70 m.p.h. machine: alter 6 o'clock dington House, 92, St. Leonard's Rd., Windsor

RTON 3½h.p. T.T., te-enanteled, electric light new tyre, land controlled Philipson, disc wheels hed throughout 60 m.p.h.; 75 gns.—62, Washwood Rd, Birmingham.

RTON 515h.p., T.T., disc wheels, Amac, C.A.V., F.R.S. lamps, mechanical horn, Dunlop tyres, fast, but extremely flexible; any trial; seen any; £78.—Strickland, The Corner House, Woking,

20 Big Four Norton, delivered hat month, whose Service gray, Lucas lighting, Cower whose Service gray, Lucas lighting, Cower ey; cwner buying car; price 135 gas; fully it; scen by appointment,—Norton, Oxford House, Andrews, Norwich.

Micross, Nowice.

RTON 1916 31/sh.p., Sturmey-Archer 3-speed, hand control clutch, brand new Watford speedor, Klaxon new 4-res, only done 200 miles since saulen by makers' agents, new pistons, bushes, amelied, appearance as new, perfect running; price £100.—Jules Hotel, Jermyn St., W.1. [7079]

n.s.H.

p. 2-speed N.S.U., Bosch, B. and B., clutch, run
uing order; £32.-14, Phenix St., Eusten, [70]

11 Twin N.S.U., Bosch, single-sneed, needs slight
attention; £25.-99, Lower Cheltenham Place,
old. [6360

.U. Combination, 6h.p., 2-spéed, Bosch mag., Binks carburetter; £30.—Rowley, 35, Sudehill, Newmill, Huddersfield. [X6201

N.U.T.

OK HEALY, Cork, official N.U.T. agent.-Rote tional delivery No preminus accepted [648] tional delivery No premiums accepted.

INCEY RUSSELL, Newport, sole ide of Wight agent for NUT motor cycles; early delivery.

[5295] 20 N.U.T., aristocrat of motor cycles: list price: in stock.—Youngs Heath Garage, Newmarket ie: 214.

1.T.—We are sole wholesale and retail agents for Staffurdshire, and can supply these famous machines arly delivery.—Walsall Garage, Walsall, Tel.: 444 [722]

17221 topshire.—N.U.T. sole agents for the county; demonstration model in stock. Orders looked in retation for early deliveries.—James Garages, th Stretton.

SPARROW, Ltd., Osborne Garage, Veogil, sole agents for Somerset, including 10 miles radius eovil, for N.U.T. motor cycles; early deliveries, 4 for particulars.

18595. Lp. o.l.v. N.U.T. 1916, single gear, lamps, horn, speedometer, excellent condition, the sporting machine on the road, 50 miles to aser in Midlands; over £90.—Box 2,041, c/d 40for Cycle.

4doto Cycte.

14. 1920 Model 31/hp., Lucas dynamo lighting, electric born; 140 gns, complete.—Anthorised Lougents, Vivian Hardie and Lane, Ltd., 24. Woodst St. 6ff Oxford St., Wad St. off Oxford St., Boak now for early delivery.

1080

0. K.

34th.p. Precision, Philipson puller, clutch, I. and B. Bosch, new belt, fast, perfect; £45,-63, Rd., Brixton.

-New 2-speed 2-stroke, Villiers, in stock—chandler, Reyre and Williams, Hitchin, Herts at 165 Hitchin.

2-stroke, 254h.p., 2-speed, practically new: £45. Clements, 19, Stockwell Park Crescent, Stockwell, Phone: 2336 Brixton. [6730]

DELIVERY FROM STOCK

or at an early date. DOUGLAS ENFIELD INDIAN CLYNO (2-stroke) MATCHLESS B.S.A.

LEVIS BAT BRADBURY HENDERSON

(4-cylinder).

ZENITH NEW IMPERIAL DIAMOND SPARKBROOK COULSON B. OMEGA EDMUND COVENTRY EAGLE VELOCETTE METRO-TYLER REX INVICTA

To save time and avoid useless correspondence, we think it well to mention that the machines of following makes allotted to us for 1920 have already been booked up:

NORTON, P. & M., MORGAN RUNABOUTS. G.W.K. CARS.

Any further orders for those makes can only be accepted for delivery during 1921

We are booked up to July, 1920, for

N.U.T. MOTOR CYCLES.

and can accept orders for August Delivery.

ALEXANDER & CO...

113-115, Lothian Rd., Edinburgh. 272-274, Gt. Western Rd , Glasgow

MOTOR CYCLES FOR SALE.

O.K. 1915 4 stroke, excellent condition, in t over-handed at £8, excellent times, new Klaxon, inde-sway; £65; call arise 6, or with—Munt, 10, Ashburn Place, Glomeester Rd., S.W.

Omega

STANLEY RUSSELL, Newport, sele Isle of Wigh agent for Omega-Jup motor cycles; early delivery [5226]

OMEGA-J.A.P., 2-speed, and medel de luxe, a and 74 gus. respectively.—Stocked by Eloyd Son, 29, Station St., Lewes.

YORKSHIRE.—Omega 2 h.p., J.A.P., 2-speed, ex-Cellent condition, new August, 1919, lamps, hern, all accessories; £67.—J. D. Umpleby, Gabetand Lam-, Shadwell, Leeds [7249]

P. and M.

P. and M. 3' d.p. 2-specd, F.E., excellent conditions and St. 10, Baronsmend Rd., Barnes. [70]

CYRIL WILLIAMS for early delivery of P. and M.'s.-Chapel Ash Depot, Wolverhampton. [X8624 TWO P.M. R.A.F. Models, Type B and S; the two.-Hole, 129, Park Lane, Carshalton

19 Phelon and Moore Combination, new August very little used; £125.—Myers, Wye Colleg [7384

P.M., 1915, very little used 1917-18, family sidecar, speedometer, all tools; £95.-19, Warrington [6470]

10 20 315 h.p. Standard P. and M., promised delivery this month; what offers?—Coyte, Woodville, Kingsbridge, Pievon. [6760

BRAND New P and M. Combination, Lucas lamps, Cower speedometer, horn, sparez; \$150.-322, Fore St., Edmonton, N.

P. and M. Combination, 1919, splendid mount, very low mileage, all accessories; £140.—12, Laurel Rd., Barnes, 8.W.13.

P. and M. T.T., 3½h.p., 1914, 2-speed, K.S., lamps. Klaxon, good condition, ride away; £55.-69, Laitwood Rd., Balbam. [7046]

P. and M. 1916 5th.p., 2 speeds, kick start, very powerful; prace £74; seen after 6.—Sumpson, Union Brewery, Wandsworth. [X6253 P. and M., late model, 2-speed, kick start, accessories, smart appearance, mechanically perfect; £70,-37, Malden Rd., Keutish Town. [7161

P. and M. Combination, 1919, very little used, condition as new; £110; seen any time.—Randall, 88, Church Rd., Barnes, S.W.13.

PRAND New P. and M., unridden, and just received from makers, beautiful machine, take side-car anywhere; offers over £90 invited.—Box 2,084, c/o The Motor Cycle.

19 17 P. and M., 2-speed, kick start, good condition, re-enamelled, £65; 1918 ditto, good as new, £80; 1917 ditto, £75.—A. King, Stores, Peaslake, Gomshall, Surrey.

19 P. and M. Combination, in excellent condition, 3 laraps, B. and B., E.I.C. mag., ready to ride away; £125. or best offer.—Burgess, 4, St. Ann's R.I., Burdett Rd., Bow, E.3. [6923

P. and M., with sidecar, 5!5h.p., 2 speeds, P. and H. lamps, Cowey, handle start; £60.—Manager, Burbridge Engineer and Machinist, 82, Hillside, [7004]

19 19 P. and M. Combination, large P. and H. head, pt Lucas side, aluminium rear lamp, Lucas horn, petrol carrier, etc., tyres and general condition excellent; £120; London.—Box 2,159, c/o The Motor

PHELON-MOORE, ex-military stores, completely overhauled and guaranteed by us, £78; Milllord and P and M. sidecars to suit, ex-stock. — Mandes Motor Mart, 100, Gt. Portland St., London, W.I., and 100, Paris St., Exeter.

and 100, Paris St., Exeter.

HAVE You Ever Tried a P. and M. Woodefully reliable and silent. How would this enit yen?: 1920 P. and M., R.A.F. model, 3½h.h., 2 speeds, kits kint, hora, etc., run 250 miles, gos bentifully: 108; Cambridge district.—Box 269, clo The Motor Cacle. (Acc)

P. and S.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— New P. and S. 2-stroke models, delivered from stock; easy terms arranged. [7429

P and S. 2-stroke, several models in stock for import Co. (Birningham), Ltd., 39-47, Heath Mill Lane, Birmingham, Phone: Central 4290. T.A.: Commerport, Birmingham.

Pope.

POPE 1914 3h.p., nearly new tyres, lamps, recently overhanded; £25.—Bramwell, 4, Market Sq., Stony Stratford, Bucks. [7300

Precision.

PRECISION Combination, 41th.p., 2 speeds, just over-named; £65.—Base, 5, Josephine Ar., Brixton [6842]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B29

Precision.

PRECISION Enquiries Invited by J. Blake and Co., the leading motor cycle experts, Liverpool and Manchester. [6582

BOOK Your 1920 Mount. 3%h.p. Precision, 2-stroke, deliveries March.—Mount Works, Warwards Lane, Selly Ook, Birmingham. [X5782]

Selly Oak, Birmingham.

PRECISION 4/Anp. 2-speed, clut-h, countershart,
BB, variable jet, lamps, hora, etc., mechanically
sound; 45 gns; ride reasonable distance or seen.—75.
Thicket Rd., Anerley, S. 8.

Premier,

PREMIER 1916 41/4h.p., 3-speed, clutch, kick start; £60.—325, Essex Rd., N.1. (Bell.) [6471 PREMIER 31/2h.p. 1914 2-speed C.S., clutch car, lamps, etc.; £50.—14, Plum Lane, stead

19¹⁴ 3¹⁵h.p. Premier, 3-speed countershaft gear, complete with accessories; £55.—Burnett, Barnett and Co., Deal. [6702

PREMIER 31/h.p., Bosch, B. and B., in excellent order; £35, or offer.—Bird, 10, Skipton St., London Rd., S.E.1. [6721

DAN GUY, Weymouth.—35/2b.p. Premier, 2-speed, with new mag., engine and goars quite, less carburetter; offers, [6146

31h.p. Premier, 1912, Bosch, 2-speed, free engine, 2 good running order; best offer over £35.—Apply by letter, 86, Mount Gold Rd., Plymouth. [7102] PREMIER 31/h.p. Combination, 3-speed, clutch, good tyres, belt, perfect running order; £65, or near offers.—Burrows, Gomeldon, Salisbury. [7255

19¹⁴ Premier ²⁵/₄lep., 3-speed Sturmey-Archer hub, chutch, Bosch, B. and B., tools, horn, perfect condition and running order.—61, Augyle Rd., Ilford. [6476

PREMIER 1914 2½h.p., Bosch new condition, stored during war, used little since, complete with spares; £45.—Templeton Price, Fairmount, Ashbydela-Zouch. (7223

la Zouch.

PREMIER 31 dap. Bosch waterproof, adjustable pulley, 2-speed clutch hub, engine just overhauled by makers (costing £17, receipt shown); £45.—49, Idlecomble 21, macris (1980).

PREMIER (late 1914) 2½h.p., C.A.V. mag., just been thoroughly overhauled, condition excellent.— B. S. Marshall, Ltd., 33-34, Foley St., W. Phone: Mayriair 5906.

PREMIER, 3½h.p., 3-speed, just overhauled, kick start, lamps, horn, tools, Bosch mag., splendid condition; best offer.—Brooklyn Lodge, Mill Hill, Barnes Common, S.W.13.

PREMIER, 24,6h.p., 1914, stored 4 years, excellent condition, B.B., Bosch, adjustable pulley, 2 spare belts, new tyre, lootboards, lamps, etc.; £35 cash; ride away.—41, Aragask Rd., Catlord, S.E.6. [6682]

100 away.—4., Angasa nu, Caudin, S.E.O. 1000.

1014 Ab. D Tremier, TT. enine, in perfect condition, Bosch, Senspiny, 2-speed and clatch, long copper exhanst, 2 lamps, pump, tools, and other spines; £52/10. or close offer.—Roberts, 80, Bulow Rd., Fullman, S.W. 56.

Quadrant.

Sh.p. Quadrant, new Palmer tyre, tube, belt, carburell, retter needs attention; first £10 secures.—Everill, 101, Gough Rd., Edghaston. [X5947]

QUADRANT 4h.p., perfect condition, tyres, enamel good, Lucas lamps, hon; any trial; £32.-7, Rodhorough Mews, Woodfield Crescent, Harrow Rd., V.

19 16 Quadrant Combination, B.S.A. 3-speed, kick starter, foot clutch, Sensprny, dissolved acety-lene and electric lighting, C.B. sidecar, hood, nearly new tyres, few spares, excellent order; £35; rater 6,—28 Dyson Rd, Leytonstone, E.11.

Radco.

RADCO, 21/h.p., as new; what offers? After 6.-6. STANLEY RUSSELL, Newport, sole Isle of Wight agent for Radeo meter cycles; delivery commenced.
[5298]

RADCO, engine No. 14855, Dixie, Amac, Dunlops, lamps, horn, tools, new condition; £30, lowest.—Box 2,091, c/o/The Motor Cycle.

SPORTING 1916 Radoo 2-stude, 2½h.p., in good condition, U.H. mae. (vanishle), Amus canburetter, L.T. bus, long open exhaust, nearly new tyre and tools, tended to the state of the state of

Savule House, Shadwell, Leeds.

S "PORTING Radon, 1919-20, 21 (h.p., T.T. bars, disc

Wakeds, long exhaust, knee grips, mechanical horn,
land-controlled extra nir, Veeder motor cycle cyclometer, W.R.S. adjustable jet, long set compilete, Hutchin-on tytes, unpanetunel, nulleage male 500, machine
proced in every Scallis piles 60, pus.—Thome. Kingston
1923.—Trevene, Ethicsham Rd., Saufone. (7536)

Reading Standard,

W.HAT Offers for Reading-Standard Combination, dynamo lighting i delivery expected any day; advertiser cannot afford price, 2230, deposit paid; first deposit list price accepted, or offers.—Write, Smith, 10, Least Terrace, Pairlaun Park, Sydenham.



Dollar'in Zour pocket

WE save you 5/- on every pair of Ustikes you buy. How?

You pay 9/- to have your boots soled twice with leather and rivets One pair of Ustikon cost 3/9, and will outlast two pairs of leather soles. Not only do you effect this economy, but the boots become ABSOLUTELY WATERPROOF







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Elite Rubber Co., Ltd.

Tyre Specialists,

(Dept. A.) 264 Vauxhall Bridge Rd. 19 191/2 5-6h.p. Twin Rover Combination, lamps, large value of the Victoria, S.W. 1. 121-165, or nearest. -2, Paddington Rd., Ifan worth, Binmingham.

MOTOR CYCLES FOR SALE.

Reading-Standard.

READING-STANDARD, the world's master at cycle; demonstration model now in stock Barran-Ackroyd, Hyde Park, Leeds,

R EADING STANDARD Combination, believed a speed, kick, new Lucas lighting set, tyre new; £135.—Oakfield Cottage, Upper Elmers End Beckenham.

Regent.

REGENT.—For earliest deliveries, order from Barran-Ackroyd, Hyde Park Corner, Leeds. SEND postcard for particulars of Regent 5-7h.p. twin to us. We can give earliest deliveries of machines.—Elliott Ros. and Stevens, Combus Lavarkshire agents.

Rex.

5-6h.p. Rex and Sidecar, 2 speeds, Bosch mag. or exchange considered.—11, Pigott St., house, London, E.14.

REX 6h.p. Combination, tandem sidecar, Bos and B., decompressors, 2 speeds; £75.-10, Rd., Thornton Heath.

REX Motor Cycle. 5h.p., twin-cyl. engine, cughly overhauled, good condition; cheap-2,144, c/o The Motor Cycle. PEX 4h.p., 3-speeds, Bosch, Senspray, footbornew lamps, horn, pump, spare belt, toolbag, fect condition; £50.-93, Gateford Rd., Worl Notts.

5 -6h.p. Rex and Sidecar, 2 speeds, clutch starter, tyres and enamel in very good corlowest price £42/10.—Write or call, 101, Rd., S.W.

REX Sh.p. Combination, late 1914, A.J.S. 3-Regar, kier start, hand and foot clutch, de sidecar, lamps, horn, speedometer, overhauled; Seen by appointment.—48, Hillcourt Rd., East wich, S.E.22.

Rex-Jap

19 14 Rex-Jap 8lb.p., 2-speed, all-chain drive comtion, 700×80 types, speedometer, lamps, Watsonian de luxe sidecar, drop bulbous heak table, hood with curtains. 5-point attachment; 21, Hogart Rd., Earl e Court, S.W.5.

Roc.

6 h.p. Roe-Jap, huxnrious Swan coachbuilt sid Bosch, Amne, reliable lighting set, hore, t spares, lugsage giid, mirror, handle start, excellent dition; owner burgine car; £120, or near ofter.—W Horton, 15, Eliot Vale, Balckheath, S.E.

Rover.

19 20 5-6h.p. Rover, with sidecar, just arrived packed); what offers?—Young, Misterton, S.

19 31/h.p. Rover T.T. Model, perfect condit S.W.2. Stokes, 12, Arundel Place, Hayman

19²⁰ Rover Combination, 5h.p. twin; list property in stock.—Youngs, Heath Garage, Newman Phone: 214.

R OVER 3 An.p., T.T., Bosch, B. and B., just hauled, good tyres, last; £35.—Box 2,173

R OVER 1914 3%h.p., 3-speed, clutch, good lamps and hoin, just overhanled, fast; :Tippen, Marden, Kent.

19¹⁴ Rover 3½h.p., 3-speed hub goar and change of nearly new Dunlops; £50.—Westrope, 82; Nort Rd., Leyton, E.10.

R OVER 35h.p., 1915, 3-speed, chitch, lamps to etc., splendid condition: £68.—A. Lea, W Farm, Sheldon, near Birmingham.

19 14 312h.p. 3-speed Rover, mechanically per tyres good, and appearance as new; £60.— Nurseries, Kingston Rd., New Malden.

P OVER, 3h.p., single speed, Bosch, excellent dition, fast; £37/10; also wicker sidecar; -66, West Side, Clapham Common, S.W.

19¹⁹ Rover 3¹/₂h.p. Countershaft, and Swan sport sidecar, very carefully used, all accessor £137/10.—Heady, 44, Alma Rd., Carshalton, Surge

ROVER 1914 31/h.p. Wicker Combination, speed, 3 lamps, splendid condition, overlast and silent; £68.—16, Oakfield Rd; Anerley,

NEW 1920 5-ch.p. Twin-cylinder Jap eugine h Combination, clock and speedometer, lams, letc.—Apply, G. Murray, junr., Norton Malton,

R OVER 1918 3-speed and Kick-starter, lamps, speed on other, and sidecar, in excellent order; nor teriver; price £97.—Hall's Garage, Ltd., Sterens [64]

B30 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Rover.

14 31th.p. Rover Combination, 3-speed, new condition, 3 new tyres, all necessories, dual electric neetvlene highling; £115.-Morriss, 8, Victoria Rd. duny Park, N.4.

bury Fark, N.4.
19 Rover-Jup 5-6h.p. Combination, speedometer lumps, harm, wind sere at rever, pillion sent, s. etc.; £176; any trul, appointment. -56, Stanhape Church End, Finchley, N.3.

(bl.), 1913 3 speed Rover, just overhauled, new back tyre and belt, muchine, enamel, and plate plendid condition; £65; trial; stored 4 years—Ford, cell, m. Wallingford, Berks.

OVER 1918 T.T., Philipson pulley, speedometer, lumps, knew grips and tall equipment, excellent fitton, £69; also lightweight coachbuilt sidecar, £15, ny, Eastbrook End, Reinford. [7506]

15 Rover Combination, concludit, 3-speed, clutch, wind serion, lumps, tools, spares, all tyres Dunestra heavy, excellent endition throughout; £85.—
Mayer's Walk, Peterborough. [5318

DYER 1916 T.T. 31-lb.p., low, powerful, sporty, hunps, generatus, Kiaxon, speedometer, Dandops, det, owner just demolitised; condition new; £68.—Princes Parade, Finchley, N.5.

OVER 3l₂h.p., bonkh new last December, complete with tools, Lucas lamps, Kluxon, tyres never punc-l, guaranteed perfect; £110, or near offer,—Davan, t. Clement's Gaudens, Cambridge.

WER 315h.p. Combination, 1916 machine with 1919 C.B. sidecar, 3-speed, clutch, countershaft, op condition, ride away; £115.—Apply Yard, 1, ughton St., Queen's Rd., Battersea, S.W. [7524] ighton St., Queen's Rd., buttessea, con-cle. Rover, 1919 (Dec.). Philipson pulley, speedouster, horn, complete kit of tools and spares, militage r £100, very fast, as new, best ofter over £100; rhorough district.—Box 2,175, c/o The Motor Curte. [7498]

119 Rover Combination, 5-6h.p., W.D. models speed counter-haft gear, totally ended so, covers 28in.×5in. unpunctured, excellent connthroughout; £155.—Cresswell, 3, Lee Terrare, theath.

18 (Sept.) Rover Combination, 31-h.p., 5-speed countershart, Lucas accessories, tools, spare valve, milease, in pericet condition throughout, 21-juin.—Dyer, 56, Frances Rd., Lozeds, Handsworth ingham.

ingbum.

O.H. have a 1919 31:hp. Rover and brand per coach sidecar, 3-speed countershaft, clatch, kick er, fully conjuped, as new, mileage under 500.—
Offer Car House, 5, Heath St., Hampstead (nr. pstead Tobe Station). Phone: Hampstead 3752, a 9-7, including Saturdays.

Saturdays. 1919, Rover 6h.p. Jap Combination, in perfect condition, as new, only ridden 450 miles, the constant of the condition of the conditi

Royal Ruby.

K HEALY, Cork, official Royal Ruby agent -Rotational delivery. No premiums accepted. [6490 YAL RUBY 212h.p., 2-stroke, 1920 model, Villiers, M.L., Amae; £50.-45, South End, Croydon, [6770 AUCHOPE'S, 9, Shoe Lane, Fleet St., London.-8h.p. 1919 Reyal Ruby combination; £230.

BY, new 1920, 2½b.p. 2-stroke Villiers; 48 gns., plus 5%.—Frank Whitworth, Ltd., 139, New St., nghan.

[X634]

No. 1919, ittle used, all accessories, tip-top condition;
Etherington, 91, St. Margaret's Rd., Twicken-C.H. have a Royal Ruby 2-stroke, Villiers engine, tood order.—Fair Offer Car Honse, 5, Heath St., stead (near Hampstead Thobe Statioo). Phone: stead 3752. Hours 9-7, iocluding Saturdays.

9 Royal Ruby, 8h.p. twin J.A.P., 3-speed com-bination, kick starter, lamps and generator, s, Klaxon, practically new; £150.—Matthews, wheston, Surreyors, 113, Earl's Court Rd., S.W. Kensington 1466.

Rudge.

W Bros., High St., Guildford, Rudge agents, upply at list prices. [X7948 GES.—Early delivery of all models.—Bedford larage, Walsall. Phone: 270. [5309 6Fage, Waisaii. Fibone: 210.
16E, chitch model, good tyres, and running order: 155.—Csher, 15, Benwell Rd., London, N.7. 16756

3 Rudes Malti, April: 285, no offers.— W. Owens and Sons, Brunswick Rd., Lane End, Buckley.

) Rudge 7-9h.p. Twi Multi; list price; in stock.
—Youngs, Heath Garage, Newmarket, 'Phone:
[0115]

Rudge Multi 31/sh.p., good condition, lamps; en any time; £60.-Rolioson, 13, Western Rd. [X6198]

1. Rudge Multi (helieved 1917), fast, powerful, all accessories; £48: After 7.—16, Bride St., Barns-[68,86]



All goods sent on seven days approval against remittance

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SPECIAL LINE of Covernment covers in almost new condition (mostly Dunlop extra heavy rubber studded.)

On Price List Price

 28×3 ... 28×3 , Clincher rubber 27 /6 .. 80/-

37/6 ... stud

WELL-KNOWN MAKE.
Our List 25×21 Passenger beavy rubber Price Price

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..... 57 /6 66/-× 24 Safety Tread GOODYEAR-

29×24 Rubber studded (oversize, for 28×24 ms) 42/-; 28×24 Diamond studded. 45/-

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26 × 21 Heavy model, 50 /-; 26 × 21 × 21 Heavy model, 59 /-; 26 × 21 Medium, 42/5

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28×3 Extra heavy 3-ribbed 72/6 WOOD MILNE (slightly soiled)-

70×80 (to fit 650×65 rums), Heavy rubber, non-skid 95/-

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 NEW AND FULLY GUARANTEED.

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28×2 7/9 11/2 28×3 13/9 17/6 BELTS. Al! makes in slock at special prices.
Best English make \(\frac{3}{2} \) in. section, \(61t. \) lengths \(1/2 \) per foot

RETREADING Extra heavy, 17/6; Heavy, 15/-; Medium

All casing repairs are charged extra according to the description of repairs.

We have a large motor Tyre stock, and shall be pleased to ounte on receipt of a postcard.

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264 Vauxhall BridgeRoad Victoria S.W.1.

MOTOR CYCLES FOR SALE.

Rudge.

GENTING T.T. LANGUAGE Multi, 1916, 4nd and Capardy, and speed perfectly, 60 gas.—Walter, 2019 1818, Entirely Wash.

SLE of Man Radge Multi, 1916, fitted our types I expert examination; £72.—G. Park View, Oatlands Drive, Weybridge.

lands Drive, Weybridge. [7284]
O.M. 1919 Rudge Alulti 3½h.p., hand clutch, milenge 1,000, perfect; ±100.—Jackson, 69, Onl. Lange (phone 2190), Bradford. [X5770]

19 19 Rudge Multi, delivered August, in sound condition, Imps, etc.; £90, or best offer.—II. Manwaring, Plovers, Horsmonden. [6547]

RUDGE Multi, engine 15956, 1917, kick starter, clutch, Iully equipped, guaranteed perfect; £78.— 48, Derwentwater Rd., Acton. [7130]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 315h.p. 1.0.M. Rudge, up to date, £90; 6h.p. Rudge combination, 1914, £110. [7435]

RUDGE Multi 5-6h.p., just back from makers, as new, also coachbuilt sidecar by Rudge; £150.— Gainsborough Lodge, Leytonstone. [6804

PERFECT 31/2h.p. Rudge Multi, 1919, fully equipped, 55 m.p.h., 100 m.p.g.; 90 gas., or offer.—A. Ussher, Trinity College, Cambridge. [7256]

R UDGE 31/4h.p., Brooklands racer, enamelled and overhauled, lamps, etc.; best offer over £50.—
146, Southfield Rd., Chiswick, London. [7291]

146, Southneid Rd., Chiartes, Johnson B. B., T.T. Rudge, 1913, clutch, fast, powerful, 2 lamps, mechanical horn, good tyres and reliable bike; £40.—Fletcher, 119, Madavile Rd., Enfield Wash. [7:554]

19 16 315h.p. I.O.M. Rudge Multi, Klaxon, pertect. £75; also red Indian torpedo sidecar, suit above, £17; as combination £90.—Pink, Galleywood, Chelmsfold, Essex. [7320]

RUDGE Multi 3½h.p., 1916, h.b. clutch, excellent condition, good tyres, lamps, horn; £75; exchange Douglas and cash.—8, Athenlay Rd., lyydale, Nunhead, S.E.

1919 (Sept.) 3½h.p. Rudge Multi, carefully ridden, price 100 gns.; after 7.—H.C., 18. Whitburn Rd., Lewisham, S.E.

Lewisnam, S.E.

19 19 (October) I.O.M. Model Rudge Multi, scarcely ridden, unscratched or punctured, Lucas lamps, horn, Tan-Sad, and all accessories; price £110—234, Foleshill Rd., Coventry. [X6338]

1920 Model 3½b-p. T.T. Rudge Multi, Cowey trip speedometer, Lucas lamps, mileage 600-700, condition equal to new best offer secures.—Clifford Bate, Tarporley, Cheshire.

19 15 Rudge Multi 314h.p. Coachbuilt Combination, band clutch, pedal start, lamps, spares, splen-did condition; any trial; £72, offers,—Lloyd, 147, Woolstone Rd., Forest Hill, S.E. [6637

1 1 2 3 3 h.p. Rudge, Philipson pulley, new tree and belt, excellent condition, new rings and bearings just fitted; 44 gms.; bargain.—Seen Sheldon and Blake, Church St., Biggleswade. (D) [7368]

R UDGE 3/sh.p., CA.V., B. and B., tyres and belt new, lighting set, good condition, powerful unit, perfect: 252; bargain: first cheque secures.—Travis. 36, Victoria St., Littleborough, Lanes. [6353]

R UDGE Multi 31/h. p., 1918, Cowey, Lucas and generator, Klaxon, new extra heavy Duulop, riout original, little scratched, just overhauled, about 3,000 miles; 280.—Brown, 48, Bounty Rd., Basingstoke. [7038]

2 11.n. Rudge Multi, 1916, with practically new 1920 2 Cancelet Minor sidecar, lamps, mechanical born, and all accessories, whole in perfect order, having done small inleage; 2100.—Lt. Wight, Osca, Maldon, Essex, France

[6838] I.O.M. 315h.p. Raciog Rudge Multi, brand new, unsidear, speedometer, knee-grips, Lucas horn, etc. 2150; photo.—H.S., 6, Churchways Crescent, Horfield, Bristol.

10 20 Rudge Multi 3½h.p., I.O.M., only done 250, all necessories, insurance policy all risks, very fast machine: £110; evening 6 to 7. Satuday afternoons.—R. Twyford, Possil House. Copse Hill, Wimbledon.

RUDGE Mniti 3½h.p., 1914, splendid condition, 31 new parts, plating, cannelling extra good; also 2½h.p. twun Enited, 1912, top-hole condition; seen by appointment only—S. Brown, Feltham Farm, Felt-lam, Middlesax.

ham, Middlesex.

19 20 Rudges Malti, 5' h.p., I-de-of-Man T.T., defection approximately 180 miles, knee grips, Linds lamps, Klaven; others over 100 gns, or arrange schause for cycle car suitable for commercial workschause for cycle car suitable for commercial workschauserdene, Nelson St., Kirkham, Lancashire. [73-4]

SALE, 3'b.p., Rudge Multi, late July, 1919, ridden little during Aug., indistinguishable from new, flawless condition, lamps, horo, tools, spares, and an elasting wand sereen given in; on iver Rudge's Depot, Cardin; 90 gns.—Sweet, Hazelwood, Radyr, near [6545]

5 6h.p. Twio Sarolea, new tyres and belt; lowest £35 -16, Rosslyn Rd., Walthemstow. [6577]

- Scott.

10 19 Scott, complete with all accessories: 100 gms.—[X6262]

Scott.

SCOTTS.-Place your order now with the Bedlord Garage, Walsall. 'Phone: 270. [5508

SCOTT.-Exceptionally early delivery of new models.-Enquire dates, Parker's, Bridshawgate, Bolton. [X6159]

SCOTT. 2-speed, kick, knmps, horn, spare tyre, excellent order, stored 18 months; £55;—Newfield, Entry Hill, Bath. SCOTT 3%4.p., 1915, just overhauled, new Dnnlop tyre, perfect condition; £55.—Straker, 91. Oak-hill Rd., Putney. [6341

SCOTT 1920 Model, 5½h.p., only ridden few miles, perfect; price £115, or close offer.—Hall's Garage, Ltd. Stevenage, Herts.

SCOTT 1919 (late), under 1,000, like new, 1920 improvements, all accessories; £117.—Harvey, Fairlawn, Kedderminster.

SCOTT Combination, 1914, 2-speed, free engine, good condition, lamp, horn; seen by appointment.—
Booth, Henley-on-Thames. [6371

SCOTT, 1915, and C.B. sidecar, horn, speedometer, ride away, owned privately; 75 gns.—Cray, Station Garage, Hendon, N.W. [6978

SCOTT 1915 Combination, 574h.p., water-cooled, splen-did mechanical condition, lamps, horn, sparses: £85.-67, Poppleton Rd., Leytonstone, [6750

1916 Scott C.B. Combination, in good condition, new lamp set, tyres good; 298; after 6 o'clock—Pumping Station, Hadley Rd, Enfield. COUT and Coachbuilt Sidecar, 1915, with late maprovements, 2 speed, kick starter, recently completely overhauled very smart appearance; 275—Moffatt, 51, Church Rd, Wimbledon Common, S.W.

SCOTT Combination, 1915, recently overhauled, enamelied, and required tered, new chains, rings, rollers, gazues, etc., lamps generators, horn, fine condition and appearance; 90 gns.; appointment.—92. Hazelville Rd., N.19.

1915 3%h.p. Scott and Sambeam sidecar, just re-enamelled and plated, fitted with 1920 improve-ments, lamp set, Klaxon, speedometer, Binks 3-jet, Bosch mag, engine leftfed; any tital; 100 gns.—57, Claremont St, Stapleton Rd, Bristol.

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Sheffield-Henderson.

SHEFFIELD-HENDERSON.—For earliest deliveries, order from J. Barran-Ackroyd, Hyde Park, Leeds.

Singer.

21h.p. Singer, nice condition, good tyres, etc.; price 22, 230,—George, Argyle, South Av., Southend-on-Sen.

FOR Sale, 21/h.p. Singer, in good order; part exchange push cycle, or sell.—Walker, W. Bradenham, Thetford, Norlolk.

SINGER 254h.p., countershaft, 2-speed clutch, new Vortex carburetter, T.T. bars, belt, good running order, tyres nearly new; £45.—Curling. Murston, Sittinghourne. 66440

Sparkbrook.

SPARKBROOK 2 h.p., 1916, 2 speeds, free, accessories.—Vaughan, Minster, Thanet. [7410

1919 Sparkhrook, 2-speed, new condition, purchased September; £62/10.—Robinson, 50, Princes St., Peterborough. [7392

SUN-VILLIERS 2.stroke Motor Cycle, in perfect order; £40.—Brook, Burnham, Somerset. [6496 SUN-VILLIERS 2 h.p. 2-stroke, 1917, lamps, horn, recently overlianled, good tyres; £35.—King, lenthercote, Ascot

SUN-VILLIERS, 1915, countershaft 2-speed, front tyre excellent, back unsoiled, aluminium footonds, 2 launs and generators, mechanical born and Jones trip specifications; 245.-5, Eslou Mews, Betkler Rd., Primitose Hill (near Chalk Farm Table), (7186

Sunbeam.

NEW 1920 8h p. Sunbeam Combination; £240.-56, Park Rd., Peterborough. [7391

1916 316h.p. Sunboam Combination; best offer over £95,—Day, Broomfield, Chelmstord. [6811

193, Donate Condition; \$3-speed, Lucas lamps, etc., excellent condition; \$80,-70, Josephne Av., 17516

3 1h.p. Sunheam, T.T., delivery middle March; owner unable take deserv; offers.—After Saturday to 21, South St., Senth Kensington.

WAUCHOPE'S, 9, Shoe Lanc, Fleet St., London,— 314h,11 Sunboam, 1917, £115; also 314h.p. 1914 Sunboam and sideral £127/10. [7436

10 20 8h.p. Sunbeam Combination, Mills-Fulford sidecar at lamps and tools, splendid condition.—Joyce Bros., Ltd., Farnboro', Hants. [7237]



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were laid down by the Layton Garages twenty years ago, with INTEGRITY as a keynote.

The following extracts from letters received from satisfied customers go to prove that we do try to

LIVE UP TO OUR IDEALS

Durham, :-2-1920.
"I am very pleased with your straight forward business methods and you courteous attention to postal clients."

Eltham, S.E.9, 11-2-1920.
"Hisrefreshing to find a firm anxious to take trouble on one's beholt. It is of course: the proper way to conduct successful and continuous business, bud, unfortunately, so many firms seem to our look the fact now-a-days Major—

Penrhyndendraeth, 19-2-1920.
"It has been a pleasure to do business with you and I sincerely thank you for your court ous and even generous treatment, which, I can assure you, was greatly appreciated by——".

We will treat YOUR enquiry in the same way.

WRITE TO US TO-DAY We offer the following wellknown makes for

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ARIEL, ALLDAYS - ALLON, BLACKBURNE 4 b.p., CLYNO LIGHTWEIGHT, DIAMOND, L.M.C., METRO-TYLER, NEW INDIAN, IMPERIAL, SPARKBRO SUN, VELOCETTE.

> SCOOTAMOTAS Delivered from Stock

A General Manager

J. W. TOLLADY,



MOTOR CYCLES FOR SALE.

Sunbeam

23h.p. Sunbeam, 2-speed, clutch, kick starter, lam horn, etc., good tyres, splendid condition a appearance; 65 gns.—18, Saffron Rd., Biggleswad

19 Sunbeam 34th.p., disc wheels, electric he dition: £135, or nearest offer.—E. Somers-Smith, B wood House, Halesowen, Worce.

19 19 4h.p. Sunheam, black and gold finish, I hars original tyres like new, Klaxon, and Micra sidecar with apron, in perfect condition through £145.—Box 2.167, c/o The Motor Cycle. [7]

Sh.p. Sunheam Combination, Ang. 1916, M.A.G. gine, mileage under 5,000, just overhauled, in feet order, spare wheel, speedometer, acetylene long lowest £175.—Coates, 169, Hemingford Rd., Look W.1.

19 20 Sunbeam 31/h.p., date of delivery March; district: what offers, sale or exchange? Yerle saddle, 30/-; Dunlop extra heavy cover, 656 coultrette, retread, 35/-Box 2,061, clo The 1 Cycle.

FOR Sale, Sunheam motor cycle, solo, late 1919, h.p. roadster, 5-speed, chain drive, hand coat clutch, very little used: immediately available 21. -Apply, 6, Daresbury Rd, Wallasey, Cheshire (betw. 6 and 7, or by letter only).

5 and 7, or op tetter only.

SUNBEAM Combination 51/5a.p., black and gold, speed countershaft, all chain enclosed, Lucas oft, speedometer, etc., tree sevellent, all beauth order, ride anywhere; 4128.—356, Lordship Languistic Phone; 365 Sydenham.

1 9 3/20 p. wubesn Combination, black and grant of the combination of 10 bulls, Sanbeam, act run 600 miles, sporty cost corpuer exhaust pipe, Aero wind sereen, all compleblack and gold, as new; 2200, or hest offer over ride 100 miles to purchaser.—J.C.J., 124, Holdenk, Rd., Bournemouth. "Phone: 2699.

1014 Swift 314h.p., 1919 Watsonian sidecer, Mi geor, F.E., decompressor, Ariel engine, Lyce spring pillar pan seat, Miller lamps, fast, powerful, cellent condition; £65.—7, Kenyon St., Fullam, S.W.

T.D.C. 23th.p.; any rial; £25.-6. Raddington Portabello Rd., Westbourne Park, W.10. [X6 1914 T.D.C. de Luxe 2-stroke, perfect condit £25.—Taylor, 58, Sterndale Rd., Brook Gr

N.14.

1 315 5½h.p. T.D.C., with sidecar, B. and B., marks, Table R.K.S. Grade gear: £50.—W. Gibb 45, Table R.G., Hanmersmith, W.S.

4 b.p. T.D.C., late T.T. model, waterproof mag. instable tappots, two cut, been stored, shi adjustment; £53, carriage extra.—Lambert, 1, 1 lake, Crydeon.

Thor.

7-9h.p. Thor Combination, mag. ignition, dyna lighting, speedometer, screen, etc., in first-cl condition; offers.—Sharpe, 24, Strathearn Rd., W hledon Park Torpedo

TORPEDO 434h.p., clutch, B. and B., Rosch, b. speedometer, 11de away; £48.—Wood, Gwarre, I. View Rd., Berkhamsted,

Triumph

1 h.p. Triumph, countershaft; £75.-9, Church | Willesden.

TRIUMPH (Nov., 1919), T.T. type D., unscratch £78.-10, Clarendon Rd., W.11.

BABY Triumph, new, 21/2h.p., 2-stroke, 2-sp £70.—South End Garage, Croydon.

TRIUMPH, T.T., 4b.p., Besch, hern, lamps, away; £40.-49, Upton Lane, E.C.7. NEW Baby Triumph, lamps, done 50 miles; cheque 72 gns.—H. Rock, Cradley, Stalls, [6

TRIUMPH Combination, 1914, 4h.p., 3-speed; £7 15, Hooley Range, Heaton Moor, Stockport. [7 1 h.p. Triumph, 3-speed hub gear model, warran sound; £62.—Cross, Agent, Rotherham. [X6 TRIUMPH 4h.p. Late Countershaft Model, condition; £75.—Matthews, Ockley, Surrey. [6]

TRIUMPH 31/2h.p., clutch, good condition, away, £45.-4. Queen's Rd., Twickenham, [7] TRIUMPH, 4h.p., countershaft 3-speed, K.S., fect; £85.-Walters, 33, Old Town Claphan

1914 514h.p. T.T. Trinmph, Grado gear, lamps, h

TRIUMPH, 1913, 3-speed, 4h.p., good condit £50,-207, Westwood Rd., Goodmayes, Essex

B32 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

Triumph.

SPEED Triumph, conclibuit sidecar; £73.—Mundes'
Motor Mart, 100, Paris St., Exoter. 'Phone: 933.

[7354] 9 17 Triumph -4h.p., countershaft 3-speed, almost new; £78,-82, Church Rd., Mitel

RIUMPH 4h p., 3-speed, countershall, as genuine. Dodd, 104, Plough Rd., Bath

h.p. Triumph, 2-speed, free engine, Mills-Fulford sideenr, etc.—Mason's Arms, Ackworth, Ponte-(X5070 RIUMPH T.T., Philipson, renovated by makers, i perfect throughout; £38.-18, Park Rd., Crouch 1.

20 Triumph T.T. Model, inst received from works, not ridden; £96.—Box 2,100, e/o The Mater [6875]

18 Triumph, 3-speed countershaft, luxutious side-car, screen, tools, spares; £112,-14, York St., [X6265]

ATE Triumph 4h.p., 3-speed, faultless condition £90 cash -Guish, 7, New St. Cottages, Wilton f8967

S.W. [6967 31UMPHS.—Large assortment of second-hand models in stock, all fully guaranteed.—Ross, 86, High Rd. S.E. [5540

trumph, 1912, in perfect condition, with accessories 340.-F. Blackwell, 18, Sycamore Rd., dtord. diord. [6] tiUMPH, late 1917, 3-speed genr box, perfect every detail; £85,-87, Fulham Palace Rd., fi

mith, 131, p., clutch, 1910, good condition, last and reliable; £40.—Egertons, Northgate

119 Trimpph, W.D. model, conclibilit sidecar, complete with lamps; 125 gas.—Edgar, Sandwich.

1UMPH, 1919, countershalt, owner going abroad; what offers? — Chatwin, 52, The Ropewalk, ingham. [725]

10MPH, countershaft, nearly new, guaranteed; 85 gns 21, Marlborough Crescent, Chiswick, lon, W.4. [6997

IUMPH 51/h.p., single speed, lamps, korn, tools, excellent condition; £35,-65, Nursery Rd., pp's Stortford.

IUMPH 4h.p., countershalt gear, kick starter, appearance as new; £85.—Griffia, Coombend, tock, Spinerset. [0142] IUMPH; 25 gns.; complete with new tyres, belt, etc., perfect running order.—Miller, 62, Hamp-Rd., N.W.I.

kp. Triuuph, all-black, Senspray, Philipson, lamps, born, etc.; bargain; appointment; £45,—Hill, 20, la Rd., S.W.18. [X6278]

19 4hp. Countershaft Triumph, Cower speed-ometer, large lamp set, just like new; £110.— Liphook, Hauts. [7054]

). Triumph, just re-coamclled but wants finish-ng, all parts here; offers.—Sharpe, 24, Strathearn Wimbledon Park. [6924]

UMPH 4h.p., countershaft, with lamps, absolutely as new; bargain, £90.—White, 121, Ade-Rd., Chalk Farm, [X5739] 4 3-speed Triumph, been thoroughly overhauled and like new; 60 gns.; no accessories.—24. Osterark Rd.; Southall. [6729

UMPHS, W.D. Countershaft Models, from £85.— Difford Wilson Mig. Co., 70, Royal Hospital Rd., Kensington 7113. [7247]

8 Triumph Combination, sporting sidecar, lamps, perfect condition, trial; £115. Purcell, wore, Wimbledon [7197]

Triumph, guaranteed good condition, Bosch, Intch, etc., all accessories.—Bamford, Summit leywood, Lancashire. [6118

MPH 3½h.p., 1907, Bosch, lamps, new Dunlop ack, good running order; what offers?—Box clo The Motor Cycle,

JMPH W.D. B Model H, repovated and guaran-ed by Triumph Co., in stock.—Rhosha Motor [7404]

1 Triumph, brand new, 4b.p., 3-speed counter-chaft, unridden; £,30, no offers.—Atbetton; 1 Terrace, Bishop Auckland. [6456] 1 Triumph, 3-speed, clutch, new tyres, lamps, horn, spleadid going order; £55.—Goodbrook, 8, 17 St., W.1. Marjain 129.

Y Triumph, as new, 2-speed, perfect order, large and lamp, rear lamp, 2 generators, tools; uearest Harvey, Ebley, Stroud, Glos. [6406]

Triumph, clutch model, privately owned, top-location, lamps, bags, pump, etc.; £42.— 121, Acton Lane, Chiswick. [7421]

MPH Baby, 1915, P. and H. lamps, Lucas horn, w Clineber tyres, spares, splendid condition: riegs, 27, Myrtle Rd., Sutton. [6736]

Good Service" Outfits

THE MOTOR CYCLE,—(SUPPLEMENT XXI.)

"SERVICE" No. 1a BELTED SUIT (as illustrated), made in best quality Cashmere material, bever-teen lined. All seams stitched and solutioned to give additional strength. Thoroughly wind and waterproch. An extremely smart and popular outfit, colour greenish

"SERVICE No. 1 BELTED SUIT (as illustrated), made in heavy Cape Car Hood material otherwise as No. 1a. Belted suit, thoroughly wind and waterproof, colour fawn JACKET ... 52 /6 SEATLESS TROUSERS ... 35 /- OVERALLS ... 22 /6



HELMETS.

HELMET'S.

Tan leather, Teddy Béar, and fleece lined 25 /Chocolate shade leather, fleece lined 21 /Tan leather, fleece lined 18 6
Tan leather, fleece lined 11,6

The Service Company Lid,

"SERVICE" No. 3 BELTED SUIT, made in heavy Cape Car Hood

OILSKINS.

"SERVICE" No. 1 BELTED SUIT, special storm-proof Jacket, colour dark green. Jacket, coin. long, lined check material. Overalls to match, clip fasteners.

"5ERVICE" No. 2 BELTED SUIT, special storm-proof Jacket, unlined

Colour tan.

SPECIAL OFFER.

250 "SERVICE" COLD

WEATHER JACKETS.

Made in Grey Frieze, D.B. body and sleeves, lined leather, wind cuffs, 33in. long.

289-293, HIGH HOLBORN, LONDON, W.C.1.

BROOKS

Patent Spring Leggings (as illustrated). Waterproof in

Made in Waterproof
Material.
Fawa, short ... 23 /, Hip Extension 33 /6
Black, short ... 25 /, Hip Extension 37 /-State size of boots.

BROOK'S Collapsible Carrier Bag Made of three-ply board covered finest Leatheroid

Absolutely weatherproof Price . . -36 /6



WEAR. SPORTS

MOTOR CYCLES FOR SALE.

Telumoh

TRIUMPH, 1917, renovated and repaired throughout. 1 perfect condition; £85; call after 6 any evening, -49, Rucklidge Av., Harlesden, N.W. [7075]

TRIUMPH, 1918, countershalt, good condition and guaranteed mechanically perfect, good tyres; £95.-3, Courtlands Av., Lee, S.E.12. [7084]

TRIUMPH and Sidecar, 1913, 3½h.p., 3-speed, clat.h, 2 lamps, generator, horn, perfect condition; ±65, -57a, Hillifeld Park, Muswell Hill. [7183

Stamps, generator, norn, perret condition; 205.
 Hillied Park, Mussell Hill.
 TRICMPH! Combination, July, 1919, large Lucas Imps, speciometer, wind sevent, perfect; 125 gns. II. Rock, Gradley, Staffs. 7c4; 145.
 TRUCMPI Staffs, Staffs. 7c4; 145.
 TRUCMPI Staffs, E.E. Bosch mug, new Daudon College, P.E. Bosch mug, new Daudon College, P.E. Bosch mug, new Daudon College, P.E. Bosch mug, new Gradley College, Staffs, Staffs, Staffs, College, Colle

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lon-Triumph 4h.p. countershalt model, with sid £100; also 21/h.p. 2-stroke Triumph, £60. TRIUMPH 3½h.p., 2-speed and F.E., N.S.U., perfect condition, wicker sidecar; final given; £55.— Thurstans, 82, Elmers End Rd., Anerley. [6532

19¹⁴ 3½b.p. Triumph, T.T. bars, excellent condition, mechanically perfect, lamps, Klaxon; £55.—Straker, 91, Oakhill Rd., Putney. [6348

TRIUMPH, single speed, new belt, good tyres and appearances, ride away; what offers.—1, Clevedon Cottages, Post Office Rd., Cobham, Surrey. [6919 19 12 Triumph, 3-speed, Milford sidecar, speedo-meter lamps, all spares, insurance policy, must sell; 65 gns.—204 Ladbroko Grove, W.10. [6337

TRIUMPH 31/4h.p. 3-speed, clutch, lamps, horn, complete and carefully used, excellent condition throughout; £60.—Bolt, 113, Bath Rd., Exeter. [7091

1914 T.T. 4h.p. Triumph, 3-speed new, lamps, hom, plating, enamel perfect, easy starter, been stored, done 1,500 miles; £65.-22, Jamts Lane, Leyton, [6617]

1914 Triumph 4h.p., 100my C.B. sidecar, strong, sound, reliable, lamps; £78; cycle alone £60.—
Letters first, Hutchinson, Grove Lawns, St. Albans. Letters that, Hutchinson, Grove Lawns, St. Abust.

TRICAPH and C.B. Sidecar, 3½h.p., B. and B., 2speed, F.E., Bosch, hungs, hun, etc., as new;
255.—Stevenson, Sylvista, Oldfield Rd., Altrincham;
TRICAPH 3½h.p., chutch model, Lacas lamps, horn,
tools, spares, speedometer, excellent condition; ride
any; 244.—Lindsay, 119, Brondwater Rd., Tottedman,
tion, in splendid condition, probably only one for
sale in England.—Box 2,107, clo The Motor Cycle.

SALVE Commercial Temporals associated (582)

FIVE Countershaft Triumphs. 3-speeds and clutch, all overhauled and in running order; £95 each, or £410 the lot.—Hole, 129, Park Lane, Carshalton.

4 h.p. Triumph and S.C., clutch, lamps, etc., type as new; open to expert examination; 50 gns.—Secn, Clayton Garage, Hermitage Lane, Child's Hill, N.W.2.

TRIUMPH (June, 1916), countershaft, new chain, belt and tyres, Tan-Sad, F.R.S. accumulator highting, 7in. head lump; £85.—Jones, 44, Trumpington St., Cam-bridge. [6795

bridge.

RIUMPH, 1918-19 model, countershaft gear, overhaufed and repainted, no accessories: appointment; Hampstead; £80.—Box 2,162, c/o The Motor
(7450

TRIUMPH (Oct., 1919), canoelet to match, as new, with many extrus; £140, or offers; also Rover sidecar body, good; £5.—B., 67, High St., Saffron Waiden.

Walden.

TRIUMPII, 1919, Gloria sidecar, Volex lighting,
hern, leg shields, tools, complete, insurance, perfect: £140, no offers.—Hayes, 58, Hyde St., Winfect: £649, mo offers.—Hayes, 58, Hyde St., Win-

TRIUMPH, 1916, 4h.p., clutch, countershaft, 3-speed, T.T. bars, excellent condition, very [ast; £85/10; seen Saturday.-29, Dukes Av., Muswell Hill, V.10

19 Trimuph Junior, as new, small mileage, no punctures, horn, humps, pump, etc.: £70; owner taken ear delivery.—Davenport, Highlands, Daneshill, Woking.

19¹⁸ 4h.p. Countershaft Triumph, engine No. 53286, splendid machine; owner taken delivery of new combination; £87, or best offer.—50, Kensington Av., Watford. [6849

10 18 Triumph, 3-speed, countershaft, not used 9 months, privately owned, fine condition; 80 gns.—Pike, 102a, Church St., Chelsea. Phone: 137 Kensington.

19 11-12 31/h.p. Triumph Combination, in good running order, nearly new C.R. sidecar, Bosch, B. and B., lamps, and horn; £55.—38, Foyle Rd., Westcombe Park.

TRIUMPH 1918 Countershalt and sporting Swan sidecar, all lamps and accessories, not W.D., splendid order; £135.-2, Nightingale Rd., Lower Clapton, N.

TRIUMPHS.—4 machines at £62 each, 4h.p., 3-speed hub, clutch, decompressor, in first-class order, new bett and magneto.—262, Blackhorse Lane, Walthaimstow. [6998]

1919 (August) T.T. Triumph, picked machine, original tyres unpunctured, Millford Corvette (October, 1919); ±125, or best offer over.—Capt. Brittain, Orient Lodge, Buxton. Triumph.

19 18 Triumph Combination, new light Henderson sidecar, condition and appearance equal to new, fast, powerful; £115.-33, Hoveden Rd., Cricklewood, N.W.2.

TRIUMPH and Canoe Cane Sidecar, 1913 clutch model, excellent condition, splendid engine; £60, near offer,—35, Hoveden Rd., Keyes Rd., Cricklewood, N.W.2.

TRIUMPH Countershaft Combination, new August, 1919, laxurious bulbous sidecar, perfect outfit; £130, or near.-60, Wallingford Av., North Kensing-ton, London.

IUMPH, 3½h.p., 3-speed, clutch, lamps, excel-lent condition, spare belt, tube, with case; after m., Saturday; 55 gns.—25, Clifden Rd., Brent-Middless, 2 p.m., Saturda

TRIUMPH. 1918, countershaft, perfect running order, new toolbags, front and rear brakes, horn, etc., trial; £85, or nearest. Coventry.—Box 277, e/o [X6361]

TRIUMPH 31/sh.p., Mabon clutch, new rings and bushes, overhauled and enamelled, footboard and college shields; £55, or near.—Hendersou, 50, High [645].

TRIUMPH, countershaft 3-speed, mechanical condi-tion and appearance absolutely as new, fully equipped; £92; Saturday afternoon.—2, Poplar Grove. Shepherd's Bush, W.6.

TRIUMPH Junior, in excellent condition, 2-speed, lamps, horn, etc., good tyres, guaranteed in hist-class condition, believed 1916; £58.—Frost, News (7253)

TRIUMPH, 1917, countershaft, well fitted with accessories and spares, as new; £100, or exchange P. and M combination; appointment only.—5, Villas on the Heath, Hampstead.

TRIUMPH 1914 Combination, 3-speed, clutch, Cancelet C.B. sidecar, recently overhauled, recentled and plated, in first-class order; £78,—Tapin, 159, Hornsey Rd., N.7.

19 19 Triumph, Cancelet sidecar, 2,000 miles, Lucas horo, rea and best head lamp, Watford trip speedometer, excellent condition and appearance; £128.—Wells, Airceford, Colchester.

TRIUMPH. 1913, clutch model, 2-gallon tank-and reserve compartment, long exhaust, beautiful note, condition guaranteed; £52/10; Weybridge—Box 2,153, c/o The Motor Cycle. [7470]

TRIUMPH, 1918, 3-speed, completely dismaniled; officer owner ordered India, no time to reassemble; good order and complete; £75; N.W. London.—Box 2,163, c/o The Motor Cycle. (7481

TRIUMPH Junior, mileage about 250, unscratched, no punctures, horn, usual sparses, spare tube, ideal little mount: owner taking delivery of A.B.C.; lowest price cash, £70.—D. Lavin, Old House, Sonning, Berks. [4745]

TRIUMPH. T.T., 1912, guaranteed splendid condi-tion throughout, new tyres, saddle, and bags. Bosch, Amac, Klaxon, and accessories; &32.— Lawrence, 2, Sunderland Rd., Forest Hill, S.E. 23.

TRIUMPH 1919 Model 4h.p. Countershaft Commination, Millford 1920 coachbuilt sideax, in parfect condition throughout, fully equipped; 2130, after 6 p.m.—1, Broombill Rd., Goodmayes, 11ford. [0] 6636 p.m.—1, Condition, Commination of the condition of the conditio

19 Triumph-Gloria Combination, ran 300 miles only, most luxuriously appointed outfit, absolutely unfouched, complete with electric lighting. Cower speedometer, etc.; £170.—Arthur G. Daw, 114, Brix. Outfill (7513)

TRIUMPH 31/h.p., 3-speed, coachbuilt sidecar, 1913 model, stored during war, sidecar cost £25 last December, perfect condition, lamps, tools, accessories, any trial; £39.—Knowles, Denham House, Heading-ton, Oxford.

Ab.p. Triumph, 1917, 46287, splendid condition, £18: new C.A.V. manneto, type KUI, single, light-weight, clockwise, £5/10, H. and B. carburster, ill, replated, as new, with controls, 30/--153, Manor Riv., West Ham, E.15.

19 19 4h.p. Countershaft Triumph and Streamfort sporting coachbuilt sideor with screen, complete with 3 lamps and generators, original tyres anyunctured, spare tube and valve equal to new, seen any time \$130.-66, Church Rd., Barnes, S.W.

130.-66, Church Rd., Barnes, s.w.
1018 Triumph. counterbarft, kick start, hand clutch, decompressor, engine No. 55757, lamps and generators, Stewart mechanical horn, latest model Tan-Sud and footrest, appearance and mechanical condition perfect; £90; after 5 p.m.—Wentworth, 33, Holly Hill perfect; £90; after 5 p.m.—Wentworth, 33, Holly Hill perfect; £90; after 5 p.m.—Wentworth, 35, Holly Hill perfect



THE MOTOR CYCLE. - (SUPPLEMENT XXII,)

opportunity not missed.

We are now able to accept orders for early delivery to early applicants of the famous

CROUCH CYCLECAR

Do not delay, but place your order with us at once.

Specifications of the 10 h.p. CROUCH 2-3 Seater Car:

CROUCH Z-3 Seater Car:
MOTOR.—V type, beautifully balanced, and
entirely made at makers' works.
LUBRIGATION.—Splash, by drip feed.
IGNITION.—M. magueto.
OABBURETTER.—Cox "Atmos" automatic.
GOOLING.—Efficient water pump.
PETROL TANK.—Gravity feed, capacity
sufficient for 150 miles approx
TRANSMISSION.—By large roller chain from
goar box to axle; a most efficient drive.
CLUTCH.—Of large diameter, come type, exceedingly smooth in action.
SPEEDS.—Three forward and reverse; a simple operation.

SPEEDS.—Three forward and reverse; a sumple operation.
CONTROL.—Foot accelerator only.
BRAKES.—Internal expanding on rear axle, direct, and very powerful.
STEENING.—Rack and pinion.
FRAME.—Steel flitch plate reinforced with best quality ash.
SPRINGS.—Front, full elliptic: rear, long

WHEELS AND TYRES .- Sankey steel detachable wheels, 650×65 mm. heavy Dunlop

SPARE WHEEL Sankey, free; cover and

SPARE WHEEL—Sankey, free: cover and to be extracted to good design, comfortable, and well upholstered, fitted with bood and screen; detachable boat body is designed to hinge forward, exposing power unit and transmission for inspection and adjustment, giving the transmission for inspection and adjustment, giving at hit sentirety. FINISH-certaing work.

FINISH-certainge work.

COUPPMENT—Kit of tools, jack, pump, oilcan, and set f three lamps.

WHEELBASE—Tri. sin.

TRACK—Td.

TRACK.—4ft. WIDTH (overall).—5ft. LENGTH (overall).—9ft. 6in. TAX.-£3 35.

(delivery ex. works) £279 10s. British built throughout at Coventry.

154-6, Gt. Portland St.,

MOTOR CYCLES FOR SALE. · Triumph.

TRIUMPH 4h.p. Combination, just overhanted, nev bearings, tyres and lights good, pump, tool rola, spare tube, valve, etc., Watsonian Model H eidean, done 100 miles, saurance policy; £115.—Sub-liteat Robinson, Trinity Hall, Cambridge, 17022

TRIUMPH, 4h.p., purchased July, 1919, fitted wit Swan sporting coachbuilt sidecar, counterast gears, wind screen, lamp, horn, and tools, on almost new; £135-Seen and tried at Butterwith Garage, 64, Mill Lane, Brixton Hill.

1913 T.T. Triumph 31/2h.p., in splendid condition, been very little used, complete, good tyres, bucas King of the Road lighting set, Jones speedmeter, complete set tools and spares; first cheque \$55 secures.—Moon, The Camp, St. Albans, Herris 1918

TREUMPH, 1917-18-19 engine, mag., certmered front and rear wheels, rear guard, saddle; six definite price and condition. For sale, Starmer-Arad (3-speed and clutch) wheel, less controls; offers; revokabaled.—Separahead, S. of G. Hut, I.Jdd, Frank

19 19 Triumph, delivered February, 1920, that countershift gear, and Gloria sideer, flawith head, rear, and side car, lemps, hora, meter, spare belt, tools, etc., done under 50 and price £150, or nearest offer.—Kitchen, 180, Piccadille

4 h.p. Triumph Countershaft Model; a number of thoroughly sound machines (W.D. 1918), rebuilt with up to £20 worth new parts machine; may appear as new; every according purchaser allowed 2 days' approval.—W. Stantord, Midland Bank Chambers, 19438.

TRIUMPH Junior 24(hb., 1916, stored 2 years, and only ridden 4,500 miles, including horn, tooks accumulator lighting et? P. and H. front, Hunt real Stewart trip speedcaneter, supplementary petrol tank stewart trip speedcaneter, supplementary petrol tank perfect vuming order; £60.—P. Dannatt, 47, Westernatt, 1978.

WE have in stock a limited number of new 4kp.
Triumphs, fully equipped and ready for the road these meditions may be presented for each or on easy to the full state. The full state of the full

TRIULPH 1919 4h.p., Model H., Sturmey-Archer 3. speed countershift gent, new June, mileage 1,500, Empire 1919 military model sidecar, lemps, horn, numer our spares, excellent condition, engine better than new; 5135° trial by appointment only,—Davies, 80, South-Bury Rd., Enfeld.

TRIUMPH and Sidecar, late model, 3-speed counter shaft, kick start, hand control clutch, T.T. bars Watford speedometer, Lucas horn, polished aluminual leg shields, large lamp set, 2 generators, sidecar cover wind screen, several spares, tools, this is and enumerated the several spares of the start of the start of the several spares of the several spares

balt Rd., Clapham Common.

COUNTERRHAFT Trimaps. completely reconsidered rere-enamelled, and metales are guaranteed metales and almost indistinguishing the complete research and a substitution of the complete research and a substitution of the complete research and and are litted with W.D. bars, panner buss, front brakes and all standard controls, botts and tyres nearly new. We can guaranteed mechanisms for the substitution of the complete research and t

Velocette.

(VRIL WILLIAMS, for early delivery of Velocettes,
-Chaper Ash Derot Wolverhampton, [X8623] VELOCETTE 2-speed Countershaft 2-stroke, automotic lubrication, chain drive, lamps, horn, tip-k condition; any rial; £40.-21, Rupert St., Bolton.

VELOCETTE. 1916 2-stroke, 2-speeds axiously mechanical lubrication, isid and during mileage under 5,000, excellent meters and during looked after, Stewart very meter, mechanical box. P. and H. Jamp smileaged of the control of the mechanical box medicard must ride away; £60.—Apply, Box 2000. [64]

Verus.

VERUS.-Immediate deliveries from J. Barra Ackroyd, Hyde Park Corner, Leeds. [659]

PRESTON.—Verus 2-speed, clutch model; actually in stock.—E. Bradshaw, the House. Tel.: 1288.

19 19 Verus 21/h.p., 2-speed, Dnnlops, E.I.C. ridden 50 miles only as demonstrator, gustanteed as new; £66.—Harper's Garage, Blackheath, Branchester, Branchester mingham.

LONDON, W.1.

DELIVERY from stock, 23/h.p. 2-speed K.S. Vern machines. A serious touring mount. Send of your enquiries for other models.—Elliott Bros. of Stevens, Cambuslang, Glasgow.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

Vindec.

7 INDEC Special 7-9h.p., automatic chulch, new tyres, times, and belt, houn, good condition; £45; after—Alfrie, Brampton Rd., 81. Albaus. [5039]
1 Li.p., V.S., clutch, Bosch, B. and B., spring fork), and an analysis of the special conditions of the special charge special charge special conditions. [7013]

13h.p. Werner Motor Cycle, ceil ignition, £7/10; 14 seen after 6.-T. Haynet, 35, Poncrott Rd., Cumrwell.

VILKIN Enquiries for early rotational delivery Invited by J. Blake and Co., the leading motor cle experts, Liverpool and Manchestor. [6583

VIKIN Motor Cycles with Blackburne engine and Skirk State of the Cycles with Blackburne engine and Skirk State of the Cycles with Blackburne engine and Bernelessel chann drive, a 100 ans. 25th gents, and the Cycles of the Cycl

Williamson.

16 Williamson, Sh.p., we., Williamson sidecar de laze, hood, sween, speedometer, all lamps (electric l acetylene sude), tools, and lot of spures; offers over 45.-52, St. Martin's Av., East Ham (Boleyn), [6845

101.p. 1915-16 Williamson Coachbuilt 2-senter Con-lar atma, water-cooled, 2 speeds, kick start, clatch, endid condition; £150; exchange lower power and h.-59, Paltrey Place. Dorset Rd., Clapham Rd., V.8. -

Wolf.

VOLF-J.A.P. new 1920, 25h.p., 2-speed, £74/10. -Frank Whitworth, 139, New St., Birming, 1X6356

70LFJ.A.P. 4h.p., coach sidecar, mileage 5,300; £70.—Full particulars, 46, Braxted Purk, Streata, 8.W. [X6158]

OLF-J.A.P. 254h.p., 3-speed clutch, K.S., lamps, horn, tools, good order; £48.-23, Vinsitart St., v Cross, S.E. [6848 7 OLF, 1917 2%h.p. 2-stroke, K.S., F.E., lamps and horn, complete, good condition; £50.-80, Seward, Hanwell, W.7.

20 Wolf, 2½h.p. 2-stroke Villiers engine, 2-speed, 22 Wolf, 2½h.p. 2-stroke Villiers engine, 2-speed, 25 Wolf, 2½h.p. 2-stroke Villiers, 2-speed Klaxon, speedometer; 275.—Automobile (6439) 19 Wolf, 2½h.p. Villiers, 2-speed Klaxon, speedometer, lamps, etc., spleedid ruoning order; 1.—Jarvis, Cheddon Fitzpaine, Taunton. [588]

2-Jarvis, Cheddon Fitzpaine, Tanuton. [6988]
 20 Wolf, 24/hp. 2-stroke Villiers engine, 2-speed, chitch, and kick starter, new; £68/10.—ombile Service Co., 60, Mortimer St., W1, [6438]
 70LF-J.A.P. 1914 4h.p., 2-speed, countershaft, hand start, been stored, enamelling and plating ew, lamis, horn, etc.; accept £65.—158b, Norwood West Norwood, S.E.

Wooler.

LENDID 1914 Solo Wooler, mechanical lubrica-tion variable gear, rear springing, pan saddle, th, P. and H. Cowey, tyres, belt recently new, cecasionally used, comfortable, reliable; £50, offers; earriage paid.—Write, Ravensfield, Cam-ge Rd., Teddington. [7011]

Zenith.

AUCHOPE'S, 9, thos Lane, Fleet St., London, -4h.p. Zenith, 1914, £55. NITH 6h.p. Combination, 1916, very fust; £125. -7, Glebe Rd., Hornsey. [6953

14 10h.p. Zenith and Sidecar; hest offer.—4, Elm Mews, Lancaster Gate, W. [6573]

NITH-GRADUA 1912 31/2h.p., good condition, fast; £41.—Adeney, St. John's College, Camps. (D) NITH 1917 4h.p., Splitdorf, Miller lamps, underslung coachbullt sidecar; £95.—31, Holmesdale S.W.14. [7358

15 Zenith, 3½h.p., Grado gear, lamps, hocter, almost as new; £65.—J.C.J., 124, Holdenhurst Bournemouth. [6565

5 Zeoth-Gradua, 4-5h.p. twin J.A.P., clutch, kick start, fast and sporty; £70.—Leavey, Out-Theale, Berks. [6982

14-15 Twin Zenith Combination, new condition, little used speedometer; £100.-17, Carden Mitcham, S.W. NITH 4h.p. Twin, overhauled and enamelied 1919 by Zeniths, £75; lamps, horn, perfect, Surrey.— 179, elo The Motor Cycle. [7092

NITH 1920 Sporting Model 4-5h.p., delivery this month, £10 deposit paid; what offers option.— 120, clo The Motor Cycle. [7081

4. Zeith Combination, just driven in from Exeter, perfect; £115; don't be late.—Clayton 6. 354, Kennington Rd., S.E.11. [7507]
9% Zenith 6-8h.p., Swan sidecar, fully equipped, only done 800 miles, as new; price £175...
33. Asbburton Rd. Southsea.

NEW AND USED MACHINE TOOLS.

THE MOTOR CYCLE.—(Supplement xxiii.)

POLLOCK & MACNAB 6 in. Friction Geared Capstan Lathes for 1 lin. bar.

CHURCHILL No. 2 Vertical Surface Grinders

8in. Stroke BUTLER Slotting Machine.

New 10×24in, CHURCHILL type Universal Grinders.

REDMAN Planer. 6ft, ×2ft, ×2ft., one tool

10 × 72in. NORTON Plain Grinder

HERBERT No. 9 Combination Turret Lathes.

18in. Swing 8ft. bed AMERI-CAN Tool Works Lathe.

23in. CLEVELAND Autos.

HERBERT No. 12 Horizontal Plain Miller.

Nos. 2 & 3 KELLER Die Sinking Machines.

6in. ×32in, NORTON Plain Grinding Machines.

Centre PARKINSON 'Twink" Lathes.

15in. Stroke HENDEY Shapers.

JOHN MACNAB (MACHINERY), LTD., Mary St., HYDE.

Telegrams: "LATHES, HYDE." Telephone: 78, HYDE.

PIRMINGHAM OFFICE: 40, BENNETTS HILL.

LONDON OFFICE.

7, KING ST., CHEAPSIDE, E.C.2.

MOTOR CYCLES FOR SALE.

Zenith.

19²⁰ ZENITH, 6h.p. standard, with Cowey born, just delivered; what offers?—Stamped reply, Ellerste, High St., Polegate, Sussex. [7078] 19 19 Zenith-Gradia 45h.p., sidecar, overhauled, lamps, horn, spute cover and tube, screen; nestest £120.—Jacobs, 665, Fulham Rd., 8.W.6. [6510

ZENITH 1914 4h.p., B. and B., lamps, speedometer, etc., very good condition; 456; after 5.30.—L., 51, Mayford Rd., Wandsworth Common. [7109

ZENITH 6h.p., Milltond coachbuilt sideem, P.H. lamps, Amac, Riaxon, petiect; any timi; £85.—M.C., 8, Phory Place, Well 8t., Hackney. [X6284]

19¹⁶ Zenith-Gradua, Sh.p., T.T., all accessories, disc wheels, plated exhaust pipes, condition as new; £100, no offers.—Guest, Canseway, Peterborough, [7117

Zenyth-Intriken, Cameway, Peterbaromia, [7117]
Zenyth-Intriken, water-cooled, Zenith coord-built
Motor Matt, 100, Furrs St., Exeter. Phone: 93,
5-6hp, Zenith-Gradna and cane sideen, Basch and
type good: exchange for bearing the property of the property o O tyres good; exchange for lower power, preferably P. and M.; or sell £75.—Shepperd, 3, Bloomfield Rd., Bromley.

ZENITH-GRADUA Coachbuilt Combination, 4h.p., 1916, excellent condition, lamps, etc.; £85.— Norman, 7, Howard Rd., St. Ann's Rd., Stanford Hill, N.15. (7049) Norman, 7 Hill, N.15.

Z ENITH-GRADUA Combination, 5-6h.p. twin, coach-built side-ar, tyres, tubes as new, lamps, horn, spares, excellent condition; £85.—Throssell, Ramridge Farm, Kumpton, Welwyn.

10 9 (Becember) Zenith Medel G 8-10h.p., Gradua gear, Watford specification, forn, 400 miles only, condition as new, spetless; £130.—Rhosha Motor Co., Mawney's Rd., Romford.

TAUE 1916 8hp. Zenith-Gradua, T.T. model, lamps, horn, tools, etc., absolutely as new and perfect throughout, hardly need; £110, or nearest.—Roseberry, Saffron Rd., Biggleswade.

19 14 Zenith-Gradua, 4h.p., now being fitted new piston and valves, compilete lamps, tools, tyres, and new helt, mechanically excellent; any trial; £65.—Brown, 19, Wharf Rd., Stamford. [6403

ZENITII 90 Bore Twin, 1915, countershalt, K.S., combination, all lamps, horn, speedometer, tools, recently overhauled; seen London; £100, nearest-Box 2,149, c/o The Motor Cycle. [7466]

ZEXITH-GRADUA 1914 4h.p. Twin, with Yeans coachimit sidecar, Brown and Bailow 1920 curburetter, new John Buil belt, engine and fyres in splendid condition: £70.—Morey, Broadway, Totland Bry. I. of W.

ZENITH-GRADUA 1918 T.T. 4h.p. Twin, Lucas Lamps, mechanical horn, knee grips, etc., indistingnishable from brand new in appearance, run lew hundred miles only: £92; guaranteed perfect.—R. Watson, 132, High Sx., Aldeburgh, Suifolk. [7308]

Watson, 132, High St., Auseoburga, Sukana. College 10 16 (annanted 5hp. Counter-late Zenith, good ance rough; £95; worth £95 if ce-namelled (see August 2008). The Counter St. Counter St.

SUIPII. 8.10h.p. 90×77°. c.h.r. latest model. 2 wide tank, large plated exhausts. Brooks radius addle. 2 ½.1 top gear, foot-controlled lubrication, tyres, belt, enamelling and plating good, specially tuned engine, will do 85 m.p.h.; £100, or ofter.—L. 4. Carlton Terrace, Child's 11lli, N.W.2.

carron serrace, Chines Bio, Sol. Ocuntershaft chick kick of the property of the p

xan-sad seav 35/r, Ace disc wheeles 8U/, speedometer (trip) 130/.—Cameron, Ship Iloue, Bursledon, Ilants.

ZENITH Special Sports Model, 10h.p., 90 mm. Druid forks, special wide tank, Lucas 462 head, Lucas rear, Bonnilsen speedometerd by St. dec. 10h. Lucas rear, Bonnilsen speedometerd by St. hott dischibe, will indide off, come 600 miles, 2155, or very near offer.—Glibert, 16, Bieester Rd., Aylesbury.

Ladies' Motor Cycles.

19¹⁴ 2¹⁵h.p. Hobat Tady's), 3-speed gear, complete with accessories; £45.—Batnett, Barnett and Cu., Deal.

But with accessories; £45.—Buthett, Barnett and Corolland. BERE lady's, 3-speed, clutch, hand and foot, papendid order; £44, or cfict.—39, Bulwer fig. [6354]

LADY's Denglas, £25,h.p., 2-speed, clutch, K.S., T.T. and ordnamy handledwars; £50.—Lewarne, Cricklade, Wilts. [1]

19 15-16 2'th p. Lady's Douglas, 3-speed clutch, Rends kink starter scorredy used; £68.—Morgan £27, Lady Starter, Seni-T.T. hars, long exhaust, head and rear lamps, generator, speedometer, horn, space bedient conduction; £55, no cfiets.—L., 10, Foxgtow £4, Berkenham, Phone: Brombey 917. [683]

Miscellaneous, ROYAL RUBIES, all models.

1 Q 17 Rudge Multi, 31/2h.p., as new; £80.

1916 7-9h.p. Indian Combination; £110.

10 16 3h.p. Horizontal Twin Bradbury; £70.

THE H.C. Motor Co., 347, Finchley Rd., N.W.3.

'Phone: Hampstead 4631. Open afternoons and [5694]

VICTORY Garages, Victory Garages.

WE Still have plenty of second-hand mounts to snit all tastes. Here are a few; 3h,p. Matchless and sidecar, 2-speed, K.S., dynamo lighting, perfect, £90; Victory model Matchless combination, as new, £130; 1919 Douglas 4h,p., 5-speed, K.S., done 500 miles, £10e1; Norton and sidecar, perfect, £98; solo Norton, £10e1; Norton and sidecar, perfect, £98; solo Norton, £10e1; Norton and sidecar, perfect, £28; solo Norton, £10e1; Norton, £10e1; Norton, £10e1; Norton, £10e1; Norton, £10e1; Norton, £10e1; Norton, £28; Metropolic Quadrant, 54h,p., part and powerful, in perfect condition, then £25; and many other second-hand machines of all makes at all prices.—Wither or call, Victory Garges and Motor Works, Denmark Rd., and Coldharbonr Place, Cambernal

DO you want to huy a car or motor cycle privately?

Do you want to avoid paying excessive middleman's

DoZENS of privately owned cars and motor cycles on our list to-day. Send six penny stamps for list and free introduction to just what you want.-Kwiksale Private Aletor Registry, 55, Long Acre, W.C. (mn by demobilised officers). Call it you can.

MOTOR Cycle, less mag.; £7.—Hall, next to Green Man, Whetstone, London. [6421 4 h.p. Combination, 3 speeds, F.E., running order; £32.—Stausfield, Moor St., Laucaster. [X5950

PEUGEOT miniature 2-seater, sporty car, electric light, must clear; 110 gus.

23h.p. Torpedo Motor Cycle, Precision engine; sac-rifice £18.

TRIUMPH Combination. 3/4h.p., nice outfit, 3-speed, clutch, etc.; £80.

CLNNO 5-6h.p., solo, chain drive, less gear hox; 55 gus.—The George Cycle Works, Balham Hill, S.W. R. D. VARTY for motor cycles, cash cash or exchange.

R. D. VARTY guarantees all dates advertised to be receipt.—Below.

R. D. VARTY despatches all second-hand machines carriage paid at railway company's risk to your nearest station.—Below.

R. D. VARTY for satisfaction, a square deel, and your old machine in part exchange.—Below.

R. D. VARTY'S place is at the top of the well-known Bread and Cheese Hill, on the London-Southend road, and every machine is tested up this hill hefore despatching.—Below.

R. D. VARTY, Thundersley, Rayleigh, Essex. [9748

1919 Rover 4-5h.p., Elite Henderson sidecar; this combination has been run only 100 miles; £195. Zenith, clutch model, in splendid condition;

1914 Sumbeam 31/2h.p., 3-speed; £90.

19¹⁵ Sunbeam 3½h.p., 3-speed, Lucas lamp sets; £110.

31h.p. Rudge, clutch model; £50.

31h.p. Rover, 1914 clutch model; £55.

19 to Indian Combination, dynamo lighting, in splendid condition; £155.—The Cambridge Automobile and Engineering Co., Ltd., 21, Hobson St., Cambridge, 6664

J.A.P.-ENGINED Motor Cycle, complete, less ignition; first £18 secures.—17, Bath St., Leamington Spa. [7082]

52 1h.p. Motor Cycle, C.S., no faults, ready to ride 22 away; £59.—Hairdresser, 178, High St., Tooting, S.W.

L IGHTWEIGHT Motor Cycle, B. and B., lamps, etc., very fast, ride away; 425.—C. J. Carr, 58, Pulteney Rd., South Woodford, E.18.

2 h.p. Fatnir Motor Cycle, ride away, £26: Auto-Wheel, splendid order, trial, best offer.—Platts, 602, King's Rd., Fulham, S.W.6. [7139

31h.p. Motor Cycle, U.H., B. and B., good Dunlops, detachable head; ride away; 425,—Helyar, 6, Roseneath Rd., Clapham Common, S.W. [6373

Resenenth Rd., Clarman Common, S. ...

LIGHTWEIGHTS, Solos, Combinations; cash or gradual payments; enquiries solicited; no Sunday husiness.—Bunting's Motor Exchange, Wealdstone, 18660



HOME COUNTIES Sole Agents for

Reading

Note:-

The Chicago Show Model is on view in these Showrooms. and well worthy of inspection.

MACHINES IN STOCK.

1920 Henderson, 10 h.p Swan Comb.
1920 Triumph, 4 h.p Comb.
1920 Triumph, 4 h.p Comb.
1920 Triumph, 4 h.p T.T. Solo
1919 Bat, 8 h.p Solo
1919 Lea Francis, 32 h.p Solo
1919 Lea Francis, 32 h.p Comh.
1920 Clyno, 21 h.p Solo
1920 Verus, 2½ h.p Solo
1918 Sunbeam, 31 h.p Solo
1918 Sunbeam, 31 h.p Comb.
1919 Rudge, 31 h.p Solo
1920 F.N., 21 h.p Solo
1920 Rover, 6 h.p Comb.
1920 Coulson, 2\frac{1}{2} h.p Solo
1920 Harley-Davidson, 7-9 h p., Comh.
1920 Triumph, 4 h.p Gloria Conib.
1920 Triumph, 4 h.p Solc

We tender our apologies to the intending purchaser who studies these columns, and request him to please bear in mind that all advertisement copy has to be in the publishers' had so one week before publication, and it therefore follows that many machines offered for delivery from stock ard disposed of before our announcerent. appears.

So far as we are concerned, So far as we are concerned, we ofter only machines we actually possess or expect to receive (by the date of publication) from the maan facturers whose promises are made in good faith, but are governed by abnormal circumstances.

89, Gt Portland Street London. MAYFAIR

. MOTOR CYCLES FOR SALE. Miscellaneous.

MISCENAIRCOAS.

I VY - PRECISION 35/h.p., Chater-Bercley 5h.p. (Bosch, Amac), Wolf 1½h.p. lightweight, all perfect condition, appearance; 35, 28, 14 gns. respectively.—19, Beverley Rd., Anerley, S.E. (6980

RUDGE Combination £87, Premier combination £86, Levis £87, Moto-Reve £27, 3½h.n. Abingdon (countershaft) £48; trial given; no reasonable offer refused.—536, Harrow Rd., Paddington. [584]

S. E. CLAPHAM (Motors), Special Notice, showrooms opening shortly at 27, Stockwell of Greenwich; immediate delivery of several 1920 motor cycles. See displayed advt. Call or will secure.—119, King George St., Greenwich.

M OTOR Cycle, less engine, all other parts complete,
M 1915 pattern, equal to new, Armstrong 3-speed,
Clutch, starter, in back wheel; offers; particulars, stamp.

—Haudley, Edmondson St. Barnoldswick, Colne. (7538

Hudoney, Edmonasto St. Delmonawica, Onte: 1532

4 h.p. Fafin Combination, free engine, B. and B. St. Simms mag., new Clincher's heavies, corpolated and the combined of the co

TRIUMFH 1918, countershaft 3-speed, enamelling and ploting os new, 286; Triumph 1914 3-speed combination, countels with Innes, born, streen, etc., which is the street of the combination of the combinatio

Penrhyn Rd., Kingston-on-Thames. [6393]
1. 19 23;hp. Coulson B. 90 gns.; 1915 Sinz-Villiers. 2-speed, 2-stroke; 45 gns.; 1914 5-6hp. E.N., clutch, 2-speed, 2-stroke; 45 gns.; 1914 5-6hp. E.N., clutch, 2-speed, 38 gns.; L.M.C. 4n.p., 1913, 2-30; Trimph 4h.p., 3-speed, countershaft, 260; N.S.U., 2-speed, clutch, sidecar combination, 255; 1916-Scott 3-4h.p., 2-speed, 260; 1916 American Excelsior, 7-9h.p. 3-speed, clutch, K.S., and canolet sidecar, dynamic lighting and electric horn, 2130; Royal Enfeld 3h.p. and the state of the control of the

Bridge Rd., Acton, W.5.

P.O.C.H. the motor car and bits people,—Call see us. New and second-hand motor cycles, continuitions, and light cars always on view, prices to suit everybody. We will buy your old mount or allow a rood price for it in part exchange. We are now delivering 20 models. A few we specialise for County, and the fact of the county of

MOTOR SCOOTERS.

SCOOTER, splendid condition, electric lamps: £25. -10, Dunhill Rd., Goole. [X5948

MOTASKOOTO, type A.B.C., braud new: immediate delivery.—Offices to H.R.W., 74, East Hill, Wandsworth. [5670

A UTO-GLIDERS.—Place your orders now to seems delivery.—Distributers for Kent, Snunders Cycle Co., Chatham.

BELVEDERE Scooter, 4 in stock this week, 4 next week; price 36 gus.—Field, 13, Mayfield Rd., Belvedere, Kent. [6427

A UTOPED Scooters, ex ectual stock, £42, including dynamo lighting.—Mandes', 100, Gt. Portland St., London, W.1. [7349

TRICYCLES FOR SALE.

RIVICELS 1 A STATE OF THE STATE TRICARS FOR SALE.

PORTING Tricar, Morgan type, complete condi-tion, 4-cyl. 5-6h.p., Bosch mag., electric lighting set; £70.—Humphreys, Garage, Herne Hill, S.E. Phone: Brixton 2154.

HOODS, WIND SCREENS, ETC.

A USTER Aero Triplex Aluminium Wind Screens, 12in., adjustable, fit any sporty sidecar; 15/- cach. -Richardson, 20, Nursery St., Peudleton, Manchester.

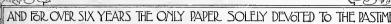
HERCULES.—Heods made to fit any body; 52.6 and 65/-, cash with order. Hoods repaired, side curtains, fittings; trade supplied.—Actual meunfacturers, Hercules Hood Co., 598, Seven Sisters Rd, Totteinham, Loadou.

BODIES.

NEW Double scater Sidecar Body; what offers: -S.It. aud S., 136, Gt. Dover St., S.E.1. [X6207 COACH Sidecar Body (Stearne, Coventry), light, strong; £4/10.—Wright, Carlton, Upper Dover-

A36 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.





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Win, Tie, or Wrangle!

T is with regret that we notice a growing tendency to criticise the rules governing a competition after the event has taken place. Lately there has been far too much complaint concerning results; and, whilst we

admit that in certain cases criticism has been warranted, yet it is much better to accept results in a sportsmanlike way, provided the conditions

of the trial have been observed.

After all, the majority of club officials are honorary workers, and willingly give their time for the benefit of the pastime. If their commendable efforts receive such scant appreciation as has been the case of late, the inevitable result will be declining interest. It is clear that every competitor cannot win. Mistakes have been made, and will, doubtless, again be made. Disappointed riders who may have seen some, trivial transgression of, or weak point in, the rules are, we fear, too apt to put forward their protests. A little more constructive and helpful criticism would show a genuine desire to improve existing conditions, and we have yet to hear of a body unwilling to consider and adopt good advice in regard to its future events. Destructive criticism, however, gives a totally wrong impression, reduces the value of an award, and is disheartening to those who are doing their best.

Moreover, it is a very easy matter to point out the deficiencies of this or that regulation, especially when the trial is over, and results have shown up an unexpected weakness; but it is a very different thing to suggest rules which will give general satisfaction and stand the test of time. Competitors often neglect one rule, viz., that which requires then to note the stops of other riders. They do this from a mistaken idea that it is unsporting, but a moment's reflection will show that this point of view is a wrong one, for the carrying out of this rule will do no harm to the honest rider, and the dishonest one deserves no sympathy.

We are constrained to pen these notes, since in many quarters the feeling is growing that a certain section of competition riders show no conciliatory attitude, their one object being to win or know the reason why. A little more of the true British sportsmanship would be welcome in the motor cycling competition world just now, and we sincerely hope that we may not find it necessary to revert to this subject again. The last thing a competitor should be accused of is the win, tie, or wrangle policy.

The Tourist Trophy Races.

'ANY differences of opinion exist as to the running of the 1920 Tourist Trophy Races, and we have from time to time given expression to the views of the trade. On the whole, there is no doubt that the public will be greatly disappointed if the race does not take place, and their feelings will be shared by a large proportion of the Young firms in particular are eager to win their spurs, and what better chance have they than in the most important sporting event of the year?

In this connection, we would draw attention to a letter which we have received from Mr. Frank Whitworth, and which is published in

another part of this issue.

Mr. Whitworth suggests that powerful clubs should each nominate a rider and pay at least part of his expenses, so that a representative entry would be secured. This scheme would, of course, create enormous interest in the districts whose clubs decided to support the idea, and would add to the enthusiasm which is always displayed in this classic event.

In proof that the idea is practicable, we would point out that the Coventry and Warwickshire Motor Club nominated Mr. R. Ayton to represent them in the year 1907, but it is obvious that, to derive the fullest benefit from the scheme, each district of the country should

be represented:

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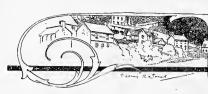
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A36







Novel Engines.

WHOLE crop of rumours are afoot anent novel experimental engines now on the stocks with a view to ultimate production. One such engine -the Redrup three-cylinder radial-was fully described in a recent issue. Others, of which word has reached me, include a rotary, a four-cylinder flat twin, another radial, and quite a bevy of freak two-strokes. These engines are apparently inspired by two rival policies. On the one hand, some inventors count on mere novelty as a justification, knowing that there are a select number of buyers who will purchase anything which Innovation for the sake of innovation serves no useful purpose, and usually results in a heavy loss to all concerned. On the other hand, engineers of a more practical bent adopt novelty in their quest for greater efficiency. Thus, the Douglas gave us a revving engine free from vibration. Scott gave us the torque of a four-cylinder with the simplicity of a twin (and the thirst of an Irish navvy). The baby two-stroke gave us a cheap, simple featherweight engine with a pleasant exhaust note (and an insatiable appetite for sparking plugs). The men who are now looking for a market would in some cases do well to tackle the problem from the other end, and ask not "In what stunt can we try to work up interest?" but rather, "What improvements in engines are wanted?" In other words, I should tentatively regard a flat twin four-cylinder as a somewhat foolish stunt. The twin of that ilk is quite sufficiently difficult to house, while a four-cylinder of the type gives improvements in torque and balance which are not specially necessary at the cost of extra inaccessibility which is wholly undesirable. On the other hand, machines like the Scott, Douglas, and baby two-stroke were all planned to meet felt and known wants.

Our Known Wants.

N the first place—I definitely put this first—we could do with a substitute for the 1,000 c.c. They are jolly good nowadays, and But it is admitted that we get better every year. only use them on bicycles and cycle cars because we cannot get better balanced engines of better torque without accepting serious disadvantages. The flat twin is a better engine than the V twin-but The four-cylinder engine is it is difficult to house. better than the V twin, but it is expensive and complicated by comparison. In the second place, I should guess that we need an engine which possesses the simplicity, reliability, and durability of the 500 c.c. single-cylinder, plus really good balance and torque. The Scott was an effort to provide this ideal, and, though it has won a good following, it has never threatened the one-lung four-stroke because of its petrol consumption. In the third place, we want an ideal engine for lightweights. The baby two-stroke carbonises too fast, is too sensitive to lubrication carburation, and vibrates at high speeds. The four-stroke does not maintain its tune well enoth and vibrates at revs. It is surely significant la none of the current rumours about novel en There is a loof trench on any of these fields. conscientious detail work being done in all directions, but we still wait for revolutionary anno ce Is it because we have tapped the litt Anyhow, the genius who can strike oil in an of these respects should make pots of money, the gentleman who evolves a sixteen-stroke rotary all its shaft running one way and the cylinders ruling the other will be fobbed off with a page not in the technical press and two files full of bills.

Similarly, Bicycles?

EXPERIENCE similar feelings with regs to many of the "new" motor cycles which making their débuts. They evince no fundau national des la contraction of the contracti departures from familiar lines. One forms thim pression that somebody has capital lying idle it deserted munition factory on his hands, and that temporary-very strictly temporary-under-procession has created an excessive though transient dian for any old sort of motor bicycle. On the other hand, there is an undeniable demand for motor bycle This "ideal" is extremely com of an ideal type. posite, and, if we venture to analyse it, boils low into separate demands for greater comfort, cleanliness, lower weights, lesser prices, and efficiency of the sort called technical. How may the débutantes really offer us one of these buts How many of them can boast definite advares all these directions? To rechristen the two lives already identified, one is to evolve a sellable media the other is to produce the best seller in i cla or in any class. When I set most of the new raduc against older lines, I feel very much as if I an colle upon to decide between a Martini and a she and bitter-I am perfectly content to take what is going and do not much care which it is,

New Plating.

THE other day I took delivery of a new months bicycle. This incident led to three people had bicycle. This incident led to three peor be out of temper by nightfall: myself, m pro flapper cousin, and the cook. Thusly. Afer Armistice I made a resolution that, as a than offer for being demobbed, I would in future keep n me cycles clean. The fever lasted just as long a it to me to give up saying "Quite!" every time open my mouth. Nevertheless, as the resolution ad been formally retracted, I never smeared all the bits of the machine with vaseline, as my pre-vr h was. So when I sold it the other day, my priter dream was shattered by a brusque buyer, who not

Occasional Comments,-

off many shekels, on the ground that the plating reminded him of tangerines. Consequently, when the 1920 steed arrived, I reverted to type, and set about greasing it; nor will it ever be cleaned till selling day comes, when the accumulated filth will peel off with the underlying skin of grease. I got out a tin of Prices' hub lubricant, in the absence of vaseline. This stuff being of a curdy consistency, I set it on the kitchen stove before I visited the editorial sanctum. My matutinal wigging was unusually prolonged, and I forgot about the tin. When I revisited the kitchen, the tin had gaped at the joints, and the cook was in (Temper No. 1.) I appeased this buxom tears. (Temper No. 1.7 1 appearsed this buxon damsel suitably, and began looking for a brush. By the mercy of Providence; my pretty flapper cousin attends the Slade school (all my brushes have road grit or goldsize on them). I found a lovely fat fellow with a perfect wad of camel's-hair by her palette. Then I commenced operations. It took me rather over the most to appear to the mechanical that had been a fellow to appear to the mechanical that the platfol parts of the mechanical transfer. an hour to anoint all the plated parts of the machine, from which you may guess their number, areas, and inaccessibility. (Temper No. 2.) Then my flapper cousin came in. How could I tell the camel-hair fellow was a neverwozzer, Hun-made, utterly irreplaceable, and worth about 10s. (Temper No. 3.) I am now treated with marked hauteur, and see it will take a revue and a dinner to restore me to her good graces. As the new jigger has quite cleaned me out, this diplomatic outlay will land me in temper No. 4.

SOME fools go about the world proclaiming that motor cycling is an expensive hobby. Now, nobody has owned more thoroughly bad motor cycles than I have; I entered the hobby twenty years ugo, and I am cursed with a simple and trustful nature, which puts me at the mercy of any glib sales manager. Severtheless, even when one motor cycles under such a heavy handicap, the sport is a positive economy compared with other hobbies I could name. Take hotography, for example. We generally fall under its pell during our first serious love affair. Photographs of her which grace the mantelpieces of aunts and cusins—ugh, even male cousins—are not good enough. We must have pictures of her of which nobody can assessed duplicates. After a while we find that the

Expensive Hobbies.

camera does not produce pictures which are worthy of her peerless beauty. We buy better cameras. We find we are spending too much. Jones, it is said, makes his baccy money by selling snaps to the Daily Mail. We resolve to do ditto. We discover that a \mathcal{L}_{+0} reflex camera with a £20 lens is desirable for this purpose. We get it. So it goes on. Gardening is just as bad. Tulip bulbs are 3d. each, but £6 10s. per 1,000: it is obviously an economy to buy 1,000; we do so. We discover that standard apples are back numbers. We burn them during the coal shortage, and order cordons. It turns out that you require about 3,000 cordons to replace about three dozen standards: also that whereas cordons are listed at 1s. each in the pre-war catalogue which inspired us to burn our acre of standard trees, they have now risen to 5s. apiece. I make no charge for all this information, which is simply invaluable to all married motor cyclists.

Now Mrs. Ixion often grumbles about my bicyclesthe number of them, the noise they make, their dirtiness, the company they get me into, the money I spend on them, etc. But she has also lurid memories of my camera days, and eke of a brief spell of gardening fever which once possessed me. So when I want a new motor cycle, I do not say, "My dear, Billy Wells writes to say he can do me a new 7-9 h.p. Indian next week." Oh no. I remark casually that motoring in winter is a mug's game, and that I think I shall make lantern slides; or that it is absurd to pay od. per lb. for sour cooking apples, and that I shall rent a bit of ground and grow my own next year. There comes into her eyes that half-timid, half-cunning look which wives wear when they think they are managing you. says nothing at the time. At breakfast next morning she murmurs, "Darling, you do not seem to have had a new motor bicycle lately. Are you hard up? If so, I have still a few pounds left of Uncle Joe's little legacy, and you have been rather a dear lately." Then I write to Billy Wells. Do not overdo it brethren. It is only necessary to coquet with photography or gardening just long enough to show them a husband may have worse faults than motor cycling. As detailed tips, I specially recommend a whole-plate reflex for photography on this system, and orchids as the best phase of the gardening stunt; they cost pounds, and they do not come into flower for ten years, if at all.



LAST WEEK'S INTER-'VARSITY HILL-CLIMB. A Douglas owner at the start of the 350 c c. class.



MOTOR (YCLE

PROS AND CONS OF

VARIOUS ENGINE DESIGNS.

By "CHINOOK."

Some Notes which will Help the Novice to a Better Realisation of the Difficulties that beset the Designer.

HE object of the following notes is to show in a clear and not too tedious manner the advantages and disadvantages of various engine designs-where some fall short and others gain-and to detail as clearly as possible exactly what is meant by the various technical terms the novice is apt to meet. It is not written for the veteran; he knows what he wants, and generally does not get it, but it is often a difficult matter for the novice to decide which type of engine he really favours. He rather likes the flat twin; the noise it makes fascinates him, and he likes the look of the compression taps, but a certain mystery hovers around this or some other type of engine. He believes that some inherent difficulty lies in the way of its perfection, and, groping in the darkness, he probably falls back on the good "old single-cylinder as a safeguard. Possibly the choice is a wise one, but a little explanation would clear the atmosphere for him.

If the flat twin, or the 90°, or one type or another is superior to all the rest, why is it not universally adopted? What really are the advantages of an outside flywheel? Does it set up a gyroscopic effect? No, it does not; so we may as well squelch that right away. Are side-by-side or overhead valves preferable? These and many other questions hinder the choice of the man who is anxious to buy, but who possesses too large an assortment of motor cycling friends to arrive at anything like an accurate opinion

of his own.

The Flat Twin.

Let us discuss the flat twin first, as it seems the fashionable thing to do. There is a prevalent opinion that this design lends itself only to engines of small size, since, for a long time, no one was successful in producing a large flat twin. Such difficulties as existed are now removed, and some aero engines of this type are larger than we are ever likely to require for motor cycle propulsion. It may be some time ere large flat twins appear in any numbers on the road, but. unless the present type of petrol engine is superseded, they will assuredly come.

The great advantages of the flat twin are: evenly distributed power impulses, that is, one firing stroke per revolution, and good balance, which means, of course, little or no vibration. These two qualifications are vitally important in a motor cycle engine. The even firing or good torque is an insurance against skidding, against excessive tyre and transmission wear

-in fact, it renders possible a machine which is not only comfortable to ride, but which can be maintained at a minimum of cost.

A well-balanced engine-that is, a vibrationless engine-is an advantage, in that it renders the machine more comfortable and durable. It does not shake itself and the rider to bits; frame breakages are less likely to occur—or, rather, there is less excuse for them when they do occur; and one is not troubled to the same extent by things shaking loose. The true delicacies of motion cannot be felt unless one is riding a well-balanced engine, and it is on account of these two distinguishing virtues that the flat twin has been selected by many as a highly desirable type of motor cycle unit. Other engines may possess one of the virtues, but not the other. The combination of the two is difficult to arrive at, and, though we arrived a it years ago in the flat twin, there are, or were, certain difficulties in the design which long held it back as : practical motor cycle engine. Probably the greates obstacle in the pathway of its success was the sweeping and universal success of the single-cylinder.

Some Obstacles.

The Douglas, of course, stands out as the pionee flat twin. Its makers struck a good system of oiling and were content to concentrate upon a small engine till it reached a pitch whereby it could compete favourably with engines of much greater cubic

capacity.

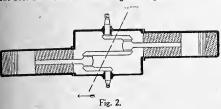
Oiling difficulties were at the root of most of the flat twin failures for many years. Mechanical lubri cation was not very far advanced, and splash feed failed because the back cylinder, no matter how it was baffled, insisted on taking more than its share of the oil. How this happened is clearly shown in fig. 1 By the time the cranks had reached the top of the stroke, they had flung off the bulk of their oil; mos of it had gone into the back cylinder, and there was precious little left for the front. When there is only one cylinder, the oil level in the crank case can be regulated to meet the requirements of that one cylinder; but when there are two, they must be oiled



equally, or one wi'l overheat and wear much more rapidly than the other.

To-day there are differen

The Pros and Cons of Various Engine Designs .-



systems of oiling in use on flat twin engines, most of them successful, some more successful than others, and the general tendency is to eliminate splash feed, and employ gravity or pump feed. Splash feed was highly successful with the single-cylinder, and on account of its simplicity accounted largely for the success of that engine, but its limit of efficiency is reached with the 60° V twin. With the 90° twin it is not satisfactory; with the flat twin it may be written off as impossible, unless very elaborate additions be made.

The Balance of the Flat Twin.

Looking at the bird's-eye section of the flat twin engine (fig. 2), we shall see at once that the balance is not perfect. Owing to the necessity for having the cylinders offset, so that the cranks work, as it were, in opposite directions, and so balance each other, we obtain a rocking motion, or what is technically termed a "couple." When the engine reaches the position shown in the sketch, this rocking motion is tending to throw the whole unit in the direction indicated by the arrows, and, at the bottom of the stroke, it is tending to throw the unit in the opposite direction, and thus it will readily be seen that, with the engine revolving at high speed, these alternating forces are calculated to set up considerable vibration: otherwise the balance of the engine is perfect.

Now, in practice this rocking motion is cut down to minimum by means of bob-weights, and by keeping he big end bearings as narrow as efficiency permits, to that the cylinders need be very little offset. Fig. 3 hows the bob-weights and how their presence opposes he rocking motion set up by the reciprocating parts. in effect they set up a couple of their own in the poposite direction. This renders the balance of the lat twin almost, but not quite, perfect, the imperfecion being due to the fact that the couple set up by he reciprocating parts has a maximum point each halfevolution, whereas the couple set up by the bobreights is constant. The imperfection can be still urther reduced by the employment of very light istons.

Having arrived so far, manufacturers were up against ne difficulty of devising a suitable type of big end earing, narrow enough to reduce the couple, and hich could, in some way, be threaded on to the crank as to retain the strength of the one-piece bearing. oller bearings, or some efficient type of split bearing, ere the usual remedy, most manufacturers favouring ie roller bearing, since it requires very little oil.

V Twins.

Just as it is possible to balance a single-cylinder weighting the flywheel opposite the crank pin, so it is possible to balance any V twin having its big end bearings together. None of these engines, however, are perfectly balanced, and the ordinary V twin survived so well because its torque and balance were slightly better than in the single. The wider the angle at which the cylinders are set the greater become the natural lubricating difficulties, and up to 90° the better becomes the balance, but the worse becomes the

This brings us to the 90° twin, which in many respects is a very desirable type of engine. It can be balanced so that it closely rivals the flat twin in this respect; but its torque, though better than the single, is worse than the everyday narrow angle V twin. It has no couple, and these things being so, the torque does not matter much.

Other Designs.

Dealing in passing with other four-stroke designs, the following facts may be set down. The twocylinder side-by-side old Werner type fails because we must sacrifice either its balance for its torque or its torque for its balance. In order to obtain good balance, we must have a two-throw crank, so that one piston is down when the other is up, in which case we get two explosions in one revolution and none in the next. If the pistons move up and down in unison, we can have an explosion each revolution, but the balance of the engine is no better than in a single. The Scott engine is a two-stroke, and thus the firing impulses are the same as the four-cylinder, i.e., the torque is constant; but with this type of engine the couple is more pronounced than with the flat twin, owing to its greater width.

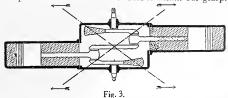
In the three-cylinder four-stroke we have very good

balance and excellent torque. It is a shorter engine than the four-cylinder, and could be lubricated by

the same simple methods.

The four-cylinder presents no drawbacks other than its length. Its complication has stood in its way, and many manufacturers have experienced difficulty in making very small air-cooled engines that would retain their power. These difficulties and handicaps are now removed, and ere long we shall probably see on the road several four-cylinder machines hailing from good factories.

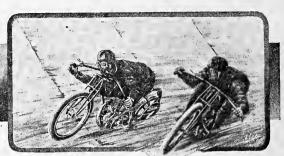
The foregoing may serve to show some of the difficulties which lie in the pathway of engine designers, and may further serve to illustrate the fact that, though the types of engines with which we are most familiar may possess inherent defects which prevent their being ideal, they have flourished because their manufacture presents the fewest difficulties. To-day the difficulties which have rendered the more desirable types of engines impracticable are chiefly removed, and there is no reason why we should have engines possessing insuperable defects when the ideal is within our grasp.



FIRST POST-WAR RACES AT BROOKLANDS.

Easter Monday Event for Speedmen.

British Motor Cycle Racing Club Meeting.



Sprint Races fo Two-strokes and 350 c.c., 500 c and 1,000 c.c. Four-strokes.

Handicaps for Solo and Sided Machines.

WE understand that Brooklands will be open for the first time since the war on Thursday, April 1st. The season proper will open with the first B.M.C.R.C. meeting, held since the beginning of the war, exclusive of the two inter-service meetings held in 1915, when only part of the track was available. We give below the programme of the first meeting to be organised by the British Motor Cycle Racing Club since peace was signed.

EVENT 1. 2 p.m. THE VICTORY HANDICAP (8 miles 842 yards).—For solo motor cycles of

(8 miles 842 yards).—For solo motor cycles of any class.

EVENT 2. 2.50 p.m. THE SHORT ESSEX EASTER HANDICAP (5 miles 1,339 yards.)

—For motor cars of any class entered and driven by a member of the Essex Motor Club.

EVENT 3. 2.50 p.m. THE TWO-STROKE SPRINT BAOB (5 miles 76 yards).—For motor cycles with two-stroke engines not exceeding 350 c.c.

EVENT 4. 3.10 p.m. THE 350 c.c. SPRINT RACE (3 miles 76 yards).—For motor cycles with engines not exceeding 350 c.c.

with engines not exceeding 500 c.c. SPRINT RACE (3 miles 76 yards).—For motor cycles with engines not exceeding 500 c.c. SPRINT EVENT 6. 4 p.m. THE LONG ESSEX EASTER HANDIGAP (6 miles 842 yards).—For motor cars of any class-entered and driven by a member of the Essex Mctor Cho.

member of the Essex Motor Clob.
EVENT 7. 4.50 p.m. THE 1,000 c.c. SPRINT
RAOE (3 miles 76 yards).—For motor cycles
with engices not exceeding 1,000 c.c.
EVENT 8. 4.50 p.m. THE THREE-WHEELED
HANDIGAP (8 miles 842 yards).—For three
wheeled cars and motor cycles with sidecars,
of any class.

CONDITIONS.

1. For all particulars as to events Nos. 2 and 6, application should be made to Mr. A. G. Reynolds, 25, Stepney Green, E.I. 2. All events except Nos. 2 and 6 are open to members of the B.M.C.R.C. only.

3. Entry Iess: Events 1 and 8, 5s. each; Events 3, 4, 5, and 7, 35, 6d. each.

4. Prizes: All events except 2 and 6-First r club plaque; second prize, silver medal; third r bronze medal.

5. Competitors' motor cycles must be fitted the regulation circulor number plates. These p may be obtained from the bon. secretary. 6. If the number of estracts in ony words, and exceed by three the number of carriers and was any be reduced in number of condings, wands may be reduced in number of condings. bers free.

NOTICE TO MEMBERS AND CANDIDA FOR MEMBERSHIP.

The entrance fee of 10s, 6d, and annual subtion of \$2.2s, for membership of the B.M.C less not been raised, but will remain as state the first 250 members only joining or rejoin control of the state of the club as from Jonury 1st, 1920. Promembers will not be entitled to rejuin will paying an entrance fee unless the subscription the current year be paid before March 31st, when the control of the subscription of the

THE "ROSS" TROPHY.

The committee have accepted Mr. Aleo J
offer of a trophy, value £10 10s, to be award
the member who, being or huving been a m
of His Majesty's Forces, makes the best aggr
performance at the 1920 B.M.C.R.C. meetin

The A.C.U. Seventeenth Annual Report.

WE are in receipt of an advance copy of the seventeenth annual report of the seventeenth annual report of the Auto Cycle Union, which will be placed before members at the annual general meeting to be held at the First Avenue Hotel, High Holborn, London, W.C., on Saturday next, at

3 p.m.
One of the most noteworthy milestones in the Union's history is the announcement made at the annual dinner by the President that H.R.H. Prince Albert had graciously consented to become a patron of the Union.

In the ten months which ended on December 31st last, 12,609 new members joined at the Union's new rate, and the membership is now considerable,

LEGISLATION .- A tremendous amount of work has been done in fighting the new proposed legislation, and every possible effort has been made to safeguard sible effort has been made to safeguard the interests of motor cyclists as a whole. The Auto Cycle Union is, of course, represented on the Motor Legis-lation Committee. The supply of motor fuel at reasonable rates continues to enruer at reasonable rates continues to engage the careful attention of the Union's representatives on the Motor Legislation Committee, while the equally important subjects of the lighting and taxation of motor vehicles have been very exhaustively dealt with, but the conclusions reached thereon cannot as yet be announced.

Touring Department.-During last six months of the year 1919 no fewer than 3,641 applications for routes were dealt with, and the department has been busily engaged in revising the appoint-ment of hotels and repairers. During the course of the year over 700 establishments have been visited by the Union's representatives. The appointment of tea houses where members may obtain refreshment at reasonable rates is now being considered, while the Consular ser-vice established during last year has proved of considerable value and assistance to members.

Technical Advice.

The Engineering and Technical Department has been extremely busy in giving members advice regarding the purchase of second-hand machines and reporting on their condition, and the department's eatalogue library has been found a useful addition to the facilities provided for members requiring new motor cycles.

The Union is represented on the Advisory Committee to the National Benzole Association and on the Pancl on Benzole convened by the British Stan-dards Association. In its capacity as a Society of Encouragement the Union has welcomed the formation under Govern-ment auspices of the British Motor Cycle and Lightweight Car Research Association.

In November last the departs In November last the departy officially observed an End-to-end tris the O.K. Junior motor cycle, and particular attention of both man turers and users is called to the valu-such certified trials. In the opinion the department, the motor cycle is in a transitional stage of developm. in a transitional stage of developmit is still too heavy, too noisy too experience of the stage The Insurance Department has do

large amount of business during the st

LEGAL DEPARTMENT .- The calls the Union's solicitors under the legal, defence scheme have increased in siderably, and much useful work been done, many members being se needless expense and trouble when of have been forced to come into court with the Law.

The report concludes with, it is the regretted, an obituary notice of the to Mr. J. R. Nesbit, and also of the to Sir John Alcock, a keen motor cyclistad sportsman, and a life member of the A.C.U.

A New Cycle Attachment.

A Light Two-stroke designed to fit any Standard Pedal

FROM the earliest days of motor cycles, designers have attempted to evolve lightweight engines which might be fitted to pedal cycles without alteration to the existing cycle frame. We can well remember riding one of these

an Ixion two-stroke with friction drive on the front tyre-some fourteen or fifteen years ago.

Recently there has been a great revival in cycle attachments, owing to the fact that improved design has rendered tiny engines more efficient, and also owing to the great demand for a really

owing to the great demand for a really light motor-assisted cycle.

Last week we were enabled to try a new machine of this type, which is being manufactured by the Power Cycle Engineering Co., of Shirley, Birmingham.

The power unit consists of a little two-stroke engine of 51 mm. bore and stroke (104 c.c. capacity), which drives a countershaft by chain. A second chain transmits the power to the rear wheel, the total reduction being 10 to 1.

One of the main features of the little

One of the main features of the little outfit is the fact that it is applicable to men's pedal cycles without structural



The attachment fitted to a pedal cycle.

alteration, as the rear wheel sprocket is clamped to the spokes close up to the hub.

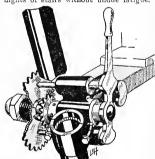
MOTOR (YCLE

In the experimental model illustrated, the chains are exposed, and a dog clutch is incorporated with the countershaft, so that in case of engine trouble the cycle may be pedalled in the normal manner. We are informed, however, that pro-duction machines will be

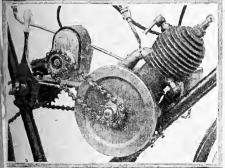
fitted with chain guards, a friction clutch, and a cush drive, thus providing a smoother running mount. A Runbaken mounted behind the sloping cylinder, and is driven by a chain outside the fly-wheel.

countershaft is provided with an eccentric chain adjustment, and the complete unit weighs only 23 lb. A small tubular tank attached to the top tube contains petrol, and lubrication is by hand pump to the main bear-ings and cylinder walls. The price of the com-plete unit is expected to be 21 guineas, and it can be fitted to a cycle in about half an hour.

To the motor cyclist such a machine appeals but little, but there must be many who already possess cycles and would motor if they could. To such the margin in price between a genuine lightweight motor cycle and the cycle attachment will make a great difference. attachment will make a great difference. If we may criticise, we would suggest that a girder fork is desirable, even though the speed of the machine is not intended to be high. In regard to weight, we can personally testify that we have carried the machine up two flights of stairs without undue fatigue.



The countershaft, with free engine device. The dogs are shown out of engagement.



Flywheel side of the auxiliary unit, showing the method of attaching to frame.

NEXT WEEK'S SPRING NUMBER.

HIS is the season of the year when many potential buyers of motor cycles seriously consider their reirements and the type of machine most table to meet them. Since Olympiaring the winter months that are, for
ther year, a thing of the past—the
tor cyclist may have almost decided on several different machines, but the le has come when a decision must be de. Next week's issue will be of aluable assistance in this direction, , in addition to containing many new

features of a sensible nature, a Buyer's Gnide will be included. This guide will give illustrations and specifications of 120 makes of motor cycles—one for every thousand of The Motor Cycle's circula-

Besides serving as a guide to those about to purchase a new machine, the guide will be of interest to all who follow the development of the motor cycle, and will be preserved as a means of reference by all who ride, design, make and sell

For those contemplating a week-end run, a large number of routes are sug-gested. This feature will give short tours from important centres.

Among the many other special articles there will be some which will be of great assistance to the majority of riders at this time of the year; others which will appeal to lady drivers and passengers. Every article has been written by an expert motor cyclist, and will be pro-

fusely illustrated. The price of this issue will be threepence as usual.

THE ETA CARBURETTER.

An Instrument in which the Variation of the Petrol Supply is Compensated in a Novel Manner.

THE Eta carburetter is a motor cycle carburetter designed on thoroughly scientific lines. From our examination of the only model at present in existence, which was made by hand, and existence, which was made by hand, and is of crude external finish, it promises exceedingly well. We understand that arrangements are being made to manufacture this instrument of die castings in quantities. It is the invention of Mr. E. Warner Parr, Loampit Hill House, Lewisham, London, S.E.13, who has studied the question of carburation with extreme care, and has delved deeply into the depths of scientific carburetter design; so much so that he claims that

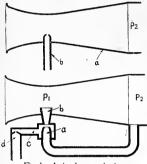


Fig. 1.-A simple venturi tube. Fig. 2.-Diagrammatic view of the Eta principle.

the Eta carburetter cannot possibly give an inaccurate mixture under any condi-tions whatsoever, which is a fairly tall claim, and shows that he has great con-fidence in the instrument. He also claims from 20 to 50% increase of power over other carburetters, and 20 to 100% greater economy.

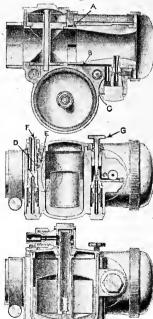
Automatic Action.

The diagrammatic representation of a simple venturi and jet is given to show the idea on which the Eta carburetter works. An instrument of the type of that shown in fig. 1 should theoretically give a perfectly uniform mixture at any speed, but in practice it is found that as the speed increases the mixture becomes richer. In contrast with this simple design is shown a diagrammatic illustration (fig. 2) of the Eta carburetter. At a is an air jet, and at b there ter. At a is an air jet, and at o there is an expansion cone, the two together forming an injector, a peculiarity of which is that the suction it creates at point c is exactly proportional to the pressure difference between P, and P, but owing to friction and other causes the pressure at P2 is less than atmospheric, and the decrease in pressure is strictly proportional to the increase of vacuum at P₁ over that indicated by theory; but as the suction at c is proportional to the pressure difference between P₁ and P₂ and P₃ and P₄ and P₄ and P₅ portunal to the pressure timerence between P_1 and P_2 , and as the reduction in pressure at P_2 is proportional to the variation at P_1 , the suction at c is inversely proportional to the variation

Now it is obvious that the total suction on the jet d is the sum of the actual suction at the throat P_1 and the suction suction at the throat r, and the suction at the thijector, but as the suction at the throat is equal to the theoretical suction plus the variation, and the suction due to the injector is equal to the theoretical suction minus the same variance. tion, the variation cancels itself, and the actual suction on the fuel is exactly what is required theoretically to give a perfect mixture, and this holds good at any speed. It is therefore claimed that the variation of the venturi is corrected. Moreover, the Eta carburetter is said to ensure complete atomisation.

Means of Adjustment.

It will be noticed that the mixture enters through the cone b, having drawn its air at the orifice at P_{α} , while additionally P_{α} , while additional P_{α} , while P_{α} , whi tional air enters by the ordinary passage at the end of the venturi. With this carburetter more so than with others, an air leak is likely to upset the mixture seriously, especially at slow speeds, and in consequence a pilot jet is employed, which is shown in fig. 4, on the left-hand



(Top) Sectional plan, showing injector, separator, and throttle (Middle) Vertical part section, showing main and pilot jets (Bottom) Section through float chamber

side of the illustration. It actually consists of a very small carburetter designed sists of a very small carburetter designet to supply a small quantity of very rid mixture through the hole D in the bod and the corresponding hole E in throttle. If the throttle has been opened more than 30°, the relative positions of the holes in the throttle and hody are sarranged that the pilot is completely out. This opening will give a speed o about ten miles per hour on the level and at any speed above this the pilot idisconnected from the engine, and can have no effect upon the mixture, which is then supplied entirely by the injector

as then supplied entirely by the injector
As different engines have naturall
different air leaks, the adjustable diffuse F is provided. Screwing down weaken mixture, and unscrewing i strengthens it.



Exterior view of the Eta carburetter.

takes the place of a jet, is provided with an adjustable needle G. This control the strength of the mixture through the whole range, except that covered by the pilot jet, and is employed to adjust the carburetter to suit the fuel in use. The fuel enters the float chamber (see

fig. 5) through a union adjustable to sui the motor cycle to which the carburette is fitted. It then passes through the is noted. It then passes through the float chamber filter, which is in the centre tube, and past the float chambe fleedle valve at the base of the tube. In addition to this, in fig. 4, it will be seen that there are gauzes at the bas of each jet, so that the fuel is filtered twice. The air supplied to the injector is taken from the separator A, fig. ? which is a sectional plan of the instrument, through the channel B in the venturi, to the port C in the body.

On the Road.

On the Road.

The Eta carburetter, which was demonstrated to us, was fitted to an eyceedingly old model 3½ h.p. Singer mote and sidecar. It started easily, garapid acceleration and perfect flexibility, ample power was developed on hills, an on the level the pick-up was remarkably good, and it only remains to say the the carburetter worked perfectly on the lold Singer, and for this reason we fe sure that it has every possibility success. Mr. Parr assures us that the consumption is remarkably good, and a 3½ h.p. machine, with sidecar, the average consumption figure have been obtained. have been obtained.

N ILLUMINATED REAR PLATE.

LTHOUGH there are a large number of motor cyclists who do not favour an illuminated rear plate for reasons are obvious, there are quite as many see no reason why their numbers ald not be clearly legible. Consider-the anti-motorist attitude of the police some quarters, the former view is saps justifiable, all the same the rider gives every facility for his numbers e read is reducing to a minimum any ible cause for complaint,

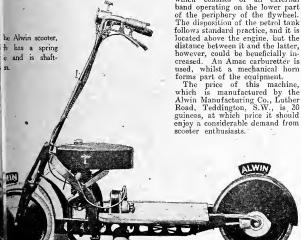
obviate the projecting rear lamp, mbodying it within a number plate, srs. S. and H. Truman, of 12, Curzon et, Birmingham, have introduced the

trear light illustrated.

consists briefly of a shallow cast
inium box, which is easily detachable
the back plate. The box is fixed to
arrier, and carries a two-volt electric bulb, and also a small burner for dene gas. In a slot in the front on of the device is fitted a vertical of ruby glass, and alongside two s of thick glass in rubber linings. een these glasses is a piece of parchpaper for the numbers, and when etters and numbers are outlined and space filled in with black paint the is similar to that of opaque glass. price of the rear plate complete with and burner is 30s.

HE ALWIN SCOOTER.

HILST visiting the stands in the Toy Department of the British Industries Exhibition at the al Palace, London, we noticed a motor scooter, which, although ited amount its smaller foot proited amongst its smaller foot-pro-I brothers suitable for children, was lerably more than a mechanical







A rear number plate, the transparent lettering of which is illuminated from the rear,

is mounted between two U-section longitudinal members, the front ends of which are held to the steering head by two Vshaped supports, whilst attached to the rear end of the frame are two laminated springs supporting the rear wheel. The drive is conducted from an external flywheel at the rear of the engine, by a propeller-shaft to a bevel pinion engaging with a crown wheel attached to the near side of the back wheel. A small chain sprocket is mounted on the propeller-shaft, and drives a C.A.V. magneto bolted to a plate behind the engine, and, a few inches nearer the rear wheel, the shaft is cut, the ends being joined by a coil spring to absorb the impulse shocks of the engine. Although solid tyres are nsed, the greater road shocks are absorbed at the rear by the Iaminated springs, and at the front by a novel vertical springing action. We think, however, that pneumatic tyres would greatly improve the vehicle, both in easy running and as a commercial proposition, at least in this country. The front at least in this country. forks reciprocate on a line parallel to

the steering head, and expand and con-

toy. A small 13 h.p. two-stroke engine

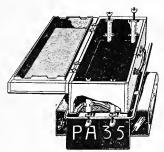
tract a coil spring located within the latter. An engine brake is used, which consists of an external band operating on the lower part of the periphery of the flywheel. The disposition of the petrol tank follows standard practice, and it is located above the engine, but the distance between it and the latter, however, could be beueficially increased. An Amac carburetter is

Alwin Manufacturing Co., Luther Road, Teddington, S.W., is 30 guineas, at which price it should

A READILY DETACHED CARRIER BOX.

EW are the number of bulky fittings which, when attached to some part of the machine for a considerable time, do not succumb to the effect of road vibration. Particularly is this so in the case of receptacles attached to In the case of receptacles attached to the carrier for the purpose of accom-modating tools or luggage, which, being directly over the rear wheel, are sub-mitted to practically all road shocks. A very substantially constructed box where the method by which it is beld to the carrier has been carefully planned

in the endeavour to eliminate the usual



A quick detachable carrier box.

rattling associated with the use of straps and the like has recently been marketed by the Engineering Accessories

narketed by the Engineering Accessories Co., 2, Army and Navy Mansions, 115, Victoria Street, London, S.W.1. This fitting is provided with four holts, which pass through two aluminium *housings bolted to the inside edge of the two sides longitudinally facing each other, and are screwed beneath the box to metal strips passing under the cross members of the carrier. Inserted between the bottom of the receptacle and the carrier is a felt pad, and by tightening the fly nuts down on to the aluminium housings the pad is tightly sandwiched between the carrier and the box; this retains the latter rigidly in position and eliminates any rattling. A leather handle is also fitted, in order that the box may be carried by hand. A lock is also provided.

The capacity of the case is sufficient to

contain the necessities for a week-end

The Argenteuil Hill-climb.

A Popular Paris Event in which New French Machines Participated.

A LTHOUGH only a local event, with all the competitors from the Paris region, the hill-climbing contest at Argenteuil, a few miles to the north of the French capital, provided some interesting sport, and united a very large number of spectators. The hill, which is exactly one and one-fifth mile in length, varies in gradient from 3% to 10%, and has four rather difficult turns. It had rained all night, and the surface was slightly greasy, which is doubtless why no records were broken.

The fastest time was made by Joly on a 500 c.c. Alcyon in 1m. 33s. Alcyon machines also won in the 350 c.c. and 250 c.c. classes. There was a dead heat in the 500 c.c. sidecar class between



Joly (500 c.c. Alcyon), who made fastest time.

Psalty on a Rover and Lacour on a Georges Levy. As the English machine carried a greater weight than its French rival, it was accorded the first place.

Lacour (Georges Lévy sc.), who tied with a 31 Rover sc. in the 500 c.c. sidecar class

There were six competitors in cycle car class, the winner being I on a machine of his own make, follo by a couple of Morgans, with a Spl fourth. This machine is known England as the Globe. Results:

0	,			
	250 e.e. SOLO.			
1.	Louis (Meyon)		1ın.	433
2.	Louis (Aleyon) Maral (Thomann)		Im.	
۷.	Destal (Induani)		1111.	EQ1
5.	Paul (Labor)	••	1111.	395
4.	Dubost (Motosolo)		2m.	123
5.	Dupont (Motosolo)		2nu	32
	750 607.0			
	350 c.c. SOLO.		1m.	200
1.	Vnihamy (Alcyon)	• •	1 mi.	22
2.	Vnlliamy (Aleyon) Joly (Aleyon)		1m.	22
	500 e.e. SOLO.	,		
			1m.	230
1.	Joly (Aleyon)		1m.	
2.	Vulliamy (Aleyon)			346
3.	Pean (Pengeot)		lm.	
4.	Pean (Pengeot) Milland (Motosacoche)		1m.	423
	750 c.c. SOLO.			
_			c	100
1.	Antony (Peugeot)	• •	om.	145
	1,000 e.e. SOLO.			
1	Bernard (Indian)		1 m	478
٠.	Delinita (Indian)			
	500 c.c. SIDECAR	S.		
1.	Psalty (Rover)		2m.	343
2.	Psalty (Rover) Lacour (Georges Lévy)		2nı.	343
	750 c.c. SIDECAR	э.,	2m.	013
1.	Moret (Georges Levy)		ZIII.	245
2.	Lézin (Georges Lévy)		2m.	203
	1,000 c.c. SIDECAL	20		
	Discort (Indian)	13.	2m.	As.
1.	Blauser (Indian) Pealty (Harley-Davidson)	••	2m.	102
2.	Pearty (Harley-Davidson)	• •	2111.	ron
-	1,100 c.e. CYCLE Ca	ARS	4	
1	A. Noel (Noel)		1 m.	541
٠.	Bandelogue (Morgan)	•••	2m.	45.
۷.		••	Den.	26s.
5.	Delorme (Morgan)	••	2m,	
4.	H. Guillon (Sphiux)		2m, 2m,	4/1
5.	Honel (Morgan)		2m.	27
6.	Autony (Godet) -		2m.	528
-				

TOURIST TROPHY NOTES.

S OME particularly "hot" stuff " Levis., machines are undergoing tests. We hear that F. W. Applebee will ride one of them.

In connection with the carnival which the LO.M. authorities are organising for the T.T. week, it is proposed to hold a race meeting on the promenade. This will probably be held on the Wednesday morning, and, in addition to the T.T. classes, an event for 1,000 c.c. sidecars may be included.

There are many rumours concerning the new Diamonds with overhead valves.

The A.J.S. firm is not behindhand with its T.T. models.

Those who witnessed the sensational speeds of the 550 c.c. and 500 c.c. Sunbeams at Stile Cop last year expect something fast from Sunbeamland.

On the whole, Wolverhampton manufacturers seem more keen than those of other centres.

The Ivy should not be overlooked in the 350 c.c. class this year,

R. O. Clark, of Norwich, may be seen on a Levis. Is it correct that a new maker is thinking of making a 250 c.c T.T. twin two-

stroke using two Simplex engines?

Will there be any three-cylinder radial engines in the Junior race?

Or 500 c.c. single-cylinder *two-strong the Senior?

Shall we have any of the Amer "star" riders over here?

Why do not some of the makers of c.c. twins build up machines with cylinder to compete in the 250 c.c. for The Motor Cycle trophy?

Rem Fowler, the old T.T. compet will ride this year.

G. Kuhn, who has been so success on Levis machines, will race on a model from the Butterfield factory.

Is Coventry losing its grip on my cycle events? Will there be a Cove rentrant in the T.T.?

A SPORTING NORTHERN EVENT.



Photographs Nos. 1, 2, and 3 show competitors—J. Beck (Sunbeam), J. Alexander (Arid), and J. V. Russell (Morgan)—on the bad hairpin bend on Glen Douglas. No. 4 depicts A. Brash (Harley-Davidson) and A. J. Lindsay (Scott) being checked in at Arrochar by B. Allan Hill.

A SIDECAR LUNCHEON BASKET.

O complete the sidecarist's summer equipment, a compact luncheon and tea basket, of a size permitting it to be placed in the sidecar locker is now regarded as a necessity. Numerons sizes, suitable for any number of persons, are marketed by Messrs. Dunbills, Ltd., 359-361, Euston Road, London, N.1.

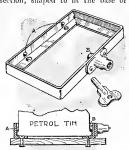


The Popular tea and luncheon basket.

A compact and light basket, however, especially designed for use in cases where space is the first consideration, is shown in the illustration. All the essential fittings are provided for cream, butter, and methylated spirits, in addition to sandwich cases and cups. The price of the Popular tea basket, illustrated, is £2 9s. 6d. complete.

A NEAT PETROL CAN CARRIER.

THE practice of fitting luggage grids to sidecar outfits is rapidly growing, and to owners of machines thus fitted the neat little petrol can carrier illustrated herewith should prove of considerable interest. As will be seen, it consists of a rectangular framework of L'section, shaped to fit the base of the



A neat device for carrying a petrol tin.

ordinary two gallon petrol tin. frame is firmly secured to the luggage grid by means of four screws or bolts. On one side of the carrier are two studs AA, under which the bead of one side of the petrol can is placed. The bead on the other side is held down by a spring-actuated stud B, which, when in position, can be positively locked, thus effectually circumventing any attempt at theft. We understand that Messus. Bond and Co. Earlsdon, Coventry, have the distributing rights for this accessory.

THE RAPIER ECONOMY VALVE.

A NEAT little device, the invention of Mr. H. Castell, has been recently placed on the market by the R.P.R. Engineering Works, 160, Regent's Park Road, London, N.W. It is designed to screw into the induction pipe, and the union is connected to the petrol supply. The lift of the automatic air valve can be regulated by means of the screw running through the cover of the device. When starting up, the air valve



The Rapier economy valve.

is screwed down and the petrol needle opened slightly, so that an explosive mixture is easily drawn into the com-bustion chamber. When once the engine has fired, the petrol is turned off, and the air valve is set to open to the extent at which it gives the best results.

AN ACETYLENE GAS PURIFIER.

USEFUL little fitting for those who use acetylene lamps has been accently placed on the market by the R. and P. Accessories Company, 105, Shea Landon, E.C.4. It may use acetylene lamps has been re-E.C.4.



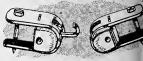
A device for purifying acetylene gas.

be clipped to any part of the frame. and consists of a metal box in which are specially prepared chemicals to absorb any mois-ture in the gas which might tend to choke the jet in the burner. The price is 4s. 6d.

AN IMPROVED BELT FASTENER.

N placing the John Bull belt fastenon the market, the Leicester Rubb Co., Ltd., Post Office Place, Leiceste have carefully studied motor cyclist requirements.

This fastener, which the firm fr introduced before the war, has undergo a considerable amount of improvemen



The John Bull belt fastener.

and possesses the following features. T ends of the left are protected fr damage as they enter the pulley, means of leather pads, and thus efficient and continuous drive is obtain Hooks and spare links of various si: may be fitted to obtain any desir

AN A.J.S. PETROL CARRIER.

A FITTING which should be me appreciated by A.J.S. riders I recently been placed on the marby Messrs. H. Taylor and Co., It 219, Store Street, Tottenham Co. Road, London, W.C.
This accessory, the Taylor petrol carrier, although designed expressly A.J.S. machines, can, with little alte tion, be made suitable for other. mo cycles. One of the vertical arms wholds the petrol tin in position is pyided with a spring which, whencross arm at he top is placed under



neath the milled headed on the top of the other's arm, exerts pressure downwards on the and retains it in position. The special fittings for attachment to A.J.S. machine are located on two six of the wooden base. These can, he ever, be altered quite easily and invery short time to suit individual conference. quirements.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and addresse.

THE MACHINE FOR SPORT.

Sir, I notice Lt. J. H. Lewis, R.G.A., in your issue of March 4th remarks that a 5-6 h.p. twin is sweeter and more reliable than a single. He also states that the acceleration is far better than on a single. I am the owner of a 1920 T.T. Norton single speed. I have had ninety-one machines, and this little sporting Norton I would not exchange for any other machine on the King's highway. Wet or fine, I can do three miles an hour or sixty. I have no connection with Nortons, Ltd.

REG. A. GREEN.

LA TURBIE HILL-CLIMB.

Sir,-In the official results of the La Turbie hill-climb I am placed third for this event, but this needs a little

explanation.

My actual time on the hill, as originally announced by the Moto Club de Nice, was 10m. 55\frac{1}{2}s., the next man taking 12m. 41\frac{1}{4}s., and the next 19m. 45\frac{1}{2}s. For some unknown reason, the committee said that I started thirteen minutes late at the bottom of the hill, and, although no official time for starting had been given me in accordance with their views, the committee credited me with thirteen minutes, making my time 23m. 53gs.

W. DOUGLAS HAWKES.

PROVISIONAL PRICES.

Sir,—The various reasons put forth by manufacturers explaining the increased prices include scarcity of raw material and increase in cost of production. I was looking bis week at a 1919 model motor cycle, manufactured by a very well known firm, and charged at 1919 prices. A close camination of this machine revealed the following; Fork prings stamped 1912, forks (front) stamped 1914, and the rame bore the date 1915. I am of opinion that this firm a profiteering, as the date of manufacture of the parts entioned shows them to have been manufactured under the large ways conditions on far as the makeur are considered. leal pre-war conditions, as far as the makers are conerned, but this machine cost the full 1919 price. W. A. PECHEY.

PEED WOBBLE.

Sir,-The suggestion made by Mr. Walter Hare that speedan's wobble is caused by the unequal strength of the front rk springs is very interesting. Mr. Hare mentions the unumunity from wobble of the Rudge Multi, which has a ne-spring fork. One might also mention the Triumph, in hich the road shocks are taken by one large spring. This lachine seems to be quite free from speed wobble. It ould be instructive to hear of the behaviour of machines tted with the Saxon single spring fork.

Probably wobble is caused by one or more of the follow-

g factors :

(14) Unbalanced front wheels.

The effects of such lack of balance would become very veat at high speeds, and would seriously affect the steering of affected so that the rider begins to se control of his machine, speedman's wobble is inevitable. The steep whose is simplified in the second of the clists balance their front wheels is significant.

Call the centre of gravity being too far back.

One has only to ride a machine with a heavyweight on e pillion to realise how much steering is affected by the ntre of gravity being too far back. The Scott, which rries its weight well forward, seems to be peculiarly imune from wobble.

(3.) Insufficient rake of the steering head.

(4.) Badly designed handle-bars, when a permit of effective control of the steering. Of course, speedman's wobble may also be caused by a swerve while travelling at high speed, or by the rider gripping his handle-bars too tightly, or by attempting to clear down suddenly when going fast. C. MUSTILL.

Sir,-I have observed a lot of correspondence in your paper recently re speed wobble. I have found, as a rider of many types of machines, that those with the least tendency to wobble at speed are fitted with well raked forks.

I have crashed, through wobbling, on many old type machines, which had practically vertical forks.

L. CLARK.

ROLLS-ROYCE PURCHASE OF INDIAN FACTORY.

Sir,-Since the statement appeared in the press to the effect that the Rolls-Royce Company had purchased the Indian factory in Springfield, Mass., U.S.A., we are receiving letters from various people asking if this means that the

manufacture of Indians is to be discontinued.

The factory purchased by the Rolls-Royce Company was that known as the Hendeeville plant, situate $1\frac{1}{2}$ miles away from the main Indian factory. About two years ago our directors decided that it was not practicable to manuour directors decided that it was not plattered to main facture economically in two factories situated so far apart, with the result that the main plant was greatly added to and all the machinery moved from the Hendeeville plant to the main factory. This left the Hendeeville plant for sale. It is very gratifying to our directors to know that such a worthy concern as the Rolls-Royce has purchased what is undoubtedly one of the most up-to-date automobile factories in existence.

HENDEE MANUFACTURING COMPANY. W. H. Wells, Manager.

THE PARIS-NICE TRIAL.

Sir,—Quite a number of London and provincial papers (misled by certain French reports) acclaimed the Harley-Davidsons as the "winners" of the Paris-Nice, and commented on the success of the American machines. The Harley-Davidsons happened to arrive first and the papers mistook the trial for a race. Some conceded that the British machines, though they did not win, did very well! As a matter of fact, of course, the American machines were not "in it" with the British. M. Verpault, on a Harley-Davidson, was fourth. Of the first ten, nine were British, including the only cycle car which completed the course. I have no wish to run down the American machines-every one knows that they are excellent—but one does not like to see our British manufacturers and riders robbed of the credit of a grand success.

H. GEORGE MORGAN.

The message in question was issued by a telegraphic news service, and the discrepancies have already been pointed out to the managing director of that service by *The Motor*

Cycle.—ED.]

Sir,-I notice in your report of the Paris-Nice Trial (fourth day, page 240, February 26th issue) you mention the fact that my sidecar frame was fractured, and also that

the fact that my success.

a spring was broken.

In fairness to Messrs. A. J. Stevens and Co., Ltd., I feel I must point out that this sidecar was not one of their standard productions, but one I had fitted specially for the W. DOUGLAS HAWKES.

BII

STANDARDISATION OF CHAINS.

Sir,-It may be of interest to some of your readers to learn that in connection with the standardisation of chains, the Association of British Driving Chain Manufacturers, Bassishaw House, Basinghall Street, London, E.C., has been in touch with the American chain manufacturers with a view to getting the standards proposed by this Association established internationally. To this end, each body has referred its proposals to its National Engineering Standards Committee. Inasmuch as the differences between the British and American proposals are very slight, it is felt that international standards can readily be established in the near rational standards can regard be established in the leaf-future, pending which the Association of British Driving Chain Manufacturers has decided to defer putting into force the standards already announced for roller chains.

BRAMPTON BROTHERS, LTD.

W. R. Hood, Advertising Department.

THE T.T. AND TRADE.

Sir,—With reference to the T.T. races to be held this year, and the letter from the Triumph Cycle Co. in The Motor Cycle recently, why should machines be specially prepared for the race in question?

Why should not the officials concerned with the arrangements go to the various firms who wish to compete and pick out a machine, or machines, from a batch of standard ones ready for delivery? To make certain that the bicycle chosen is the one ridden in the contest, let it be sealed, or something equally as good done—I will leave that for those concerned. Another point would be in allowing the intended rider, say, three hours to tune up and make necessary adjustments only. I think this would be of much sary adjustments only. I think this would be of much more interest to the public, and would help them to choose their motor cycles-for, after all, it is the public who keep the various manufacturers going.

If it should prove successful, why not carry on the same every year?
Waltham Cross,

Sir,-I think most of us hope the T.T. Races will not languish this year for lack of entries. As one interested in the sport, I look forward to the pleasure of witnessing the revived race, and to participation in its enjoyable preliminary excitement. As one engaged in the trade, I believe that, for many years to come, it will pay manufacturers to encourage, by personal and financial help, everything that will maintain vigour in the sporting side of motor cycling.

Motor cycling can be divided into three classes : 1. Business use.-The use of a machine to transport

rider from place to place on business.

2. Pastime.—The use of a machine to transport rider to a place where he looks for pleasure, and along a road from which he hopes to obtain pleasure by the mere fact of travelling.

3. Sport.—The use of a machine for the pure joy of it, and interest in the machine itself, its workings, its limitations, and its possibilities, its construction, and its mechanism, its power and speed, its flexibility and poetry of

motion.

Shall I be correct in saying that practically all the motor cycle buyers of the early days would be of the last group, and that half the motor cycle buyers of to-day might be similarly classified, and that it is from this group that the impetus to the whole movement principally comes, and, for their encouragement, the expense and the trouble of the T.T. Race is worth while, over and above the actual mechani-

cal experience and knowledge gained by the race. So much for the theory of the matter. To get down to practical details, it is to be hoped, if large abstentions from the trade are going to imperil the success of the Isle of Man Races, that ways and means may be found partially to counterbalance matters by help in other directions.

No doubt many of your readers can ofter suggestions, and some of them might help the A.C.U. For instance, here is a hald suggestion that might be worth consideration. That the A.C.U. ask each of its affiliated clubs—or, at all

events, such of them as are powerful enough in finance or membership, or both—to nominate for the T.T. Races a rider from their ranks, such rider to be carefully selected by the club committee to ride in the club's name, and the club to pay either all or a portion of his expenses.

For the club to nominate a rider and expect the latter to pay his own expenses would nullify any merit in the scheme. On the other hand, for the rider to expect the club to pay all his expenses would be going too far.

A practical compromise might be for the club to pay the entry fee, railway fare, and boat fare, to the Island, for man and machine, and sundry other incidental expenses directly connected with the races, but not the personal hotel and other expenses of the rider (which latter he could well pay himself are a cartishuir at the could well not be recommended. pay himself, as a contribution to an early summer holiday).

Or perhaps the A.C.U. could afford to pay the entry fee (from its own funds back to its own funds) in the case of this special club nominee, and the club and rider share the

other expenses.

In choosing its rider for the race, the club would naturally first make the entry at an early date, and then leave the selection of the man till later. There would be rivalry among the members for the honour, and, in making the selection from applicants, the club would take into consideration the skill and experience of the man, and also his resources in the way of machines and tuning.

Anyhow, I throw the rough suggestion out to the A.C.U., the clubs, and to your readers, hoping it will at least secure some comments and criticism, even though the latter be unfavourable.

FRANK WHITWORTH.

France.

WANTED-A LUXURIOUS SIDECAR.

Sir,—Having noted "Xenos's" letter in your issue of February 19th, I would like to make a few remarks.

I fail to understand the point that immediately a gentle-man mounts a motor cycle he becomes a bounder. Is

"Xenos" speaking from experience?

With regard to the fact of being able to afford a car, I too, can afford one, but prefer a sidecar, but I do not think that class at all a large one; many people own both car and motor cycle, I am sure.

My passenger has been generally a lady, and even on the wettest of days has arrived at her destination-quite dry and clean. The machine has windscreen, hood, and sidecurtains, which one can obtain nowadays for almost any make of sidecar.

Another point is the twist grip control. Surely if it is so magnificent, British manufacturers would have fitted it long ago. Has "Xenos" tried it on very bad roads, such as the roads of Northern France of the present day?

I owned, until quite recently, a 6 h.p. machine of well known make, and on wet days I often rode without overalls in slacks and shoes and did not get muddy; I had no leg

in slacks and shoes and did not get midudy; I had no see shields, the mud guarding being quite adequate. It is understood that I only made short journeys in this kit. The remarks about the cycle car having "I-can't-quite-afford-a-car" appearance—perhaps it has—I am of opinion that it is in many cases the real reason for buying a cycle car. So why scoff at a man who cannot afford more and who is perhaps doing his ntmost to give his wife and family a good time?

If "Xenos" is willing to pay, why not have an outfit de luxe built to his own specifications DASWANDI KHAN.

WEATHERPROOF SIDECAR WHICH APES THE COVERED CAR A landaulet sidecar produced Messrs. Calland, Lee and Co., Manchester.

MOTOR (YCLE

Sir,-I de not imagine that you can waste your valuable space on controversies which present no feature of general

space on controversies which present no feature of general interest, so I will be brief.

"H.J.B.," in your issue of March 5th, says that he read my letter with sorrow. I read his with amusement.

I wrote as I did about cycle cans because your previous correspondent predicted (wrongly, I think) that they would drive powerful motor cycles off the market.

I still think that if manufacturers will give us a powerful sidecar, built regardless of expense, with twist grips, designed so as not to transform itself and its rider into a road cleaning device, they will find sufficient purchasers to

repay the venture. "H.J.B." can, apparently, keep himself spotless, and, presumably, prefers tap-twiddling, and as to his Parthian gibe about my (non-existent) Rolls-Royces and money-bags, I ery applogetically in the words of Omer Khayyám:

I make the most of what I yet can spend, Before I. too, into the mud descend. Ah! surly tapster, thumping my wet clay; Ah! 'H.J.B.' smite gently, brother pray." Kensington, W.8. XENOS.

A TOUR WITH SIDECAR AND BABY.

Sir,-I am enclosing snapshots of my A.J.S. and little daughter, who accompanied me on a tour of 11.000 miles during last summer. (MRS.) J. A. NEWMAN. during last summer.



AIR-COOLED CARS.

Sir,—In your issue of the 4th inst., "Ixion" states that most of the engines mentioned adopt "cowling," i.e., the air blast is concentrated upon the cylinder walls by aluminum plates, jacketings, or deflectors. We should like to say that this statement is not quite accurate. In point of fact, "cowling" of the cylinders, with the object of ensuring uniformity of cooling to each part of the cylinders, is quite the exception rather than the rule.

In the Enfield-Allday, of course, the system is carried out very completely, but so far as we are aware the "Palla-dium" is the only other example in which this type of owling has been attempted—most of the examples having lans, more or less promiscuously placed, and the resultant in draught anything but efficiently used, at least in our

opinion.

Whilst on the subject, we should like to express our prinion that engines, in which the cylinders are exposed to the weather, mud, dust, etc., are not likely favourably to ufluence the progress of air-cooling.

We, of course, quite appreciate the fact that it cheapens

production, but our opinion is that if air-cooling is to be inally successful in its appeal to the motoring public, then it least as much protection will be expected for the aircooled engine as for its water-cooled brother.

ENFIELD-ALLDAY MOTORS, LTD.

Sir,—In your issue of March 4th, a correspondent, "Single and Twin," puts forward an interesting factor in the case of a fuel tax

I would suggest to him that the twin two-stroke he mentions is altogether far heavier than the big single of

higher horse power.
If such is the case my argument holds good, for the heavier machine would naturally de more damage per mile than would the lighter.

than would the highter.

In conclusion, I would remind him that there is such a thing as "tune," and if he has not troubled to enquire into the cause of excessive consumption he must needs pay the NEMO. piper. Norwich.

WELDED FRAMES.

Sir,—I saw in *The Motor Cycle* recently that the Douglas Co. were proposing to oxy-acetylenc weld all their frames, and I would like to ask, through the medium of your paper,

what others think about it.

I have come in contact with frames which had been broken and welded in, say, the bracket, and being unable to loosen the weld by the usual method of heat have had to scrap the whole bracket and tube. Therefore, I take it, if one buys an oxy-acetylene welded Douglas, and bends or bracket by the proper well the proper to the breaks the frame, a new one will be required, instead of a repair, which could have been done at any garage in the ordinary brazed frame, or otherwise send it to the Donglas firm to get the damaged tubes burnt out and new ones welded in. From the manufacturer's point of view, it is a quicker method, but, to my mind, it is at the cost of the motor evelist.

ROAD PESTS.

Sir,-The time is approaching when motorists must become

desperadoes of the most savage type.

desperations of the most savage type.

On a recent Sunday, feeling energetic, I arose from the depths of an armchair and sought my motor cycle—a 7.9 h.p. Indian sidecar. I departed to where the only girl in the world lives (Don't get excited, this is not a love story), and together we lobbed out into the country. The roads were good, the weather was bon, the 'hus was going well, and she is a pretty girl. Yet I did not enjoy the drive. Why not? Now I will tell yon.

I first met them when I hit the Reigate Road at Sutton. I modestly sounded my Klaxon. Did they move? Not much: they remained four abreast. With extreme difficulty, I passed them. I did not hinder them. I realised they were

I passed them. I did not hinder them. I realised they were adas, but I thought they were exceptions. Why did not I go home then? They were on Banstead Downs in their thousands; they were all over Reigate; they went round corners without locking round, without putting their hands out, without hands on handle-bars, and as far as I could see, without brains. Who were they? I will leave it to your readers to arrive at the solution of this very difficult problem.

Can nothing be done to remove this danger to motorists from the English roads anyway? JUSTABOUTADENOUGH.

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle.

MOTOR CYCLES AND HOW TO MANAGE THEM." The standard handbook on the motor cycle; its core and management. It deals with every part of the machine, and with all types of machines. 266 pages, 400 illustrations. Twentieth edi net. post HNT3 AND TIPS FOR MOTOR CYCLISTS."
Containing over 400 useful "wrinkles" and helpful
hints in regard to motor cycles. Leventh Edition. Just published. ... 2/3 TRACING MOIOR CYCLE TROUBLES."
A reliable system for tracing motor cycle faults and of remedying any trouble when found. Fourth Edition.

Edition.

THE MOTOR CYCLE" ROAD MAPS

En land and Wales, Scotland. London (showing roads into and out of London and avoiding London). Mounted on linen. Set of three, complete in case.

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd , 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

THE RICHMOND MEET.

A Popular Rendezvous for Northern Motor Cyclists. Great Attendance Probable on April 2nd.

As an annual open-air meeting of A motor cyclists, the Richmond gathering in North Yorkshire must, without doubt, take priority, for it was first held in 1907, and carried on regularly each year until the war. The meeting was revived in 1919.

Great efforts have been made this year by the Northern clubs to ensure a record attendance, and prizes will be offered for the smartest machine present, for the lady who has driven the greatest distance to attend, for the most novel and ingenious idea on a motor cycle, and for the club with the largest percentage of paid-up members at the count which takes place at twelve o'clock. In awarding the prizes, the mileage of the competitors will be considered.

It is, indeed, interesting to look back over the illustrated reports of the Richmond meet that have appeared in The Motor Cycle, commencing with the first one in the issue of April 10th, 1907. The record is one showing the enthusiasm and keepness of the North Country riders, who, in the days of fixed gears, belt-drive and accumulaters travelled for beit-drive and accumulators that the most part with great regularity from all parts of Yorkshire and Durham. The event was undoubtedly the precursor of events which in more recent times have been organised on similar lines. Clubs in the North-eastern counties will

be able to compete for the Grimshaw shield, which is being offered to the one having the greatest percentage of paid-up members present. This trophy is put up for competition by the North-Eastern Automobile Association, and only drivers (of cycles and cars not exceeding 1,600 c.c.) who are members of the Association will be counted.

This award is quite distinct from those mentioned in the second paragraph, and is confined to the Sunderland, Bishop Auckland, Durham, South Shields, Hartlepools, Wansbeck, Newcastle, and Darlington clubs, the members of which have to provide themselves with variously coloured distinguished considerations. distinguishing armlets.

MODERNISING EXISTING MOUNTS.

How Old 23 h.p. Machines are being Converted into Up-to-date 31 h.p. Mounts.

IT is perhaps a remarkable fact, consider-ing the number of motor cycle engines manufactured on the Continent, and manuactured on the Continent, and the present shortage of engines made in this country, that makers have not been tempted to use them. Only one imported engine has been fitted in British motor cycles to any extent, and this—the M.A.G., which hails from Switzerland took a front rank position, and to-day is appreciated by hundreds of users.

For some time past supplies of new M.A.G. engines have been very restricted, and probably doubt exists in the minds of many owners of M.A.G.-engined machines regarding the position concerning spare parts. Quite a large number of Motosacoche, Matchless, Sunbeam, J.H., and O.K. motor cycles, Morgan cycle cars and A.C. four-cylinder light cars exist, and owners will be interested to know that the M.A.G. Engine Co. are now in a position to undertake repairs, and supply spare parts. Pro-bably it would be desirable to send engines only for repair, but we understand the complete machine may be sent if so desired,

The company is also making a speciality of converting 23 h.p. Enfield machines with new 3½ h.p. M.A.G. engines, which prove very successful. The trame, which prove very successful. In traine, it has been found, is quite suitable for the extra power, and even for light sidecar work. The same magneto, carburetter, gear and chains are used. Owners of these Enfields may find it owhers of these Emieurs may mid it a better investment to have the 3½ h.p. engine fitted than to have the old 2½ h.p. engines rebuilt. The address of the M.A.G. Co. is Harrow Road, Willesden Junction, N.W.

THE A.A. ROADSIDE MOTOR FUEL SUPPLY STATION.

Benzole, Water, and Compressed Air Road-side Service Inaugurated by the A.A.

A^N up-to-date motor spirit bulk storage station has been installed by the A.A. at Aldermaston, on the Bath Road. This is the first of its kind, following American lines, which has been erected in Great Britain, and is the first of a series to be erected by the A.A. throughout the country.

The A.A. does not make any profit on the spirit sold, but allows their local agent to use the installation for selling his own spirit. The installation also includes a telephone, a delivery pump, and the New Pelapone engine and electric generating set, delivering "free air" through an air compressor, so that

members' tyres may be blown up while the tank is being filled. Water is also laid on for filling radiators.

At the present it is only proposed to

run a day service with an A.A. road patrol in charge, but if the service

proves successful, as is anticipated, day and night service will be run, the moment only benzole conforming to the A.A. standard is supplied. The ser-vice, of course, is available to members





British and American Ideas of Motor Cycle Suspension.

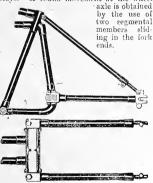
PROBABLY every motor cyclist who has a mechanical mind has, at some time, attempted to solve the problem of motor cycle springing. It seems so easy when one first thinks of it, and to commit an idea to paper takes but a minute. Every month we receive many designs of inventions relating to spring

Two leaf springs, levers, and links are embodied in the invention of Mr. H. T. Towner, of Eastbourne.

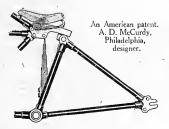
frames, but only the very small minority reveal any promise, while some of the most obvious methods of obtaining a sprung frame form the basis of large numbers of ideas from readers who appear to be surprised that such simple means have not been thought of before.

On this page we illustrate a selection of the designs of a more practical nature. Two are very similar; that of Mr. Buckley, employing two coil springs for suspension with two additional springs for recoil, is very reminiscent of the American Pope design. Mr. Bennett's design is practically the same idea, but in a more elementary form, as the axle movement is vertical, and in consequence the tension of the chain or belt would be inconstant.

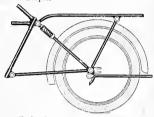
The device patented by the Auto Improvement Co., of Dudley, is intended to convert rigid frames into spring frames, and employs a single laminated spring of the cantilever type, supported by a bracket fixed to the upper rear stays. A radial movement at the wheel



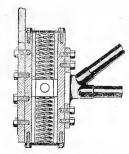
H. Markham (Redditch) favours a laminated spring placed transversely at the pivoting point of the frame.



Mr. Towner's idea perhaps embodies too many links; while the McCurdy American patent and Tebbutt's design are capable of development. Markham's patent employs a laminated spring in a new way, the spring being placed transversely at the pivoting point of the frame. Mr. Moss's idea is perhaps the most simple.



Enclosed springs of the volute type are suggested by Mr. G. K. Moss, of Beckenham.



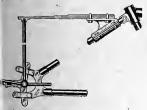
An idea from India. Mr. J. W. Bennett, of Nasik, B.P., suggests a similar arrangement to Mr. Buckley's.



W. Tebbutt (Coventry) uses both a laminated and a coil spring. The latter is enclosed in a cylinder.



Buckley's invention is reminiscent of the American Pope, embodying coil springs above and below the axle, which slide in guides.



A patented attachment by the Auto Improvement Co., 63, Tower Street, Dudley.



Gimes to Light Lamps.

GREENWICH TIME.

Már.		 	6.36	p.m.
,,	20th	 	6.40	٠,,
,,	22nd	 • • • •	6.44	79
22	24th	 • • •	6.48	,,

"Neat Riders."

The motto of a certain American motor cycle club is "Neat Riders." British clubs also would help the movement by encouraging their members to wear neat riding attire.

Given Away.

Pearson's Weekly is offering a 5½ h.p. Rudge-Multi as a prize in a new competition. P. W. readers are invited to make a sentence, the words commencing with the letters J-O-Y-R-I-D-E. The competition closes on the 30th.

Police Active.

At Catford the police are very strict on rear lamps and noisy machines. Every fine morning a trap is worked between George Lane and Lewisham Public Library.

Forest Hill: Motor cyclists are stopped for fast driving and dirty number plates. Anerley: A trap is worked on Sunday attennoons in Croydon Road, between "The Robin Hood" and Selby Road.

We are warned that two police traps are working in the Birmingham district every week-end. One is situated on the Warwick Road, between Olton and Solihull, the other on the Stratford Road just outside Henley-in-Arden. Heavy fines are imposed for exceeding the speed limit.

A Unique Competition.

With the laudable idea of encouraging considerate driving and courtesy on the road, the Southend-on-Sea and District Automobile Club recently organised a unique surprise run, which will no doubt appeal to other clubs. Observers were stationed along the route, in order to note any incorrect or inconsiderate driving; to demand the production of certain articles, such as driver's licence, which every motorist should carry; and to ask questions, the answer to which should be known by every road user. A number of marks were credited at the commencement of the run, and a pre-determined number were debited for any transgression, such as cornering too fast or wrongly, failing to blow horn, or to help any stranded motorist. This form of event could be greatly enlarged upon, and should prove of considerable interest and instructional value.

The Production of Benzole.

With the object of compelling the South Metropolitan Gas Co. to produce "the largest possible amount of benzole or other motor spirit by the gasification of coal," a petition has been presented to the House of Lords against the Bill which the company is promoting for the purpose of altering the existing method of charges to consumers.

The petitioners comprise the Automobile Association and Motor Union, the Auto Cycle Union, the Commercial Motor Users' Association (Incorporated), the Cycle and Motor Cycle Manufacturers and Traders Union, Ltd., the Royal Automobile Club, and the Society of Motor Manufacturers and Traders, Ltd.

It is submitted that gas undertakings can produce much larger quantities of benzole and other by-products, and that in the national interests of the conservation of coal and the maintenance of key industries they should be required by law to do so.

It is estimated that over 30,000,000 gallons of motor fuel could be produced from the existing gasworks of the country if "scrubbing" were universally adopted in the manufacture of gas. This home supply would be of material assistance.

Special Features.

PROS AND CONS OF ENGINE DESIGN.
HI_L-CLIMBING IN F. ANCE.
A NEW CARBURETTER.

The Institution of Automobile Engineers.

The London Graduates of the Institution of Automobile Engineers will pay a visit to the National Physical Laboratory, Teddington, on Saturday afternoon, March 20th. They will eatch the 2.3 p.m. train from Waterloo to Teddington and will meet outside the Laboratory at 2.45 p.m.

Arbuthnot Trophy Trial.

This sporting event, open to officers and midshipmen on the Active List of the R.N., R.N.R., and R.N.V.R., will take place on July 7th and 8th in the Home Counties, finishing on Brooklands track. It is expected that now leave is more easily obtained a large and representative entry will be received for this event. Preliminary regulations, together with entry forms, may be obtained on application being made to the secretary of the Auto Cycle Union, 83, Pall Mall, London, S.W.1.



SKI-ING BEHIND A MOTOR CYCLE.
A speed event at the annual mid-winter carnival at Saranac Lake, New York.

Spring Number.

Next week's issue will be greatly enlarged, and will contain, in addition to an illustrated Buyers' Guide, many special articles of a seasonable character.

A War Record.

We are pleased to hear that Mr. Harold Karslake, that familiar figure in the big trials of the past, is now demobilised, leaving the Army with a war record dating from August 11th, 1914. It is a full one, and one of which he may be proud. Enlisting in August, 1914, he served in France (Bailleul) until the end of 1915. He then became an instructor in the School of Technical Training at Rending and Hatton, being promoted to be the chained sergeant-major. In March, 1917, he was mentioned in despatches. He says his first big trial this year will be for the "Jarrott" cup at Easter.

The Colmore Cup Team Prize Won by

At a committee meeting of the Sutton Coldfield A.C., held last Friday, it was decided to award the team prize in the recent Colmore Cup Trial to the Ariel team. We congratulate the makers of this well-known machine, which, incidentally, has been consistently successful as team prize-winners. In one year an Ariel team won the team prizes in the English Six Days, the Scottish Six Days, and the Irish End to End, but in these cases the single-cylinder machines usually made the scores. This, we think, is the first time a team of three twin Ariels has secured a team prize honour. The riders were L. Newey, J. L. Stocks, and F. J. Watson.

A "Knock-out" Hill-climb.

Messrs. Travers, of Newcastle, have placed at the disposal of the Newcastle and District M.C. a gold cup for competition annually, to be retained if won wice in succession, or three times in all. In addition, there will be a gold watch value 550) as first prize, and gold medals or other prizes. The event will take blace in July, and will be open to club nembers only. By becoming a member, uny rider may compete, and it is hoped o attract many well-known riders. There will be classes for 250, 350, 500, 560, 750, and 1,000 c.c., and also an unlimited lass. The event will be run on the knock-out." principle. An interesting bethod of handicapping has been devised, further details will be published later.



A T.T. ENTRANT.

H. R. Harveyson, one of the entrants in the forthcoming T.T., who is riding an Indian Scout.



The A.C.U. and A.A. Co-operating.

The A.C.U. is actively co-operating with the A.A. in obtaining signatures to the latter organisation's petrol price petition to the Prime Minister.

Scottish Open Hill-climb.

The Glasgow Western M.C.C. will hold an open hill climb on May 15th in connection with which a special prize will be offered for the best-performance on formula made by a team nominated by a Scottish club. Each team will consist of three riders—one each in 350 c.c. and 600 c.c. solo classes, and one in the "unlimited" sidecar class.

Westmorland M.C.C. Open Hill-climb.

On Easter Monday an open hill-climb will be run under the auspices of the above club. The hill selected is Orton Scar, about thirteen miles from Kendal. The nearest railway station is Tebay (L. and N.W.R.), four miles from the Scar. Several well-known clubs have notified their intention of competing, and the event will undoubtedly prove most interesting and enjoyable. Fifteen classes will be run, including a class for scooters.

D.R.'s at the Richmond Meet.

The meeting of Northern despatch raders which it was suggested should be held at Morecambe on Easter Monday, under the auspices of the A.C.U., will take place instead on Good Friday, in

Have you Signed the A.A. Petrol Petition?

Remember p.trol prices affect others than motor cyclists therefore ~GET YOUR FRIENDS TO SIGN ALSO.

Every Signature counts!

conjunction with the annual meet of Northern clubs at Richmond.

Messrs. Torkington and Loughborough will be present, and, with the Mayor of Richmond, will speak in the Town Hall. Lt.-Col. Pierce, R.N.R. (A.C.U.), will also be present.

Tourist Trophy Races.

In addition to the entries already received, the A.C.U. has been notified by Messrs. Butterfields, Ltd., that F. W. Applebee, R. O. Clark, and G. R. Kuhn will ride Levis machines in the Junior

Triumph Developments.

An important trade announcement made last week refers-to the Triumph and Hillman Companies. A preliminary agreement has been entered into between the directors of the Triumph Cycle Co., Ltd., and the Hillman Motor Car Co., Ltd., whereby the former will purchase the assets of the latter as from April 1st, 1920. The merging of the interests of these two companies implies a considerable extension of business on the part of the well-known motor cycle company, and developments will be watched with interest.



Mr Harold Karslake, now demobilised from the R.A.F.

The Petrol Prices Protest-Date Extended.

It was at first arranged that all signed petition forms should be returned by March 17th, but, in accordance with the desire of many supporters of the petition, it has been decided to extend the closing date to the 24th inst.

Second-hand Prices.

As was predicted in our issue of the 4th inst., the high prices asked for second-hand machines are still maintained. A noticeable leature is the number of old models which are now for disposal, owing to the owners taking delivery of their new models, which are just commencing to come through in appreciable quantities. It will be interesting to note the time which will elapse before these deliveries have an effect on the second-hand market.

have an effect on the second-hand market.						
Highest and Lowest.						
A.J.S., 1911, 6 h.p., sidecar						
., 1916 and later						
Aricl, 6-7 h.p., sidecar						
Bradbury, 4 h.p., single-speed, solo £30-£50						
4 h.p., sidecar						
B.S.A. 41 h.p., 3-speed, sidecar [90-£165]						
Calthorne-Jap, 27 h.p., 2-speed £10-£58						
Clyno, 2-stroke, 2-speed						
" 5-6 h.p., 3-speed, sidccar £90-£130						
Douglas, 23 h.p., W.D						
4 h.p., 3-spred, sidecar						
ror6 ah a turin a-speed fs2-f75						
6 h.p., sidecar						
Harley-Davidson, 3-speed, sidecar £100-£195						
Humber. 31 h.p., 2-speed, sidecar £70-£100						
,, 31 h.p. flat twin, sidecar £99-£160						
Indian, 1914, 7-9 h.p., 2-speed, sidecar £75-£85 1916, 7-9 h.p., 3-speed, sidecar £125-£159						
James, 2-stroke, 2-speed						
11 h p gidoong [52=[125]						
Leves of hin single-speed						
2t h.p., 2-speed						
Matchless, M.A.G. and Victory models, sc. £120-£185						
New Hudson, 21 h.p., 2-stroke						
" 1014, 3½ h.p., 3-speed hub, and sidecar						
New Imperial, 21 h.p., 2-speed						
8 h.p., sidecar £135-£155						
Norton 21 hp TT						
P. and M. 1919, 31 h.p., sidecar £110-£140						
Rover, 1918-19, 31 h.p., T.T £75-£100						
", 1914, 32 h.p., 3-speed hub, and sc. £65-£115						
", 1918-19, 3½ h.p., 3-speed, c/shait, and sidecar f97-£138						
Rudge-Multi 21 h.n						
5-6 h.p., and sidecar £130						
Scott, solo, 1919						
sidecar						
-1 h - aideans for=(175						
" Sh n cidocar						
Triumph, 3½ h.p., single-speed						
21 h.p. 3-speed bub £50-£03						
h n . 2-speed countershall, solo t/2-5110						
2! n.p., 2-stroke						
6 h p countershaft sidecar \$175						
, o ii.p. condictishart, statear re-						



PINIONS differ as to the practicability of using mercury in conjunction with copper or aluminium as an aid to air-cooling, but from the several references to the subject which have appeared in print, it seems to the writer that no one has yet regarded the question from a sufficiently broad and comprehensive viewpoint.

In the first place, the mechanical requirements demand a film of some liquid substance of high thermal conductivity and sufficient thickness to be able to adjust itself to the differences caused by the varying expansion of the cylinder wall and radiator jacket, and that this liquid must be capable of withstanding the full temperature of a hot engine without injury either to itself or to the materials with which it is in contact:

The condition of high thermal conductivity makes the liquid metal mercury almost the only substance that can be employed; but, unfortunately, amongst metals, it is a comparatively poor conductor of hear, and does not nearly equal cast iron, while chemically it is quite unsuited for the purpose suggested. I refer only to conductivity because the thinness of the layer of mercury would preclude convection currents from conveying any great portion of the total heat transmitted on account of the large surface exposed for a given quantity of mercury.

To consider first the case of mercury and copper from a chemical standpoint, it is well known that an amalgam of copper and mercury is used in dentistry as a filling for teeth, but it is not so well known that this amalgam is formed when copper and mercury are simply heated together. This amalgam is solid when cold, and is brittle. Furthermore, it does not adhere to cast iron, consequently it will not be always in contact with the iron, and thus the heat conductivity will be very much deteriorated, especially as the amalgam is a much worse thermal conductor than mercury itself.

Disintegration of Copper by Mercury.

But the worst point in the whole business lies in the fact that, even supposing that the copper jacket is thick enough not to be eaten into holes by the mercury, the latter will gradually work its way between the crystals composing the copper, weakening it, and rendering it too brittle to be capable of withstanding the severe temperature conditions and vibration met with in internal combustion engines.

The case of aluminium is more complex on account of the curious behaviour of aluminium itself.

Electro-chemically aluminium stands very close to such metals as calcium or manganese, in the respect

that it is more electro-positive than hydrogen, and would, therefore, be rapidly attacked by water and atmospheric moisture were it not for the very fortunate fact that it becomes coated superficially with a very thin, and practically transparent, film of oxide, which forms a complete protection. (The working of the Nodon electrolytic valve depends on this film.)

In the presence of mercury, however, this film is no longer sufficiently complete to protect the metal, and it is consequently very rapidly attacked. A piece of aluminium, superficially amalgamated, is, in fact, so rapidly attacked by moisture that, if placed in contact with a wet rag, it will become so hot, owing to the reaction, that the rag will commence steaming.

Properties of the Aluminium Amalgam.

This amalgam of aluminium and mercury can be formed simply by bringing mercury and aluminium into contact, and would be formed in the jacket; and, although it may be argued that the mercury is in a confined space, it must not be forgotten that the reaction between moisture and the amalgam is of a very vigorous character, and that it would, therefore, be impossible to prevent it from slowly occurring unless the jacket could be hermetically sealed, which I do not think is commercially feasible. Moreover, the mercury would, especially at higher temperatures, permeate through the aluminium just as it would through copper under such conditions; and, once any succeeded in reaching the surface of the aluminium, the destruction of the cylinder would merely be a matter of hours.

To sum it up, although I would not go so far as to regard the employment of mercury as an impossibility, yet I think that the practical difficulties in the way of its employment are out of all proportion to very small gain in cooling efficiency.

Since water-jackets in aero engines have been made of copper, electrolytically deposited on cast iron cylinders, why, therefore, could not a cast iron cylinder be taken, a fairly thick deposit of copper made on it, then flanges of copper shrunk on over the copper layer, and the electro deposition continued until the flanges and the copper layer were made quite solid?

It seems to me that the idea is feasible, and would provide an effective means of mounting copper flanges on to a cast iron cylinder without fear of separation occurring. (It is important to remember that a slight space between the cast iron and the outer jacket would behave, to a certain extent, like the vacuum space of a Dewar flask, and so effectively retard the discharge of heat from the cylinder walls.) H.W.R.

Paperchase in Warwickshire Lanes.

Coventry and Warwickshire Motor Club's Opening Event attracts over Sixty Members.



At the Coventry club's paperchase last Saturday. In spite of the inclement weather, there was a good attendance.

ANY motor cyclist desiring to become thoroughly acquainted with War-wickshire by-lanes is recommended to wicksmre by-fanes is recommended to in this club and follow a paper trail pre-terably laid by Mr. Sam Wright. There were sixty or seventy members at the start of the opening run and speed-judging competition from Whitley Common, near Coventry, and away went the "hare" on car, laying a trail over a sinuons course, irst this way, then that, and afterwards loubling back upon itself. When nearly wenty miles had been covered, the comsettlors (who were endeavouring to verage the speed they had drawn) were unt eight miles from Coventry. The end ame between Leamington and Warwick, witer thirty miles of rain-sodden roads, which added to the difficulties of the ourse, as the once white paper was more lifficult to detect. In one village the isual wags picked up a handful of The Motor Cycle clippings, which formed the rail, and carefully distributed it up a lind lane. The result was that everyody religiously followed the wrong scent, nd there was much reversing and mixed

mirth. The winners were announced at the Crown Hotel, Warwick, as follows: Motor Bicycles.—Rev. J. E. Philpott (21 Clyno).

Sidecars .- A. R. Grindlay (7 Harley-Davidson and Grindlay sidecar), 2 mins. slow.

Cars.-G. Smith (15.9 Humber).



Competitors ready to follow the trail. The reflections on the road convey an idea of the state of the weather when the timekeeper started the riders.

COMPETITIONS IN ITALY.

Targa Florio Event Postponed. Road Races a Feature of 1920 Programmes of Italian Clubs.

THE Italian T.T., the Targa Florio, has been postponed until September. It is hoped by Italian motor cyclists nat this date will be convenient for their ritish confreres to participate. Should ay decide to do so, our Italian correcondent informs us that they will be sure a cordial reception.

Below we give a list of the principal vents which will be held in Italy this

pril 11th.—Monterecchia Hill-climb. Sport Club Milano. pril 25th.—Circuit de Brescia (road race). U.S. G. Ravelli, ay 16th.—Circuit de Cremona (road race). U.S. Cremouse.

ay 23rd.-Grand Prix of Italy (road race). La Torino.

'May 30th.—Circuit "Tre Regioni" Reliability Trial for Italian machines, S.C. Milano, June 13th.—Circuit de Orbassano (road race), La Torino,

June 20th.—Circuit Valle Ticino (road race).

Moto Club Lombardo.

July 1th.—Consume Hill-climb. Moto Club
Florence.

July 25th.—Circuit of Lake Garda (road race).

Pro Garda.

Agust 8th.—Roma-Antwerp Long Distance Trial,
in conjunction with Olympic games. Moto
Club Rome.

Club Rome.
Angust 15th.—Turin-St. Nernard Pass (road race).
U.S. Torinese.
August 22nd.—Trophy of the Two Lakes. Moto
Club Lombardo.
September 1st.—Suse-Mont Cenis Hill-climb. La
Torino.
September 5th.—Italian Championship.

Sept. 25-28th.—Milan-Naples Long Distance Trial.

October 3rd.—Speed Trial for the Kilometře
Record. M.C. Lombardo.

Amongst the road races, the most important are the Circuit de Cremona, Circuit de Orbassano, Circuit de Brescia, and Valle Ticino; the hill-climbs, Susaand Valle Tiemo; the hill-climbs, Susa-Mont Cenis and Consuma. An interesting event promises to be the Trophy of the Two Lakes, which takes place on the mountains between Lakes Como and Lugano, well known to so many British tourists. The course is a most difficult one, the roads being either up and down the mountains or alongside the lakes, and is of a very tortnous nature. It is hoped that British riders will support the Targa Florio, as, apart from the interest of the event itself, the scenery met with is alone worth the trouble and expenditure.

BATH - LAND'S END AND BACK.

West of England Club's Second Twenty-four Hours Trial.

THE Bath and West of England Motor Club's enthusiasm for long distance runs continues in evidence. Their first "24 hours" of this year, which some weeks ago knocked out all the competitors, did not daunt the spirit of this live club, and on Friday-Saturday last another run to the same objective-Land's End-produced a much more satisfactory result.

The weather was still unkind, stiff head winds and frequent rainstorms, whilst the roads did not show much improvement over the previous venture.

The first of 22 starters out of 25 entrants left Bath at 8 p.m. on Friday, the 12th, this being E. Colmore, 24 h.p. Levis. The other competitors included C. B. Newman, the club secretary, and E. Kick-

ham, the well-known Bristol agent.'
The sidecar outfits were three "Big The sidecar outlins were times and 4" Nortons, two 3½ h.p. Sunbeams, and one each Indian, Harley-Davidson, and 3½ h.p. Douglas; in addition, there were two adventurous members who essayed the trip on 23 h.p. Douglases, with side-cars attached. It was reported that one of these reached Land's End in safety. The solo mounts were two 21 h.p.

Levises, and one each Alecto, N.U.T., Sun Villiers, B.S.A., 24 h.p. Douglas, and Pearson and Sopwith. The only light car was the 10 h.p. Eric Campbell, which made splendid running through-

E. G. Fery, who put up the best performance in the previous long distauce trial of this club, and who scored so well on his 4 h.p. Douglas and side-car in the Paris-Nice Trial, did not com-pete, his machine having been damaged in the return from France; but he acted as timekeeper, checking in those competitors who were fortunate enough to finish at Bath on Saturday evening.

Survivors.

Eight riders reached Land's End, four or five being "all square" with the time sheet; these were one of the Nortons, a Sunbeam, 3½ h.p. Douglas, Indian, Harley-Davidson, Levis, and the light car. Four of these finished the trip in good order. E. Kickham with the 3½ h.p. Sunbeam and Dinky sidecar was the first to arrive, followed in a few minutes by Victor Smith on the Norton; both these were correctly on time. E. Colmer on

the Levis ran in at about the same time, being a few minutes behind his schedule, but otherwise he had made an excellent run. The Eric Campbell car came shortly after with a perfect score. One or two were expected later, but too late to qualify for medals.

V. Smith and E. Kickham both qualify for the silver cup presented by Mr. G. H. R. Large. The winner will be found from a secret check taken near Exeter on the

return journey.
Both these riders had faultless journeys, and their mounts seemed in first-class order—a really fine performance over 415 miles of bad roads in adverse weather. The Norton was seen departing after the finish with four up. The outward journey was not so hard; rain at intervals through was not so hard; rain at intervals through the night, but when near Redruth, appro-priately enough in the neighbourhood of Hayle, hall was met, and with unusual violence, continued off and on, during the stay at "the End." The crossing of Dartmoor on the return journey was made in thick snow, and heavy rain followed the competitors most of the way to the finish, where an enthusiastic crowd awaited them.

N.M.C.F.U. (SHEFFIELD).

Sheffield and Rotherham Branches of the National Motor Cyclists' Fuel Union Discuss Taxation.

A GENERAL meeting of the Sheffield and Rotherham Branches of the National Motor Cyclists' Fuel Union was held in Sheffield on Saturday last, the 13th inst. The chair was taken last, the 15th inst. The chair was taken at the opening of the proceedings by Mr. John Austin (Swift-Levick works), local chairman, and subsequently by Mr. A. W. Torkington (London), national chairman, in the absence of Mr. Douglas Vickers, M.P., local president.

Mr. W. Wright (Vickers works), local secretary, submitted the Union's annual reports as departed.

report, as adopted on February 28th, and

The president of the Union, Mr. E. S. Shrapnell-Smith, C.B.E., then gave

an address on "Motor Roads, Taxation, and Fuels." He was of opinion that motor cyclists must bear their share of taxation, seeing that roads must be maintained and paid for. The cost of roads would be double pre-war outlay for the same standard. He was satisfied that the N.M.C.F.U. did not desire to escape: they sought only fair play. But fair play for motor cyclists involved three things: (a) recognition of their low average income; (b) regard for relative smallness, alike in power, weight, and size, of their machines; (c) admission by the Government that matters of public health, housing, and food supply are all helped by the use of motor cycles.

.After a full discussion, introduced by After a full discussion, introduced by the national secretary, Mr. D. J. Thornton (Wolverhampton), the bulk of the meeting was in favour of the following annual taxes to replace all existing licensing and fuel taxes: £1 on solo bicycles below 200 lb. weight; £2 ditto above 200 lb. weight; £3 on sidecar outfits and three wheelers outfits and three-wheelers.

Mr. Shrapnell-Smith undertook to lay these views before the Government Com-mittee on Taxation.

The local secretary will be pleased to enrol new members who write to him at 48. Hinde Street, Firth Park, Sheffield, and it is hoped that all local motor cyclists will avail themselves of the opportunity.

THE M.C.C. OPENING RUN.

A Hundred and Fifty-five Members Journey to Brighton.

RECORD number of members sat down A RECORD number of members sat own to dinner on the evening of Saturday last at the Old Ship Hotel, Brighton, whither it has long been the custom of the M.C.C. to hold its opening run, no fewer than 155 being present. All journeyed to Brighton independently, and by six o'clock the majority had arrived. Most of the journey was accomplished in fine weather, but those who started late dinner was followed by a short speech by the Col. Charles Jarrott, O.B.E., who proposed the health of the club, and referred to its sporting members. He was glad to see such a fine attendance, and said that he thought if all this year's competitions were supported so well as the opening run, 1920 would be a bumper year. He congratulated Mr. W. H. Wells on the arrangements for the organisation of the dinner.

Mr. R. Head (chairman), in reply, also made mention of the excellent attendance. and especially congratulated those who had turned up on motor bicycles. The Jarrott cup this year would be something to be earned, the entries were already a record, and it was anticipated there would be about 200. Other events this year would he the Edinburgh run, the team trials for The Motor Cycle challenge cup, and a race meeting at Brooklands.

The president then presented the medals won in the Exeter run, and thereafter followed an excellent musical entertainment, at the conclusion of which were two or three speeches not on the

Mr. R. D. F. Paul proposed the health of the president, who, in reply, contrasted the number of those present with the attendance in 1902—the occasion of the club's first opening run, when, as Mr.

Candler, the only member present who took part in it had told him, only eight or nine members had arrived, and even then only after a continual struggle against adverse circumstances.

Mr. Jarrott then said a few words about the question of petrol prices and taxation. The authorities, he remarked, were anxious enough to ask motorists to come and help them when the country was in difficulties, but now they seemed to infer that motorists were jolly lucky to be allowed to use the roads at all.

Mr. Wells, who organised the dinner so successfully, thanked those present for turning up in such large numbers, and made a few remarks about the club's competitions. He hoped the M.C.C. would get back The Motor Cycle challenge cup this year in the team prize.

The journey back to town was made independently in breezy and cold weather.

CLUB NEWS.



Peebles M.C. and L.C.C.

Peebles is a natural centre for reliability trials of the most strenuous kind. The club is renewing its activities, and is being accorded hearty support by both old ind new members.

Kidderminster M.C.C.

For Saturday next a surprise reliability rial has been arranged, starting from the Lion Hotel at 2.15 p.m. prompt. All nembers are particularly requested to tive their support to this opening event, he entry fee for which is 1s.

North London M.C.C.
Commander Pearce, of the A.C.U., ave an informal lecture at headquarters ecently, during which he outlined the istory and policy of that body. Mrs. T. Staley, of Finchley, has kindly resented a challenge cup. The memership total continues to grow, and wo lady solo riders have enrolled. ne honorary secretary, at 2, Victoria venue, Finchley, N.3.

Surbiton and District M.C.C. Dr. A. M. Low, D.Sc., presided at the pening social concert held recently, and ade important announcements regarding ee club competitions. Five cups, a ced trophy, challenge shield, captain's ize, and various medals will be put for competition this year. Over one indred members took part in the open-run held last Sunday. The captain r. F. Barnes) took the lead, followed solo machines in pairs, sidecars, and, ally, cars. A number of 1920 models re seen, and attracted much attention. e next run is arranged for April 18th, d takes the form of a picnic run to

Coventry and Warwickshire M.C.

Oventry and Warwickshire M.C.

In Friday last the A.G.M. was held
"The Towers," Mr. G. E. Roberts
siding over a good attendance of
mbers. The club's finances show a
stantial balance. Mr. E. Manville,
P., was re-elected president, and
ssrs, A. Wright and Geoffrey Smith,
J.E., were added to the list of vicesidents. Mr. J. F. Spencer is the club
tain for 1920. Mr. V. A. Holroyd
posed the appointment of the Rev. J.
Philpott as the club chaplain.

North Derbyshire M.C.C.

The annual general meeting was held recently at headquarters. The present membership total is about one hundred, with every prospect of a considerable increase. The subscription is fixed at 10s., with an entrance fee of 2s. 6d. Ladies with an entrance fee of 28. of. Ladies are specially invited to join at a fee of 2s. 6d. It is proposed to hold two hill-climbs, two speed trials, and two reliability trials during the year. The opening run to Lincoln will be held on Good Friday.

Carmarthen M.C. and C.C.C.

In conjunction with the Swansea, Neath, and Ystalyfera Clubs, a hill-climb will take place on April 2nd. The event is open to all members of the above clubs, and four events will be run for the following classes: motor cycles up to 300 c.c.; motor cycles up to 400 c.c.; and sidecar motor cycles up to 307 c.c.; and succear outfits and three-wheelers of any power. Entries, together with the entry fee of 2s. 6d., must reach Mr. J. J. Jenkins, Nelson Hotel, Carmarthen, not later than the 31st.

Public Schools M.C.C.

At the recent annual general meeting, it was decided to allow schoolhoys to join the club at a subscription of 10s. 6d., without entrance fee, and to add to the without entrance ree, and to all the list of public schools Blundells, East-bourne, Cooper's Hill, Oundle, and Cranleigh. The following officers were elected: President, Colonel F. Lindsay Lloyd, C.M.G.; hon. treasurer, Mr. C. D. Wright; hon. sec., Mr. H. B. Browning; and a committee of nine, with Mr. E. M. P. Boileau as chairman. The opening run is from the Bear Hotel, Esher, on Saturday next, at 2.30 p.m.

Norwich and District M.C.

A new motoring club, with title as above, has recently been formed, and is receiving excellent support. Mr. W. G. Barnes and Mr. P. V. Howes, organisers of the club, were elected captain and honorary secretary respectively, Mr. G. J. Paul and Mr. W. Howes vice-presidents, and Mr. S. Way honorary treasurer. It is proposed to hold the opening run on Good Friday, or, if the weather is unfavourable, on Easter Monday. Membership amplications should Monday. Membership applications should be sent to the honorary secretary, 35, Prince of Wales Road, Norwich.

opening run last week. Cross Keys and District M.C.C.

Cross Keys and District M.C.C.
On Sunday next the opening run will take place, starting from headquarters, Cross Keys Hotel, at 2.30 p.m. sharp. All actual and prospective members are requested to attend. The latter can obtain all information from the secretary, Mr. A. Dunn, Gladstone Street, Cross

Plymouth and District M.C. and L.C.C.

There was an excellent attendance on the occasion of the first outdoor meet, held on the 7th inst. at the Rock, Yelverton. A speed-judging competition was arranged for the members of the public who were present; this event proved to all the difficulty of accurately judging speeds. A reliability trial to Penzauce and back will take place on Good Friday. The hon. sec. is Mr. L. B. Jackson, Langham House, Plymstock, S. Devon.

N.M.C.F.U. (Barrow-in-Furness).

A membership total of over 200 has now been reached, and there is every indication of a successful year. The open-ing run has been fixed for April 2nd, the destination being to Dungeon Ghyll, via Coniston and Skelwith, returning through Ambleside and Bowness. The year's programme is now decided, including several races to be held on Bardsea Sands, when tides permit.

Newcastle and District M.C.

A club room has been rented at the Grand Hotel for every Friday evening, and an inaugural supper will take place to-morrow, commencing at 7 p.m. A team trial, starting from the Herd's House, North Terrace, at 10.30 a.m., has also been arranged for Easter Monday. It is hoped that the club will show up well in the N.E.A.A.'s competition at Richmond on Good Friday. A novel event is described elsewhere.

Loughborough and District M.C.C.

The opening run was held on the 14th inst., and, although the weather proved unfavourable, was much enjoyed by all. The students of the Technical College one students of the Technical College have decided to form a club, and affiliate to the Loughborough Club. The next run, to Leamington, will be held on the 28th inst., starting from the Bull's Head at 10.30 a.m. The honorary secretary, Mr. K. S. Topping, 64, Frederick Street, Loughborough, will give any particulars.

Club News .--

Lincolnshire M.C.C.

The hill-climb on Easter Monday will be held at Scamblesby, instead of Thonock, owing to the latter being in a loose condition. Members please note.

Sutton Coldfield and North Birmingham A.C.

It is hoped that all members will attend the annual dinner which will be held on the 16th prox., at the Royal Hotel, Sutton Coldfield. The speeches will be short and an interesting musical programme has been arranged. Further particulars will be given at a later date.

Southend-on-Sea and District A.C.

An opening surprise run was held on the 6th inst., and was much appreciated by all competitors. The general idea of the competition was to set observers at various points along the route in order to note any incorrect or inconsiderate driving on the part of competitors. The winners were, in order of merit, Messrs, L. Taylor, Martin, and Alliott.

Cumberland County M.C.C.

On the 4th inst., the annual general meeting was held, when the following officers were appointed : Captain, Mr. I Gibson; vice-president, Mr. J. J. A. Dias; secretary, Mr. M. R. Mawson; and treasurer, Mr. W. B. Anderson. July 7th is the date allocated by the A.C.U. for the open event, which will take the form of a one-day reliability trial in the Lake District.

Bournemouth and District M.C.C.

At a well-attended meeting, held on March 2nd, it was unanimously decided to reorganise the above club. Up to the commencement of the war the club had carried on successfully, but it was explained that its activities were necessarily contributed that its activities were necessarily contributed that its activities were necessarily contributed the successful of the contributed the cont sarily curtailed through the majority of its members answering the common call, thus rendering it desirable at this period to make a new start. A suitable committee was chosen, most of whom are entirely new members, and a comprehensive programme for the comprehensive programme for the coming season is to be drawn up. The opening run will be shortly announced. The new club is already strong numerically, but intending members, of either sex, should communicate with the hon. sec., the Rev. Sargent, c/o Mr. O. Goodman, 50, Grosvenor Gardens, Boscombe.

Birmingham M.C.C.

On Saturday, April 3rd, the annual Easter Reliability Trial for the Sangster Cup will be held from Birmingham to Barmouth. The trial finishes at the latter town, in order to give competitors the opportunity of spending a few days at the seaside. A sporting course has been selected, and every machine, irrespective of its capacity, will be eligible for the premier award (the Sangster Cup) or a gold or silver medal. A special prize, value £5 5s., will be awarded for the best performance of a lightweight under 275 c.c., and a special gold medal for the hest performance by an amateur. Any motor cyclist may participate by becoming a member of the club before the 26th. All particulars may be obtained from the hon, sec., Mr. W. H. Egginton, 76, Earlsbury Gardens, Birchfelds, Birmingham.

MOTOR (YCLE

Future Club Events.

Auture Club Events.

Mar. 18.—Dorehester M.C. and L.C.C. Opening
Mar. Manet Bournemouth.
Meting. Meting. Meting. M.C.C. General
Mar. 20.—Swanderland and District M.C. Hill-climb.
Mar. 20.—Public Schools M.C. Opening Rus.
Mar. 20.—Woodwich, Plumstead, and District M.C.
Home Counties (Open) Hill-climb, organisedMar. 21.—Monet Sets of District M.C.C. Opening
Rus.
Mar. 21.—Manchester M.C. Insuiation Reliability
Trial
Mar. 11.—Middless M.C.C. Opening Rus.
Mar. 21.—Middless M.C.C. Opening Rus.
Mar. 21.—Middless M.C.C. Opening Rus.
Mar. 21.—Stabbridge and District M.C. Social.
Mar. 21.—Stabbridge and District M.C. Social.
Mar. 21.—Rochester, Chalham, and District M.C.
Shott Rus.
Mar. 32.—Bedjord and District M.C. and L.C.C.
Mar. 23.—Bedjord and District M.C. and L.C.C.

Short Run.

2. Shoft Run.

3. Shoft Run.

4. Shoft Run.

5. Shoft Run.

5. Shoft Run.

5. Shoft Run.

6. Shoft

Apr. 2.—ticoston une Apr. Apr. Reliability M.C. and L.C.C. Social Run Apr. 2.—Stalybridge and District M.C. Week-end Social under M.C. Reliability Trial for

Social.

Apr. 3.—Birmingham M.C.C. Reliability Trial for Sangster Cup.

Apr. 3.—Swinton and District M.C.C. Opening Apr. 3.—Swinton and District M.C. and L.C.C.
Apr. 3.—Bedford and District M.C. and L.C.C.

Run.
Apr. 3-Beddord and District M.C. Run to
Run.
Apr. 3-Edinburgh and District M.C. Run to
Westworland Hill-climb.
Apr. 4-District M.C.C. Run to
Backwell.
Apr. 4-Redford and District M.C. and L.C.C.
Run.

Apr. Belgrett.

Apr. S-Edford and District M.C. Social Run.

Apr. S-Clikley M.C. and L.C.C. Social Run.

Apr. S-Bedford and District M.C. and L.C.C.

Chamkhana, Apr. S-Scarborough M. and M.C.C. Staxton UM
Climbhana, Apr. S. Shahhaved (Launceston) and District M.C.

Non-stop Run.

Middlesex M.C.C.

The opening run will be held on Sunday next, to the Swan Hotel, Bedford. Members will leave the headquarters, the Red bers will leave the headquarters, the Ked Lion Hotel, Barnet, at'ten o'clock punctu-ally. All motor cyclists interested are invited to attend. The secretary is Mr. S. A. McCarthy, Essex Lodge, 2, Nightin-gale Road, Lower Clapton, London, N.

Hull M.C.C.

A general meeting of this new club, attended by a representative gathering attended by a representative gathering of motorists, was held recently, with Mr. R. P. Garbutt, late captain of the Northallerton M.C.C., in the chair. It was decided that the subscription be fixed at 10s. 6d., and that the club be open to all motorists using motor cycles, light cars, and runabouts. The following officials were elected: Captain, Mr. A. E. Tuton; vice-captain, Mr. R. Thacker; hon. sec., Mr. T. H. Straker; assistant sec., Mr. R. Fearnley; hon. treasurer, Mr. Griffin; trials hon. sec., Mr. B. Hodgson; chairman, Mr. R. P. Mr. B. Hodgson; chairman, Mr. R. P. Garbutt; and a committee of ten. Headquarters have been arranged at Powolny's Restaurant. Intending memhers may obtain all particulars from the hon. sec., 12, Percy Street, Hull.

N.M.C.F.U. (Rotherham).

The monthly meeting was held on th 27th ult., when several new member were enrolled. The secretary was electe delegate for the general meeting in Bir mingham, and the opening run arrange for the 28th inst. The next meeting wi be held on the 26th. Members are requested to fill in the Petrol Petitio Forms, and forward them to the hot sec., Mr. H. C. Bullows, 34, Frederic Street, Rotherham, at the earliest possible research. sible moment.

Sunderland and District M.C.

A hill-climb, for motor cycles an passenger machines up to 1,000 c.c., wi be held at Tunstall Hope on Saturday commencing at 3 p.m. Prizes will b awarded for the following: least varia tion in time of two ascents, fastest tim of all entrants, slowest complete non-sto (motor cycles, with or without sidecar) (motor cycles, with or without sidecar, fastest passenger whicle with at leas one passenger, and for the oldest machin attempting the ascent. The inclusive entrance fee is 2s. 6d., payable up to 2.30 p.m. on the day of the event Application for entries should be mad to Mr. J. A. Broadway, 34, Azale Terrace North, Sunderland.

PALMER TROPHY TRIAL IN SCOTLAND.

WENTY-FOUR competitors-less that half the starters—completed the course with a clean sheet in the course with a clean sheet in the Clasgow Western Club's reliability tria for the Palmer trophy. This, of course is a tribute to the reliability of the drivers but it is probable that a number of the twenty-four would have been less success ful if it had been possible for the cluto retain the originally determined route Unfortunately, Hell's Glen, a difficul proposition at any time, had to be cu out on account of a landslide.

out on account of a landslide.

It has been decided to run an eliminal ing trial on Monday, April 5th, the Glasgow spring holiday, in order to five a winner of the trophy. The trial with twelve hours' reliability trial for the A.J.S. trophy. The course will probable be about 180 miles in length, and eventuaries. stiffer conditions than in the recent triwill be imposed.

We understand that the secret chec could not be used to determine the winne owing to the change of route.

The "clean sheet" competitors in the

recent trial were:

nt trial were:

D. S. Alexander (3½', N.U.T.),

Bell 6 (3 Jansen sc.),

F. N. Wbite (6 A.J.S. sc.),

F. N. Wbite (6 A.J.S. sc.),

J. Beck (3½, Sunbeam sc.),

J. Beck (3½, Sunbeam sc.),

J. Beck (3½, Sunbeam sc.),

J. Reck (3½, Sunbeam sc.),

H. M. Batten (2½, Verns Blackunne),

J. S. Alexander (6 A.J.S. sc.),

A.M. Culloch (3½, James),

A.M. McGulloch (3½, James),

J. A. L. Wilson (3½, James),

R. C. Speuce (4 Harley-Davidson sc.),

R. C. Speuce (4 Harley-Davidson),

R. C. Speuce (4 Harley-Davidson),

R. Macras (7-9 Harley-Davidson),

J. A. C. Sangsier (7-9 Harley-Davidson sp.),

J. A. C. Sangsier (7-9 Harley-Davidson sp.),

Steled (3½, Douglas),

J. Steled (3½, Douglas),

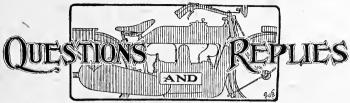
J. Steled (3½, Douglas),

J. Steled (3½, Douglas),

J. Steled (3½, B.S.A.),

J. S. Lixterwood (6 A.J.S. sc.),

H. Macdonald (6 A.J.S. sc.),



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," so, Tudor Street, London, E.G.;, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of carelope, and should be kept distinct from questions bearing on technical subjects.

Repairing an Accumulator.

I have a lighting accumulator from which the acid leaks slightly at one corner. Will you please tell me if there is any substance which could be stuck on the outsice to prevent this ?-G.H.

Ve should recommend you to paint the ige with the liquid (amyl acetate) hich would be found in the accumulator pair outfits obtainable from most acces ry dealers.

Maximum Road Speed.

Can you give me a formula by which the maximum speed of a machine can be obtained, knowing length of stroke, gear ratio used, size of wheels, etc. As a matter of fact, I wish to try and settle an argument, viz., a claim that 68 m.p.h. had been obtained out of an 85 x 88 mm. 1915-single solo, geared at 53 to 1 on top, ridden on a road, and not on a track. Do you think such a speed could be obtained from a machine of this horse-power and date, provided the engine, etc., were in fairly good condition?—P.W.A.

suitable formula can be arrived at, ce even duplicate engines from the same rks may show considerable variation in sed. It is possible that a speed of 68 p.h. might be obtained, since single-inder engines of smaller capacity have seeded 70 m.p.h.

Crank Case Compression.

I have been having a good deal of trouble with the bearings of my 2½ h.p. two-stroke, Although I have only had the machine a few months, I have lready worn out two sets of bushes. his is due—I have since discovered under-oiling on my part, and no lame rests with the makers. How-ver, my painful experiences have hown me the great weakness of ie two-stroke machine. It is so solutely dependent on accurately ting bearings for compression. Once e bearings start to wear, compression immediately lost. An engineer iend of mine suggested the intro-iction of what he terms a "stuffing which consists of a space let to the bush, and filled with tightly cked, well oiled, asbestos. I should obliged if you would give your inion upon this.—R.S.R. stuffing box is really not necessary the main bearings of two-stroke nes, and the trouble should not

c if you pay careful attention to the cation system. Crank case compression, also, is not so vital a point as you appear to imagine, as we have personally known several small two-stroke engines which would run almost equally well with the crank case drain tap either open or closed.

IMPORTANT DATES.

Sat., March 20th-A.C.U. Annual General Meeting.

Midnight, April 2nd-3rd-M C C. Lond n - Land's End Trial. Fri., April 2nd— Inter-club Meet at Richmond, Yorks. Mon., April 5th-B.M C.R.C. Meeting at Frooklands. Fri., May 21st-M.C.C. London Edinburgh Run. Sun., May 30th— Motocycle Club de France Grand Prix Race Tues., June 15th— Junior T.T. Race, Isle of Man. Thurs., June 17th-Senior T.T. Race, Is'e of Man. Mon., July 5th, to Sat., July 10th-Scottish Six Days Trial. Wed, and Thurs., July 7th and 8th-Arbuthnet Trophy Trial. We-l. July 7th—
Union Motocyclist de France et Automo-hile Club de l'Ouest, Grand Prix Raie for Motor Cycles and Cycle Cars. Mon., July 12th, and Tues, July 13th-Irish End-to end Trial, Sun., July 25th, to Aug. 1st -International Six Days Trial in France. Sun., Aur. Ist. to Wed., Aug. 4th-Mon., Aug 23rd, to Sat., Aug. 28th-A.C.U. Six Days Trial,

Carburetter Troubles,

Please tell me the cause of the following trouble with my 35 h.p. single-cylinder machine, which has been running well until the last month or so: (1.) The engine misfires at slow speeds, but runs well if I keep the extra air nearly wide open. The sparking plug is quite clean, and the magneto in good order. (2.) Very high petrol consumption. Is the jet too large? (3.) A curious whistling noise in the vicinity of the carburetter at certain speeds .-- A.F.K. (1 and 2.) In the ordinary way, misfiring at slow speeds would be caused by worn at slow special work as worn air slide in the carburetter, or air leaks at the carburetter or induction pipe unions, but in this particular case the jet is probably

too large, which would account for the high petrol consumption. (3.) This is nothing, merely the noise of the air entering the carburetter, and has no

effect on the running.

Pre-ignition.

(1.) Please tell me why my 2³ h.p. twin will suddenly slow up and stop when ascending steep hills. This has occurred steep hills. frequently when the machine has been coming up very easily on bottom gear. I might add that it will immediately start off again. There is no dit or blockage in the carburetter or inducor blockage in the carbifecter of induc-tion pipe. (2.) Also, please tell me whether a slipping sensation which occurs is in the gear box or caused by the belt, which is on the loose side.

-J.H.N. (1.) The trouble is no doubt due to preignition, caused by the use of an unsuitable plug, the electrode of which becomes red hot. (2.) The slip will be in the helt.

Retarded Ignition,

I recently bought a singlecylinder four-stroke lightweight motor cycle, and I have had much trouble with its starting. I have been overhauling it, and have retimed the engine, thus: Ex-

haust valve begins to open about $\frac{3}{16}$ from the bottom of exhaust stroke and shuts top dead centre, and, as the two valves are operated from the same cam, the inlet valve is naturally correct. The spark is timed top dead centre of firing stroke. The magneto has no advance or retard. The spark tis rather weak, but the current, by touching the terminal, is almost unbearable, and when I lift the exhaust lever, and push the machine on the road with the other hand on the saddle, I get a shock in my hand. The Amac carburetter is fitted with a No. 28 jet. Can you tell me why it is that the petrol I inject in the inlet valve does not fire, and whether the engine is timed correctly or not? I do not get any sort of firing from it .-T.D.J.

The valve timing of your engine is cor-The valve timing of your engine is correct. The ignition timing, however, is too late. With a fixed ignition magnete on an engine of this size the spark should occur 8 mm. before the piston reaches the top of the compression stroke. Your remarks concerning to stroke. Your remarks concerning a shock through the frame of the machine are rather vague—certainly, if you experience this, the high-tension lead from the magneto is short-circuited, and we the magneto is short-circuited, and we should suggest that you fit a new wire. The 28 jet is a large size for this engine. Probably, the magneto requires overhauling, or, maybe, a new sparking plug would solve your difficulty.

Most Suitable Gear Ratio.

ş

Would you be good enough to inform me as to the correct gear ratios for a 1919 4½ h.p. single-cylinder three-speed sidecar machine?—A.R.D.

The most suitable top gear ratio for such a machine with sidecar is 5 to 1. In very hilly country it might be an advantage to lower the top gear to 5½ to 1, but under ordinary circumstances this should not be necessary.

Improving Consumption.

I ride a 1919 6 h.p. A.J.S. and sidecar, top gear approximately (according to makers' specification) 4.9 to 1. I can only obtain about 50 m.p.g. Amac carburetter, jet 26. Timing exactly as when delivery of machine was taken in July of 1919. I always use Grade 1 petrol. The machine runs exceedingly quietly and very consistently, is a splendid hill-climber, and quite easy to handle in traffic. My only concern is the petrol consumption. Can you suggest anything which might be done to improve this, as I have met other A.J.S. riders who claim to be doing 60 and 65 m.p.g.?

—A.W.P.

50 m.p.g. is quite a normal consumption for a 6 h.p. machine with a sidecar. You might effect an improvement by slightly advancing the ignition and also by lowering the collar on the float chamber needle until there is barely 16 in. play left between the latter and the float. This will prevent unnecessary flooding.

Ownership of Stolen Machine.

Recently I purchased a second-hand machine which cost £80. After having it about one month it was confiscated by the police, who said it was stolen, and had passed about six hands before reaching me. The person from whom I bought it purchased it from a-garage. Is it a fact that in the case of a stolen cycle passing through a garage a legitimate buyer becomes entitled by law to the machine and the garage is responsible? The police say, at my last interview with them, that they have discovered the thief, but they also think he has gone abroad. Can I do anything at once for the recovery of the machine or the money? I might mention the cycle was insured by the original owner, and his claim was paid on the loss of the machine. Does this complicate matters?

The goods having been stolen, the property therein remains in the original owner, and no one of the subsequent purchasers could possess any better title to it than you have, which, of course, is none at all. Consequently the original owner is the only party entitled to the motor cycle. Under these circumstances you have the right to recover the amount you paid for the motor cycle from the person from whom you bought it, and that person could sue the garage proprietor, and so on. The question of the original owner effecting an insurance does not alter the position in any way, except that the insurance company would be entitled to reclaim the amount they paid to the original owner less the value of any damage done to the machine.

MOTOR CICLE

READER'S REPLY. Generator Troubles.

Referring to the trouble of "D.J.B." mentioned in your issue of February 12th, I should like to give the following tip. Being long troubled with the continual going out of my rear lamp, I tried removing the felt pad in the generator and stuffing the space it had occupied, fairly tightly, with ordinary cotton wool. The result was excellent, and I have had no trouble since. I change the cotton wool every now and then, as it becomes sodden with moisture. This entails a little extra work, but I find it worth the time spent, as both head and rear lights are much steadier, due, I suppose, to the extra pressure required to force the gas through the packed wool.—AJ 425.

EXPERIENCES WANTED.

"T.J.B.P." (Bournemouth).—Two-stroke machines of 350 c.c. or greater capacity (with sidecar).

(with sidecar).

"F.D." (Kingston). — Binks carburetter on 2½ h.p. single-geared two-stroke.

stroke.

"T.M.C." (Coventry). — Details of adjustments to improve consumption of 2³/₂ h.p. Douglas.

RECOMMENDED ROUTES.

London to Birmingham.—J.D. London, Barnet, St. Albans, Dunstable, Fenny Stratford, Stony Stratford, Towcester, Daventry, Coventry, Meriden, Birmingham.

BIRMINGHAM TO SWANSEA.—J.D.
Birmingham, Bromsgrove, Droitwich,
Worcester, Malvern, Ledbury, Ross, Monmouth, Usk. Newport, Cardiff, Cowbridge,
Bridgend, Swansea.

FENNY STRATFORD TO BIRKENHEAD.-L.R.H.

Fenny Stratford, Stony Stratford, Towcester, Weedon, Daventry, Kilsby, via Watling Street to Atherstone, Fazeley, Weeford, Lichfield, Rugeley, Stone, Eccleshall, Market Drayton, Whitchurch, Malpas, Chester, Birkenhead.



Bradbury Prices Up.

Prices of Bradbury motor cycle have lately been increased as follows 23 h.p., £93 10s.; 4 h.p., £117 17s. 6d. 6 h.p., £140 17s. 6d.; and 6 h.p., wit sidecar, £177 12s. 6d.

A Popular Appointment.

We understand that Mr. B. Alan Hill the well-known competition rider, hataken up an appointment with the Palme Tyre, Ltd., and will specialise in the notor cycle side of the business.

A Change of Name.

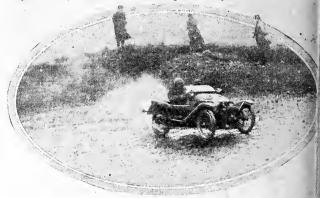
Mr. Harold Hayman has retired frot the Viaduct Motor Co., in favour c Mr. W. H. Layland, A.M.C.T., and i consequence the machine made by th firm will in future be known as th Ayres-Layland, instead of the Ayres Hayman.

"How Your Magneto Works."

A compact little folder has been issue by the M-L Magneto Syndicate, Ltd Victoria Works, Coventry, illustrate by a section of the magneto and the figures showing the lines of magnetore. The folder should certainly luseful in helping those to understand magneto who have never before studie the principle.

Dearer Oil.

Messrs. Vacuum Oil Co., Ltd., advius that the price list of Gargoyle Mobiolis, dated January 15th last, is no cancelled. The new prices came in effect on February 5th, with increase as iollows: Gargoyle Mobiloil Bar Gargoyle Mobiloil BB, 9d. per gallo, 5d. per half gallon, and 3d. per quar Gargoyle Mobiloil A, 6d. per gallon, 4per half gallon, ad 2d. per quart; oth grades same price as Mobiloil A.



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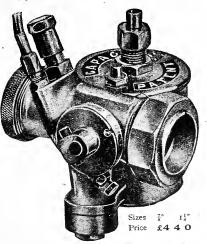
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Ariel.

RIEL 1919!/ 31/h.p. Combination, perfect condition, any trial, all accessories; £120, or highest c.—Graves, Bilherry Tea Rooms, Rednal, Birming-IX6857

Kiel, 1916-17 5-6h.p. C.B. Combination, 5 speeds, K.S., Bosch mag, mechanically perfect, Lucus string, Stewart horn, lugace krid, handle-bar muffs, apron and spares; offers over £112.—15, Norman, Luton. (7687)

, hattoe.

O.C.II. have a 1919 Ariel Combination, 3½h.p., 3-apeed, clutch, K.S., fully equipped, excellent ere—Fair (fler Car House, 5, Heath St., Hampad (m. Hampstead Tube Sixtion), 'Phone: Hampad (m. Hampstead Tube Sixtion), 'Phone: Hampad 3752. Hours 9-7, including Saturdays. [83]

RIEL 6-7h.p. Combination, electric lighting, disc wheels, hood, serieu, and luxgano grid, original sa and belt good condition, late 1919 model, exactly 1920, would cost £190 to-lay, just been decarbonised makers for first time; price £155; Coventry district oz 266, cdv The Motor Cycte. [X5195

A.S.L.

A.S.L.

November, 1913. single, new belt and rear tyre, 1 condition: £42.—Woodcock, 22, Smithfield Rd., &teb Dayton.

Auto-Wheels.

7ALL Auto-Wheel, excellent condition; best offer,
—J, Priory Rd., Kew Green. [7916 []]

UTO-WHEEL, good order, fast, just overhauled; £12.—Rudd, Beddgelert, Wales. [X6730] UTO-WHEEL, good condition, new tyre and tube-29/9.—Rouse, Wellington St., Kettering. [4475]

250-A. Auto-wheel, model de luxe, complete; any reasonable offer.—19, Streatley Rd, Kilhurn.

18295

170-WHEEL and 3-speed Cycle, in good running order; £20.—105a, High St., Waodsworth, 18.

18733

TO-WHEEL, B.S.A. de Luxe, very little used, mileage under 200; £14.—Sims, Longfield, Kent, Fawkham Statioa.

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75, Diggoo St., Stepney Green, E.1. [2196]
19 Auto-wheel de Luxe, B.S.A., shock absorber, perfect running order; owner just get delivery store cycle; 18 gos.—Blue-house, Pitsea, Essex. [7831]
170-WHEELS, Medele de Luxe, cash 225, 07 25, denoit and 57/6 mouthly—M.Y. Piept, The goditan Mochinists Co., Ltd., 248, Bishopgard. [6828]

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TS for early delivery, apply, Bedford Garage. Walsall. 'Phone: 270. VUCHOPE'S, 9, Shoe Lane, London.—Bat 6h.p., abow spring frame, from stock for immediate de-

P. 1920, early deliveries.—Place orders with Clapham (Motors), King George St., Greenwich, [5095]

7-8h.p. Bat Combination, 2-speed countershaft, coachbuilt; £70, or offers.—Dyer, Strand x, Douglas, I.O.M.

3-14 4h.p. T.T. Black and Gold Bat-Jap, discs, spring frame, mage in tank, perfect; £46.—
a, Darley Abbey, Derby. 76, Døriey Ancey, Deroy.

1 1920 (Feb. 17th) 6h.p. Model 4, ridden 175
ciles, semi-T.T. bors, lamps, horn, tools; £150,
fler; bought Morgan.—Hunt, Villo, Eye, Suffolk.

(7776

Bat-Jap Conchbuilt Combination, 3-speed counterbuft, clatch, kick-start, all accessories, outfit nearly £140.—436, Whitehorse Rd., Thornton Heath, [2238]

J.A.P. 8h.p., 3 speeds, clutch, C.B. sidecar, 5 mps, horn, Cowey speedometer, enamel, plating, ducal condition perfect; £120. — Randall, 38, Rd., Barnes.

Bat-Jap 8h.p. 90×77/4 Twin, racing model, single gear, stored 4 years, Cowey speedometer, horn, etc., 2 spare outer covers, 1 rube, also adjustable pulley, enamelled grey; £85_Box (7789)

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6 hn. Bradhary Combination, 1914, 3-speed gear box, kick start, clutch, Bosch, B. and B., overhauled at makers August, spare chains and tyres, lamps, and born; £100.—H. McQuillam, 29, Leachfield St., Hallishell, Bolton

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19²⁰ Blackburne Combination, 4h.p., release 500, Lucas lamps, speedometer, Eusting wind screen, letter than new; £168.—Charnley, 597, Lord St., South-nort. [8319

Bown.

BOWN-VILLIERS, new 1920, 2½h.p., 2-sreed, kick starter and clutch, in stock.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X6868

LATE 1919 Bown-Villiers, 2-speed, electric lighting, mechanical horn, leg shields, tools, spares; £57.—Elliott, Tynewydd, Trefriw, N. Wales. (D) [8341

Brough.

BROUGH, T.T., Model H. 2-speed; £65.—Particu-lars, Parbury, Cecil Rd., Northampton. [X6751 1916. 31/h.p. Brough, 3-speed, K.S., h.e., lamps, new tyre, perfect condition; £90.—Levy, 2, Mary St., Snaderland.

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BROWN, single, accumulator, variable pulley, good running order, suit beginner.—Letters first (what offers), H. Fletcher, 20, Bowes Rd., Strood, Kent. [7809

B.S.A.
4.1h.p. B.S.A., chain and belt drive, and sidecar.-J. [X688] Sq., Spactor B.S.A. 31/2h.p. T.T., 1914, perfect, very fast; £45.—
Wyntt, New Barracks, Gosport. [7932]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. C31

MOTOR CYCLES - FOR SALE. B.S.A.

B.S.A.—The Walsall Garage, Walsall. Booking orders for all models; rotation deliveries. [7216

B.S.A. 1920 Combination, as new; £165—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., S.W.S. 1912 3½h.p. B.S.A., 2-speed gear, complete with ac-cessories; price 258.—Barnett, Barnett and Co., 1970

B.S.A., late model, countershaft 3-speed, in new condition: £75.-64a; Highbury Giove, Highbury Barn,

N.5.

1920 B.S.A. Combination, done inside 300 miles; what offers?—Huttons, The Motor House, Swin-[X6732] NS

Brixton, E85, no offers.—26, Barriagton Rd., Brixton, [8473]

S.W.9. S.W.9.

RAND new 1920 B.S.A. T.T. model; £95. Sungary day morning.—53, Cooke St., Old Trafford, Man-

chester.

19 14 B.S.A. 41/4h.p. 3-speed Countershaft, in beautiful condition; £85,—Huttons, The Motor House, Swindon. [X6730]

B.StA. 3½h.p., kick start, lamps, horn, tools, good condition; 48 gns.—Bill, 54, Dundonuld Rd Wimbledon.

10 17 B.S.A., 4½h.p., chain-belt, 3 speeds, per Order, stored 14 months; £95_102, Park [X6]

WAUCHOPE'S, 9, Shoe Lane London_4½h.p., 1
£127/10.

B.S.A. nited with 1800 tee horoughly overhauled, excellent condition; £75.—Smith, 57, Exmouth St., W.C.1.

B.S.A. 4h.p., with new coachbuilt sidecar, thoroughly overhanled; £110.—40, Replingham Rd., Southfields, S.W.18.

B.S.A. 4u,p., according to the fields, S.W.18.

B.S.A. 4½h,p., 3 speeds, kick start, chain drive, lamps; 285. — 107, Sugden Rd., Clapham Commen, S.W.11.

R.S.A. Combination, Model K., 1918, low mileoge, according to the field of the field

10¹⁷ 4½h.p. B.S.A. (K. type) Combination, condition perfect; price £130, or near offer.—Phillott, 49, Brick St., Piccadilly. [8673

BRAND New B.S.A. 41/h.p., Model K, and B.S.A. sidecar, unregistered; £145.—Fernside, Western Rd., East Finchley, N. [8624

19 17 B.S.A., 4½h.p., and coach sidecar, and trade-man's interchangeable box carrier; £115.— Central Garage, Southport. [X6854]

1 9 16 41/h.p. B.S.Á. 3-speed Countersbaft, belt, kick-starter, coachwilt sidecar, accessories; £100.— Moss-Blundell. Huntingdon. [X6701

B.S.A. Model H, just delivered, bulbous back sidecar, lamps, horn, screen; accept list price.—Write, Box 2,339, c/o The Motor Cycle.

B.S.A. 44(h.p., 1917, Model K, with sidecar; £110. Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80.

1915 B.S.A. 4¼h.p., 3-speed, clutch, kick start, lamps, horn, etc., in good condition; £68.—Westeliffe, Regent's Park Rd., Southampton.

Negent's Park Rd., Southampton. [3667]

1918 B.S.A. 44(h.p., Combination, 3-speed countershalt, and the state of the state

4 1h.p. B.S.A., 3-speed, K.S. clutch, renovated as new, perfect, 1916 machine; 287/10.—Banister and Botten, 541, Upper St., N.1 (opposite Agricultural Hull), [7982]

19 15 B.A. Combination, fully equipped, splendid condition; for 3 or 4-wheeled cycle car; cash adjustment if necessary,—19, London Rd, Strarraer, B.A. Combination, Model H., inst delivered also A.B.O. to be delivered this month, Will seed of the promium offered.—Centes, Glan, Conwolled Control of the Convey Charles of the Convey

10 15 4h.p. B.S.A. T.T. 3-speed Countershaft, Lucas, Klaxon, Dunlors, perfect condition: offers; offer, 7.—Nawton, Ventuor Cottage, Fortis Green, E. Finchis, Proceedings of the Control o



We have now the finest selection of first-class Solo Machines and Combinations in London for immediate delivery. If you require a firstclass Combination it will pay you to give us a call.

Combinations.

1920 A.J.S. Combination, spare wheel, lamps. 120 MATCHLESS Combination, dynamo 1920 MA

1920 MATCHLESS Combination, standard H model, fitted with lamps, bood, and windscreen

1919 6 h.p. A.J.S. Combination, Henderson Elite Sidecar, Lucas dynamo lighting set,

1919 6 h.p. ROYAL ENFIELD Combination, Lucas dynamo lighting set, bood, wind-screen, almost new. 1919 (December) HARLEY Combination, Henderson Elite Sidecar, dynamo lighting,

as new.
1917 A.J.S. Combination, A.J.S. Sidecar,
spare wheel, lamps, horn, exceptionally

spare wheel, tamps, norm, exceptionary good condition.

1920 B.S.A. Combination, No. 2 Sidecar.

1919 4 h.p. DOUGLAS Combination, disc wheels, lamps, speedometer.

1919 6 h.p. ARIEL Combination, disc wheels,

electric and acetylene lamps.

1919 4 h.p. TRIUMPH Combination, latest change speed lever, indistinguishable from new.

nom new. 17 3 h.p. T.T. NORTON, countershaft model, Norton Sidecar, lamps, excellent condition.

rgi7 3½ h.p. ROVER *Combination; Rover r Sidecar, Lucas dynamo lighting set, exceptionally good coadition.

Solo Machines.

1919 (November) 3½ b.p. SUNBEAM, fitted with lamps and speedometer, as new. 1920 4 h.p. BLACKBURNE, just delivered,

unwrapped.
1920 I.O.M. RUDGE-MULTI.
1920 I.O.M. countershaft model.
1920 T.T., TRIUMPH.

We are London Agents for the Castle Three-wheeler. Orders booked in strict rotation.

Also London Agents for the Henderson Elite Sidecar. All models in stock.

Also London Agents for the famous Deliveries com-Dinkey Sidecar. Deliveries com-mence now. Enquiries invited.

MOTOR CYCLES FOR SALE.

B.S.A. 3½h.p. 1912 Combination, belt-drive, ford sidecar, Cap carburetter, Bosch m speeds, pedal start; £68.—Maudes', 100, Gt. Po

B.S.A. 1913 Combination, 344h.p., 2-spect clutch, all chain, Millford sidecar, new to braper, Lichfield:

Draper, Lichfield:

B.S.A., 1914, 3-speed, kick start, chaiu-cnm-be-enamelled throughout, Palmer tyres, mechasonnd; a genuine bargaia, £70.-Gordon Cox, tree, Essex. Tel.: 92.

10 15 B.S.A. Combination, Model K, in the good 'order, recently overhauled; £100, after 6 p.m.—Brazier, 31, R.F.C. Flats, Lynchlor Farnborough, Hants.

B.S.A., 1916, Canoelet sidecar, new tyres, wind spares, mileage under 5,000, guaranteed my cally, perfect; first £105; no dealers.—Jeavons, Lane, Old Hill, Staffs.

19 15 B.S.A., 3-speed, K.S., all-chain drive, ov and re-enamelling just completed, Miller lamp; 80 gns.; call week-ends only.—Davey, Trego Mawney Rd., Romford.

B.S.A. 1916 44(h.p., 3-speed, just returned from been re-enamelled, replated, overhauled, sessories, perfect condition; £80.—Minshall, King Englefield Green, Surrey.

B.S.A., 1917, 3-speed, lamps, speedometer, an field sidecar, £125; also 1916 combination, -both outfits in good order,—Stone, Station G Bradlord-on-Avon, Wilts.

B.S.A., 1919 (July), Model K., 4½h.p., and (let Minor sidecar, little used, with tools, valves, wind screen, etc.; £115.-469, Kingston Wimbledon, S.W.19. After 6.

B.S.A. Specialists.—All replacements in stock: sidecars, screens, boods, and grids in stock County Cycle and Motor Co., Broad St., Birmin T.A.: Comocyco, Birmingham.

B.S.A. 4½hp., 1915, not been used more the months, chain-driven, 3-speed gear, kick si head lamp and horn, in first-cless condition; price—Box 2,388, c/o The Motor Cycle.

B.S.A. 3/h.p., 1913, has just been overhaule enamelled and plated, T.T. handle-bers, lamps, etc., long exhaust, very fast end sporty: 4 Write, Dowell, High Rd., Byfleet, Surrey.

4 b.p. B.S.A., 2 speeds and free, Bosch mag, spray, 3 lamps, speedometer, Empress si wind screen, hood, perfect condition; lowest, s Horne, Confectioner, Hampton, Middlesex.

19 20 B.S.A. All-chain Combination, sidecar I Cowey speedometer, Klaxon, P.H. and Lucas ing sets. heavily, insured to Jan., 1921, mileage offers.—Box 2,317, c/o The Motor Cycle. B.S.A. 31/h.p., Armstrong 3-speed, 1913, C.B. car, 4-point, Bosch, B. and B., lamps, horn recorder, new spare tyre, offer tyres nearly new condition; best offer to \$75.—17, Nicholas St.,

1917 B.S.A. 41/h.p., chain-cum-belt, and coachbuilt sidecar, 2 lamps, and horn, or cal condition perfect, small mileage, carefully ready to ride away; £115.—Morgan, Mount Edg Red Hill, Surrey.

Red Into Source a 1915 B.S.A. 41/h.p. Model B F.O.C.H. have a 1915 B.S.A. 41/h.p. Model B Honse, 5, Heath St., Hampstead Grar Hampstead Station). 'Phone: Hampstead 3752. Hours 9-cluding Saturdays.

The property of the property o

B.S.A. 1914 3/k.p., Bosch, N.S.U. 2-speed, lamps, speedometer, excellent tiding order tith.p. Clement Gerard, Bosch, Brown and good belt and tyres, wants timing; £9.—W. Ms Hooley, Coulsdon.

B.S.A. Coachbuilt Combination, 4h.p., late K.S., chain-cum-helt drive, complete lighting to completely overhauled; nearest offer to 5 Sunday mornings 10-1 or appointment eveni Old Park Av., Balham, S.W.

1919 E.S.A. Combination, chain-cum-belt, kick start, hand and toot controlled cinte P. and H. lamp set, Klaxon, new extra heavy back, others as new; perfect condition; 130 gns berry, Safron Rd., Biggleswede.

berry, Sairon Rd., Biggieswaue. 19 20 B.S.A. Combination, 4½h.p., all chai works few days, scarcely used, as new, view pointment; £170.—Trent, Winn Lodge, Win Lee. Phone: Lee Green 1234.

Lee. Phone: Lee Green 1254.

T. Asavton, Ventace Cottage, Fortis Green, E. Finchley. B.S.A. Ted, long exbaust, dises, 2 gallon tank,
fully equipped, engine perfect, fast, powerful; 256
can disee by appointment.—Cooke, Teanple Grover, 17716
B.S.A., red, long exbaust, dises, 2 gallon tank,
fully equipped, engine perfect, fast, powerful; 256
can disee by appointment.—Cooke, Teanple Grover, 17716
B.S.A., 1919, Millord coachbuilt eidecar, excellent
B.S.A., 1919, Millord coachbuilt eid

Calcott.

19 15 23 Jh.p. Calcott, fixed gear, excellent condition: 232-10.—King, Exruve Farm, Oxtord. (X6606 CALCOTT 2!\(\xapprox\), p., 1915, free ensign, complete with lamp, born, etc.; price £55; ready to ride away, Percy Smith, Whitefriars Press, Coventy. (X6772

Percy Smith, Whitefruirs Press, Coventry, LASTIZ CALCOTT, 2½h.p., Bosch, B. and B., Drnid forks, been thoroughly overhanded, in perfect running rder, last and reliable 35 gms.—Isaac Richards khosymedre, Ruabon.

ALE, Calcut 21, Lp., recently everhanked at cost State 21, Lp., recently everhanked at cost seek early new, perfect running order, complete lamps, ord, 240; see a appointment; 12 bore double gun, leaning, tools, cartriages, perfect; 10 gps. Harvey, laston Musor, Willehall, Statis.

Calthorpe.

19 15 Calthorpo-Jap, 23 h.p., Enfield 2-speed, splendid condition; £45.—Bowen Jones, Corwen. [7672 NAINTHORPE-J.A.P. 2'4h.p. 2-speed, clutch, 1916 new belt and tyres; £43.—E.G.W., 81, Lichfield ld., Stafford. [7694

Id., Mantord. and there are a state of the condition of the condition, original tyres; £55.—A. S. Miller, Condition, original tyres; £55.—A. S. Miller, Condition, original tyres; £55.—A. S. Miller, Condition, W. T. S. Miller, Condition, W. T. S. Miller, Condition, W. T. S. Miller, Condition, Cond

916 Calthorne 25th.p., 2-speed, good running order and condition, new tyre on back wheel, lamps, rn; £40.—Norman, 94, East St., Bridport. [X6639]

1. Failner's Green, NAJS.

AMTHORPEJAP, 2%h.p., 2 speeds, a really light
go anywhere machine, exceptionally economical
run, 140 m.p.g., in new condition; £45; sen runga after six, or week-eods.—Hollinghurst, 74, Burnt
h Rd. Lee, SE12.

Cedos.

IEDOS.—The finest 2-stroke ever produced; ladies of gentlemen's; order now for spring delivery.—J tks and Co, Lancashire's leading motor cycle alers. Liverpool and Manchester. [6576]

Centaur.

1h.p. Centaur, good order, overhauled; bargain, £18 2 —Daniels, 78, Chesterfield Rd., North Wingfield, rbyshire. [793f

Chater-Fainir.

HATER-FAFNIR, 2 speeds, free, new C.A.V. lamps, harn, tyres good, ride away; £25.—37, Learning-Rd. Villas, W.2.

Chater-Lea.

HATER-LEA Enquiries Invited by J. Blake and Co., leading motor cycle experts, Liverpool and chester. [6577

nehester.

HATER-LEA 8-10h.p. C.B. Outfit, overhauled arms repainted nicely; £100,—Payne, Derby Arms tlake. [X6637]

Figured Breely: 2400-1-3 ac, Leto X. Acast Marker LLA 2-ctokes kobede dev. (X.663-2 240-1). Premier. 253.—Endrick, 95, He's Marker LLA St. (X.684-1). Cacabbuilt Combination, 2 speeds, chain drive, just corehauled, O.K., acces 12105, or near offer.—32, Hambledon Rd., South S. W.16.

5, SAULE, AND 7 Combination, 8h.p., 3-speed countershaft, extra large conclubult sideour, hood, m, fully equipped, clinub anything; 88 gss.; all T.-154, Verdant Laue, Catford, S.E. [7961] C.H. hare a 1914 Chater-Lea Sh.p. Combination, 3-speed, clutch, handle start, fully equipped, ex-dependent of the Car House, 5, Heath St., Betaed inr. Hampstead Tribe Station. Phone: Hours 9-7, including Saturdays. [8508]

Chater-Lea-Jap.

ATER-J.A.P., 3½h.p., lomps, Lorn, pump, etc., effect numing order; what offers — E. White; Shidmann of the control of the cont

Chater-Jap, incomplete, engine, Irame, Druids, wheels, tyres, tars, controls; for quick sale, Smalley, Mill Lane, Yateley, Hants. [8616]

Smaley, Mil Lane, Jateley, Hants, [50.0]
p. Chater-Leavlagn, a.i.v., battery ignition, new Dunlons, £14; New Imperial-Jap tank, £1.—
p. 5, Haddon Rd., Didock Berks, [6245]
TER-LEAJ_AP. 8hp. Combination, 5-speed, set and powerful, Empire de Luxe sidecar, serven; £120.—Adams, 101, High Rd., East

7 Chater Combination, J. A.P. engine, better than ew, all accessories, only wants seeing, acctylene extric lighting, ready to ride away; £140, lar-Edwards, 5, Goswell Rd., E.C.I. [6478]

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MOTOR CYCLES FOR SALE. Chater-Leo-Jap

Sh.p. No. 7 Chater-Lea-Jap Combination, hood, screen, disse, electric light, etc., 1914, stored 27 cm server, and the server light, etc., 1914, stored 27 cm electric light, etc., 1914, etc., 1914

Chater-Rex.

CHATER-REX 5-56.p., good appearance, powerful, C.A.V. Dunlops, one new, Scuspray, Grado pulley, inspection; trial by appointment; £35,-142, Leathwaite Rd., S.W.II. [8559

Chater-Lea-Minerva.

Chater-Lea-Minerva.
CHATER-LEA 34(hp., Minerva engine, perfect, vey
Smart, worth 545; offers; stamp.—Miss L. Holland, Eastry, Kent.
HolLand, Eastry, Kent.
Links, 2-speed and clutch, lange, horn, and
spares, in perfect condition, just been overhauled; 27,0
or exchance, 7-9-D, 2-speed clutch Indian or combination, no mbbish.—Shaw, 121, Ecclesul Rd., Sherffield.
(X6807)

Clarendon.

CLARENDON Motor Cycle, 2%4.p., C.A.V. mag., ride away; £25.—Peckham, 4, Reece Mews, South Kensington, London, S.W.7.

FOR Sale, 25th.p. Clyde-Jup, going order; £20, or near offer.-O. A. M. Freake, Halford Manor, Shipston-on-Stour. Clyno,

CLYNO 8h.p.'s and 2-strokes.—A. J. Young and Co., Ltd., Newmarket. [0118

C Ltd., Newmarket.
CLXNO 2-stroke, brand new, in stock; list price £70.
EBrook Bros., Burnham, Som.
(676
CLYNO 2-stroke, 2½-br., 2-speed, clutch, horot Chootboards; £45.—Carter, 171, Boughlon, Chester, CLXNO 7-win, solo, clain drive original course, less gear box; £45.—14a, Balham Hill, S.W.

WAUCHOPE'S, 9, Shoe Lane, London.—21/2h.p. 1920 2-stroke Clynos from stock, 2-speed clutch; £70.

CLYNO 234h.p., 1920, mileage 50, lamps, horn, perfect; 64 gps.—35, Mount Pleasant Rd., Stroud Green, N.4.

CROW Bros., Guildford, West Surrey Clyno agents, have large contracts for 8h.p. combinations and 25th.p. lightweights.

CLYNO, -New 1920 2-speed 2-stroke models actually m stock.—Chandler, Reyre and Williams, Hitchin, Hetts, Phone: 165 Hitchin. 10065
CLYNO 2-speed 2-stroke; £70; delivery from stock.—Julian, 842 Broad St., Reading. Biggest delicib the South. Phone: 1024. [0112
920 Clyno Lightweight Models, two in stock for minuediate delivery at makers list price: £70. Rhosba Motor Co, Mawney's Rd., Rondord. [7402

Rhosha Motor Co, Mawney's Rd., Romilord.

CLYNO, Delivery from stock, lightweight 2-speed,
Pritchet's Automobile Garage, Park St, Islington, N.1.

[1756]

CLYNO, October, 1919, 2-stroke, 2-speed, club, cerangs o. Saturday, -162, Sixth Ar., Manor Fairell, 1865;
evenings o. Saturday, -162, Sixth Ar., Manor Fairell, 1865;

evenings o. sauriday.—162, Sixth Av., Manor Park, E. GLYNO Lightweight in stock. Orders booked in rotation, Cipno combination orders booked in rotation, delivery from March.—Rothwell and Milbonrae, Cowleigh Garage, Malvera.

19 14 Ciroo Combinatico. 3 speeds, kick-starter, Bosch, 4 interchangeable wheels, 3 in tyres, hood, wind screen, 3 lamps, horn, speedometer, tools, spars; £115,—Box 2,281, c/o The Motor Cycle. [7787]

CLYNO Coachbuilt Combination, 6h.p., late 1913, 2-speed, kick start, luggage grid, stored 3 years; £58; gent's 3-speed bicycle part payment; seen by appointment.—72, High St., Tuobridge Wells. [8447]

Joseph Chemical Company of the Start A 1915-16 dyno Combination Speed link start, 4 start A 1920 column, like new (£25), wind screen 1920 column, like new (£25), wind screen lamps, horn £130; atter 6.30.—Parker, 65. Clifton Av., Wembley Hill. Company Com

CONNAUGHT 25th, 2-speed countershaft, new tyre, economical; trial; £45, all on.—Mills, 150, Millfields Rd., Clapton, E.5. [7813

CONNAUGHT 1914 2½h.p. 2-stroke, lamp, horn, spare helt, first-class running order; £40,—Taplin, 159, Hornsey Rd., N.7.

CONNAUGHT 1916 29/h.p., speedometer, lamps, and all accessories, in good condition; £40 ready for Easter.—Mimosa, Chesnut Rd., Enfield Wash, Middlesza.

Connaught.

CONNAUGHT.—Islington agents; delivery from stock 2½-5h.p. 2-speed, Sturmey-Archer, clutch, F.S., chain-cum-belt, send for lists.—Pritchett's Automobile Garage, Park St., Islington, N.1. [7755]

1770

1919 234b.p. Miniature 2-speed Model Connaught, semi-f.T. bars, Fedley rubber grips, long exhaust, special pump lubrication, lamps, mechanical horn, privately owned, mileage under 250; 65 gns.—Seen at Regins Garage, Astwood Muse, Kensington. [7578]

Coulson.

COULSON B.—The ideal spring frame.—Enquiries invited by J. Blake and Co., the motor cycle experts of Liverpool and Manchester. [6578]

F.O.C.H. have a Brand New Coulson B, special 4h.p. model, 2-speed, spring frame; list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). "Phone: Hampstead 3752. Hours 9-7, including Saturdays.

Coventry Eagle.

COVENTRY EAGLE, rew 1920, 2%h.p. J.A.P., 2 speed, kick start, bendle-bar chtch, in stock—frank Whitworth, Ltd., 139, New St., Birmingham (A686) COVENTRY EAGLE 1919 J.A.P., 2-speed, in tip-top condition, under 500 miles, must sell, owner going ahroad; gift, 72 gns.-53, Swaffield Rd., Wands-worth, S.W.

F.O.C.H. have a Coventry Eagle Model 7, brand new, list price.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, including Saturdays.

Diamond.

DIAMONDS.-Al models; immediate deliveries.-A J. Young and Co., Ltd., Newmarket. [012 DIAMOND, 2-stroke, single-speed, new Sept., 1919. £50.—Bland, 18, Wilkinson St., Leigh. [7782

CYRIL WILLIAMS, for early delivery of all modern Diamonds.—Chapei Ash. Wolverhampton. [X862]

JAOK HEALY, Cork, official Diamond agent.—Retational delivery. No premiums accepted. [648] BEDFORD Garage, Walsall, official agents for Diamonds; delivery from stock; makers' prices

Douglas.

VIVIAN HARDIE and Laue, Ltd., Douglas Special

4.h.p. Combination, 1920 model: £155.

2 h.p. Solo, 1920 model, clutch and kick starter; £95

23h.p. Solo, 3-speed Model W.; £90.

WE Stock Everything you require for your Dougles

24. Woodstock St. (off Oxford St.), Bond St., W.1 (1901)

DOUGLAS, new condition, late medel; 55 gns.-45, Burton Rd., Brixton. [8185

DOUGLAS 1916 4h.p. 3-speed C.B. Outfit; £100.-Payoe, Derby Aims, Mortlake. [X6636

WAUCHOPE'S, 9, Shoe Lane, London.-4h.p. Doug-las combination, 1918; £112. [8086 DOUGLAS 1914, 2 speeds, overhauled; £48.—Marks 121, Acton Lane, Chiswick.

19¹⁶ 2³/₄h.p. Douglas, first-class order; £60.—29. Norlington Rd., Leytonstone. [8809

DOUGLAS, from £65.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., S.W.3. [8600

DOUGLAS, 23/h.p., re-enamelled and overhauled £32.-1, Victoria Rd., Brighton. [828

DOUGLAS 23/h.p., latest pattern, as new; £80.-Bourne, c/o Prentice, Wickford, Essex. [8127

DOUGLAS 2%h.p., new machine, buffer springs; £75. -18, Kent House Rd., Beckenham. [7976

19¹⁴ 2%h.p. Douglas, 2-speed, good order; £48-1, Bellingham Terrace, Catford. [8490]

1914 Douglas, 25th.p., 2-speed, good condition-

19 20 Douglas 254h.p., 3 speeds, new; £96 Nightingale Rd., Lower Clapton, N. [8514

DOUGLAS C.B. Combination, 4h.p. 3-speed; a gain, £100.-129, Brockley Rise, S.E.23,

DOUGLAS 2: Ab.p. 2 speeds, fine condition; 48 gas. 8 and 1 Devemport Mews, close Paddington. 88887

DOUGLAS 1918 4h.p., 3-speed, K.S., clutch, genuine smart; £85.-21, Newton Av., Acton. [838] 19 15 Douglas, 2-speed, excellent condition; trial: £55.—A.D.C., 4, Anerley Park, S.E.20. [844]

DOUGLAS 2%h.p., W.D., excellent running order, 52 gns.; evenings.-7, Lind St., St. John's S.E.8, [78]

DOUGLAS 254h.p., 2-speed, T.T. hars, excellent condition; £75.—Barrett, 204, Fell Lane, Keighley.

DOUGLAS, 1915, 25/h.p., 2-speed, perfect; 20, Treen Av., Hogger's Corner, Barnes, S.



MOTOR CYCLES FOR SALE. Douglas.

23h.p. W.D. Douglas, buffer springs, new, run 4 lamp; 72 gns.—54, Wharnchiffe Rd., Loughbere

23h.p. Douglas, W.D. model, splendid cond

19 20 Douglas, 3-speed, speedometer, Klaxon lowest; Ealing.—Box 2,518, c/o The Motor LATE 1919 Douglas, complete lamps, horn, num fine order; 280.—Cross, Agent, Rotherham

23h.p. W.D. Donglas, makere' colours, fast; Write Lawrence, Lawrence Honse, Haile

19¹⁴ 2%b.p. Douglae, 2-epeed, perfect co £55.—Hardcope, 90, Old Kent Rd., S.l

SEVERAL 25th.p. Douglases, 1916, new cond from £60.-14, Devonshire Rd., Forest S.E.13. SEVERAL 1916 23/h.p. Donglases, alm machines; £70.—Griffin, Coombend, I

DOUGLAS, 4h.p., Moutgomery sidecar, there order; £90.—Lee, 14, Half Moon Crescent, N.1.

DOUGLAS 2%h.p., 2-speed, nacroted August, 1: absolutely perfect; any trial; £65.—179, Bris Rd., S.W.9.

DOUGLAS 1914 23/h.p., perfect condition, enter, lamps, horn; £50.—Dorling, Star in

DOUGLAS 4h.p. 3-speed Combination, believed model, almost new; £127.—365, King St., I mersmith. DOUGLAS 25/h.p., 2-speed, 1911, in running tion; \$28.- Paul, Ambleside, Approach Rd

Albane DOUGLAS 4h.p., 3-speed, K.S., overhauled back tyre, belt new; £70.—Bowker, Aylesbury.

DOUGLAS, 1914, 24h.p., 2-speed, first-class Rd., N.7.

19 19 4h.p. Douglas Combination, aluminium speedometer, lamps; £138.-37, Arlington Surbiton.

4 h.p. Douglas Combination, new Aug. 28th, 1 £135, nearest.-1, Elbow St., Levenshulme,

DOUGLAS, 2 speeds, clutch, equipped with languages, etc.; £52/10.—Marks, 121, Acton Chiswick.

DOUGLAS 2%h.p., 2-speed, Luces lamps, horn, tools, nearly new £55, or best offer.—15, At Rd., Tooting.

19 14 23/h.p. Douglas, new heavy Dunlops, les gine and gear box; £20.—Park View, C dish, Suffolk. DOUGLAS, 24h.p., 1916, splendid condition, heavy Dunlop tyres; £59.-72, Longridge

Larl's Court. DOUGLAS Combination, 4h.p., 1920, brand just delivered, unridden; £158.—Wheat,

Bank, Rugeley. 19 18 4h.p. Donglas Combination, perfect con kick start, 3-speed, new tyres; £105.-254, field Rd., S.W.

DOUGLAS Combination, 1918, first-cless cond had little wear; £120.—262, Blackhorse

Walthamstow. DOUGLAS 23/h.p., lete 1916, latest buffer sp absolutely as new; £66.-374, Greve Green Levtonstone,

DOUGLAS 254h.p., 2-speed, clutch, semi running order; £45,-25, Sylvan Rd., 8 brook, E.11.

19 20 Douglas Combination, as received from v £165, or nearest.—Towell, Hazelmere, Ea Av., Coventry.

19 16 T.T. Douglas, lamps, and horn, specially perfect, fast; £63.—Wellington, 40, Lo Rd., Harrow.

BRAND New 4h.p. Douglas, 3-speed clutch, starter model combination unridden;

Bhahar ter model combination unridden: £ Rhesha, below.

10 20 Douglas 234hp., 3-speed clutch, klck-model, complete with lamps, Klskon, ridd miles, ebsolutely as new; £104.—Rhoshs Mote Mæwney's Rd., Romford.

DUGLAS 234h.p., 1916, 2 speeds, buffer fork condition gueranteed; £55; all on.—Stanley Waltham Abbey

DOUGLAS 234h.p., 1915, 3-speed, kick start, lemps; £72/10.—Vallins, 64, Meeting Lene, Peckham.

DOUGLAS 1919 4h.p. Combination, fully equexcellent condition throughout.—Parker's, shawgate, Bolton.

DOUGLAS 234h.p. 1912, 2 speeds, excellent tion; 38 gas, quick sale.—Evous, Wellbrod Farahorough, Kent.

LIVERPOOL.

62, High Street.

LEICESTER.

Price £155

at Works.

The Famous House

COLMORE DEPOT

Douglas. DOUGLAS 25(h.p., 1916, 2-speed; £65.—Newsham Motor Co., 225, Hammersmith Rd., W.6. Phone; Hammersmith 80. [7898

DOUGLAS, 1915, £55; another £58.—Garag Eglon Mews, Berkley Rd., Printroso Hill Chalk Farm Tube).

23h.p. bouglas, 2-speed, just as new, only used few times: bargain.-31, Claremont Rd., Alexandr. Park, Manchester,

SMTH'S.—Doughs 1914 234h.p., very little used; £50.
—Smrth's, 10-16, Haverstock Hill (opposite Chalk Farm Tube Station). [0150

DOUGLAS 25th.p., 2-speed, 1919 model, as new, complete with lumps, horn, and tools; £85.—Brook Bros., Burnhum-eu-Sen. [676]

DOUGLAS 23,h.p., 1915 2 speeds, just overhauled and renovated throughout; £60.—Johnson, 76, Manor Rd., Wallington.

DOUGLAS; 55 gns.; in splendid condition, not used much; seen any time; no offers.—Miller, 62, Hampstead Rd., N.W.1.

FOR Easter Holidays, 1919 4h.p. Douglas combina-tion, excellent condition, speedometer, mirror,— Box 2,336, c/o The Motor Cycle, [8112

JAMES MOFFAT, Douglas Agent, Tcovil.-254h.p. model, clutch, £95, less elutch £90; 4h.p. combination, £155.-'Phone: 50.

19¹⁶ Douglas, hardly used, 2³4h.p., 2-speed, with new buffer head springs, in perfect condition; £70.—
18, Deodar Rd., Putney, S.W. 1918 4h.p. 3-speed Douglas C.P. Combination, disc wheels, hamps, Klaxon; £110.-C. Gardner, 137, tarvist Rd., Kilburn, N.W.6.

davist Rd. Kilburn, N.W. 1516, Buffer head hamps, 58 gas58, Késhel Av., Herue Hill.

DOUGLAS 22,h.p., late 1916, Buffer head hamps, 58 gas58, Késhel Av., Herue Hill.

DOUGLAS 22,h.p., 1916, W.D. model, uncrated by the hamps, 58 gasVidler, 9, 59 ham Rd., Westelif, Essex. (7980)

DOUGLAS 254h.p., 1916, makers' colours, P. and H. lamps, Cowey horn, etc.; £65. Write to lavis, 18, Dowsett Av., Southend. [8191

h.p. Donglas, 3-speed clutch, engine No. 4726, new tyres, belt condition as new, tools; £80-43, esvesden Rd., Watford, Herts, [8922

MITH'S.—Douglas 1916 234h.p., in excellent condition; £60.—Smith's 10-16, Haverstock Hill (opsite Chalk Farm Tune Station).

18 Douglas 4h.p. C.B. Combination, splendid order, owner bought car; £80, or near offer.—
ox 2,275, clo The Motor Cycle. [7710 OUCLAS, 1916-17, 254h.p., overhauled, perfect, £65; Thomson-Bennett contact makers, £1.—Caulury Park Rd., Kingston. [8493]

OUGLAS 25th.p., 2-speed, 1915 model; £62/10.— Newnham Motor Co., 223, Hammersmith Rd., 6. Phone: Hammersmith 80. [7899

OUGLAS, 1913, been lying by several years, appearace new recently overhauled at cost of £25; hest er.—236, Albert Rd., Peckham. [7697]

OUGLAS 24th.p., 2-speed, uncrated June, 1919, any trial and examination; bargain, £60.—174, combe. Av., Streatham, S.W.2.

10UGLAS 2%hp., 1916, enamel as new, lamps, generator, etc., iew tyres, low mileage; £62,-225, imer Rd, N. Kensington, W.10, [7587]

20 Douglas 2%h.p., 3 speeds, clutch, and kick starter new; immediate delivery; £104,-2, bitngale Rd., Lower Clayton, N. [8513]

20 Douglas 4h.p. Combination, just delivered, complete with lamps; what offers: -55, Avondule Rd., Croydon. 'Phone: Croydon 1882. [7936 OUGLAS 1916 254h.p., W.D., Lucas lamps, Klaxon, hore, splendid condition; £57/10; by appoint-t.-67, Silvermere Rd Catford. [8450

IBB, Douglas Specialist, Gloucester, gives personal attention to all orders. All spares at makers' prices ted. No profiteering.—'Phone: 852. [6340

JUGLAS 254h.p., 1915 W.D. model, mechanically perfect, Tan-Sad pillion; £55, or offer.—A. Cuth-46, Mildenhall Rd., Clapton, N.E. [7728

OGLAS 1920 4h.p. Combination, not yet heen on the road; first offer of £170 secures.—Apply, B., mook, Frederica Rd., Bournemeuth. [7927

UGLAS 2%h.p., 1915, 3-speed, Binks carburetter; 470; owner going abond.—Apply before 6 p.m., ohler, 68, Boloiglroke Grove, S.W.I. (7730) UGLAS Combination, 1919, with sidear screen, lamps, etc., as new, very little used; write appoint—Sharpe, 12, Auriol Rd., Ken-ington. [755]

16 Douglas 25th.p., 2-speed, guaranteed 5 to 50 m.p.h., condition and mechanically perfect; in, £50.—8a, George Lane, Lewisham. [8817]

UGLAS 4h.p. 1918 Combination, fully-equipped, new C.B. sidecar, smart appearance, any trial; -9, Stoneleigh St., N. Kensington, W.11. [7588

.9 Douglas 4h.p., 3-speed, electric lighting, tor-pedo C.B. sidecar, beautiful turnout: £128; ap-uent.—Motor, 174, Hanover St., Sheffield. [8421

Call & See Us



THE FIRM FOR QUICK DELIVERY.

AUTHORISED AGENTS FOR MOTOR CYCLES.

DOUGLAS LEVIS ZENITH

IN STOCK.

Owing to the fact that advertisement matter must be sent in a week before the advertisement appears, it is impossible to state what machines are in stock. However, we are able to deliver, either from stock or at an early date, all the machines for which we hold agencies.

Several guaranteed second-hand late models, DOUGLAS, etc.

Douglas Spares. Douglas Aluminium Chain Guards, 12/6. Douglas Instruction Books, 1/3. Patent Leather Mudshields, £1 1s Polished Aluminium Wheel Discs,

£3 18s. per set. Tan-Sad Pillion Seats. Bowden Controls. A.M.A.C. Carburetters. E.I.C. Magnetos for flat twire Cowey Speedometers. Cowey Mechanical Horns. Klaxon Horns, D. A. Cylinders. Electric Lighting Sets. Dunlop and Hutchinson Tyres. Black Enamelled Under Trays for 4 h.p. Douglas, £1.

Deeds, not words.

Dear Sir—I feeld I must write to thank you for listing to young its lend in must write to thank you for listing to young its lending must write to thank you for listing to young its lending must write to thank you for listing that it was surprised when I received it this morning Friday. In the future I shall know we reto seen it to for sare parts, and know that I shall have it will be a shall be a shall

Altrincham, 21st January, 1920. To Vivian Hardie & Lane, London. Dear Sirs, -Very many thanks for the promptness in sending the sidecar rear spring. It is a pleasure to deal with your firm. Herewith cheque

Yours faithfully, (Signed) H. C.

Dear Sirs.—I am extremely pleased with the 1920 Douglas Ahp. Combination purchase i from you last week. A so for your generous offer for my 2\(^1\) hn. 1919 "oli . . . A great friend of mine has taken such a liking for my Douglas 4 hp. Combination that he wistes to have one Yours faithfully, A. J. L.

To Vivian Hardie & Lone, Ltd., London, Wandstock Street February 1-th, 1920.

To Vivian Hariae & Line, Lia., London, Woodstock Street

February I:th, 1920.

Dear Sirs,—Yours of the 17th inst. to hand I intend having dise wheel situed tom machine. Gould you or ain these for me and have them fitted? . Thanking you for the prompt and **Xecedingly good tr atment I have a ways received from 1900.

Temain,

I remain, Yours sincerely. H.S E.

24, Woodstock St. (off Oxford St.). BOND ST., LONDON, W.1.

Telephone—Maytair 6559
Telegrams—IVHARDILAN WE5DO, LONDON

MOTOR CYCLES FOR SALE.

Douglas.

BRAND New 2%h.p. 2-speed Donglas, W.D., new buffer forks, Dunlop tyres, great bargain; £70; seen any time.-66, Church Rd., Barnes, S.W. [8260

BRAND New Douglas 23th.p. 2-speed, equipped with Lucus lamps, horn, and Cowey speedometer; offers after 4 o'clock.-50, Fairlawn Grove, Chiswick. [8262

DOUGLAS 4h.p. Combination, Dec., 1917, 3-speed, kick start, enamelled, plated, upholstered, overhauled; £105.—Millard, Gilbert Rd., Belvedere. [8032]

DOUGLAS 25(h.p., 1912, 2-speed, excellent condition throughout, tip-top order and very fast; £45; ride away; appointment.-28, Ingleby Rd., Iltord, E. [7582

DOUGLAS, 1916, 23(h), perfect order and condi-tion, new appearance, Klaxon, new tyres; £65.— Martio, 10, Herbrand St., W.C. (near kussell Hotel) DOUGLAS 4h.p. Combination, June, 1919, excellent Condition; £127; seen weekends or evenings— Peau, Fermoy, Sherwood Fark Rd, Sutton, 176428

1920 Douglas 4h.p. Combination, £2 spares, horn, new, just delivered; £162; seen and trieb appointment.—Hughes, 8, Grange Rd., Ranagate.

appointment.—Indiance, o, St. 17830

DOUGLAS, 24h.p., 2-speed, 1915, good running of cherry tyres good, makers' colours, lamps, etc., ride away; after 6; £58.—38, Fregnal, Hampstead, 18523

DOUGLAS 23/h.p., 2-epoed, uncrated Oct., 1919, nisolately perfect, well equipped, exceptionally smart; £65.—66, Wallingford Av., North Kensington.

DOUGLAS, 1915, just been overhanded and reparted, gasted, and reperfect; £68 news. all accessories, absolately perfect; £68 nearest—Todd, Waterbacch, Cambre 227.

18271
19 Bouglas 2; 2h.p., ensine No. 37729, re-chamelled makers' colours, thoroughly overhouled, horn, lamps; £70; after 6 p.m.—27, Cedars Rd, Chiswack.

DECEMBER (1919) Douglas, 25(h.p., carefully run in, mileage 550; owner received delivery combination; f75.—Spear, 80, East Sheea Av., East Sheen, S.W.14.

1919 Douglas 4h.p. Combination, new Sept. mileage under 1,000, speedometer, lamps, tools, absolutely perfect; £140, or nearest.—Lancaster, Northgate, Baildon. [7929]

DOUGLAS 1919 4h p. Combination, electrically cquipped, nll spares; £140.—Apply, Deutist, 162, High St., Walthamstow, E.17. 'Phone: Walthamstow 347.

10 15-16 274h.p. Douglas, 2-speed, free engine, horn, lamps, accessories, quaranteed sound and perfect; £55.—Refreshment Ba., 45, Bow Common Lane, E.3.

DOUGLAS 4h.p. 1916 Combination, engine No. 3095, little used, and appearance, etc., as new; £135, or offer.—Stevens, 184, Pentonville Rd., King's Cross.

DOUGLAS Combination, ate 1918, speedometer, spare tyre, lamps, etc., small mileage, fully insured; £130; seen after 7.—17 balmoral Rd., Leyton, E.10.

10 19 Douglas 4h.p., coachbuilt sidecar, lamps, E132 secures.—Wintle, Kingswood, Wotton-under-Edge, Glos.

L ATE 1916 25th p. Douglas, lamps, etc., tyres and belt like new; £58; bargain.—Apply, after 6 p.m.—Bryntyrion, Thicker Rd., Sutton, Surrey, or 'phone Richmond 631.

DOUGLAS 4h.p. Combination, practically new, disc wheels, Royal bline sidecar, complete equipment, beautiful outfit; bargain, £120.-41, Cowley Rd., Brixton, S.W.9.

DOUGLAS 25th.p., Jan., 1916, 3-speed, speedometer, lamps, horn, mirror, mileage 3,000, stored 2 years, good condition; £58.—34, Jedhurgh St, Wincobank, Sheffield.

23h.p. Douglas, ridden few miles, perfect order, fast, 24 powerful, fully equipped, lamps, Klaxon; £65, or nearest. Seen London appointment.—Williams, Fivements, Swanley.

19 to 25th.p. Douglas, renovated absolutely as new, new P.H. lamps, nechanical horn, toolbag; £60.—
Banister and Botten, 341, Upper St., N.1 (opposite Agricultural Hall).

DOUGLAS 1916 25th.p., overhauled and renovated makers colours, new Dunlon studded tyres; £65; exchanges.—R. D. Varty, Thundersley, Rayleigh, Essex.

DOUGLAS 23,h.p., 2-speed, clutch and kick start, 1914, all in first-class condition, tools, lamps, etc.; £65, no offers. Evenings after 8.-60, Muswell Rd., Muswell Hill.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue." B15

Douglas.

19 14 25/h.p. Douglas, aluminium disc wheals, new tyres, lamps, horn, re-cnamelled and plated, in perfect condition; any trial; £60.-C., 54, Malvern Rd., Dalston, E.8.

DOUGLAS 1920 25th.p., 3-speed, W.20 Model, lamps, speedometer, horn, etc., as new; £90.—Highfield, Rodwell, Weymouth.

DOUGLASES 23h.p. always in stock at competitive prices, open till 7 p.m. week days, 5 p.m. Saturdays.—Smith's, 10-16, Haverstock Hill (opposite Chalk Farm Tube Station).

19 19 Douglas 4h.p., overhauled, improved clutch, royal blue Douglas sidecar, new tyres all round, fast, any trial; £135; no offers.—O.R.S.M., Mooltan Orderly Room, Tidworth. [7542]

DOUGLAS, late 1913, 25th.p., 2-speed, new footboards, tool kit, spares, horn, good tyres, recently overhauled, perfect condition; first £47 secures. Watson, 37, Waveley Rd., Coventry. [X6754]

DOUGLAS, 1915, 2%hp., 1917 forks, adjustable pulley, new Amac, T.T. bars, discs, long exhaust pulley, very fast, just buned by expert; £98. Box 2,552, c/o The Motor Cycle.

DOUGLAS 1919 234h.p., 2-speed, absolutely as new lamps, mechanical horn, Cowey speedometer, tools, and accessories; #85.—209, Broadway, West Hendor, N.W. 'Phoue: Kingsbury 162.

DOUGLAS 4h.p. Combination, engine No. 2969X, £130; appointment.—H. Payne, Wychwood, Hack-bridge Rd., Hack-br

1919 (June) Douglas 4h.p. Combination, 3-speed, kick starter, F.C. clutch, lamps, horn, etc., fully insured, not done 800 miles; appointment; £140.—Lavender, Victoria Rd., Wisbech.—[7580]

19 11 Douglas 2% hp., in good condition, head lamp with generator, all brass, horn, tyres, nearly new, Bosch mag., owner disabled; £35.—Balley, Engine Rooms, K.C.A., Sleaford, Lines.

23hp. Spring Frama Douglas, 3-speed, kick-start, And clutch, new pattern forks and tank, lively hus, almost new; 100 gns., quick sale; owner bought car.—Dyer, 257, North St., Bedminster, Bristol. [8649]

DOUGLAS.—We have 3 overhauled and guaranteed 23-b.p. Douglases, exceptional finish and guaranteed teed as new, complete with new lamps, Cowey speedometer and Klaxon horn; £80, all on.—Maudes' (below). DOUGLAS 1913 2%h.p., 2 speeds, Douglas carburetter, touring hars; £40.—Maudes' (below).

DOUGLAS 1914 3½h.p., 2 speeds, kick-starter, Empira sidecar, Bosch; £105.—Maudes', 100, Gt.
Portland St., Lendon. [8756]

23.h.p. Donglas Combination, fitted for snper power to all wheels, everything guaranteed perfect, both mechanically and otherwise; £65.—Marks, 121, Acton Lane, Chiswick.

Lane, Chiswick.

DOUGLAS, 2½hp., 2-speed tree engine, Beach, Lotton and the control of the contr

Ciancy, 22, Adrian St., Moston, Manchester. (X6823)
DOUGLAS 1918 dh.p. Combination, set of lamps, sidecar deep tilue storm opron; £10; seen Saturday afterneon.—188, Shamforth Rd., Seven Kings, H752
F. O.C.H. have a 1919 Douglas 2½hp., excellent of carder, small mileage.—Fair Offer Car House, 5; Heath St., Hampstead Iur. Hampstead Tube Station. Phone: Hampstead 5752. Hours 5-7, including Saturday.

T Appears Ridiculous to Advertise when you have no stock, but we are giving deliveries to the early hirds. Place your order at once if you want delivery.—Eh Clark, Douglas Agont, 196, Cheltenham Rd., Britchl.

1019 (Nor.) 4h.p. Douglas Combination, Easting, Tan.Sad, handlebar muffs, lamps, horn, insurance, mileage 150, mechanically perfect, enamel unscratched: £155; bought car.—Farrer, 1, Halsey St., S.W.3.

Ap. Douglas Combination, 1916, 3 speeds, clutch, akick start, perfect condition in every respect, any trial; £110.—Cocke, 53, Hoveden Rd., Keyes Rd head, tail, and sidecar lamps with generator, horn, Cricklewood, N.W.2.

DOUGLAS.—We have a number of W.D. models ready for delivery, 2%h.p., 2-speed, black finish, thoroughly overhauled and guaranteed in good running order; £68 each.—Elee and Co., 15-16, Bishopsate Av., Camomile St., E.O.3.

DOUGLAS 2%h.p. Military Models, new, £70; tuned up, removated, very carefully selected and condition, £60; 4h.p. ditto, £72; may be seen any time—Watson, £81; Clapham Rd. S.W. [3196]



Sole London and District Agents for A.J.S. and British Excelsior Motor Cycles, also Watsonian Sidecars. tracting Agents for Triumphs. B.S.A., Clynos, Enfields, Calthorpes, Allons, A.E. Matchless, Rudge, etc. A.B.C.'s.

The following New Second-hand Motor Cycles are on view at our New Showrooms:

52 & 53, SUSSEX PLACE, SOUTH KENSINGTON, S.W.

ALLDAYS-ALLON, 1920, 2½ h.p.,
2-stroke, 2-speed gear.
HARLEY-DAVIDSON, 1920, 4 h.p. horizontal twin, acetylene lighting set,
speedometer, and horn.
BLAGABURNE, 1920, 4 h.p., 3-speed,
clutch, and kick-starter.
CALYINGRE, 1920, 2½ h.p., 2-stroke,
Enfield gear.

Enfield gear.

Enfield gear.

BRITISH EXCELSIOR, 1920, 2½ h.p.,
2-stroke, 2-speed, kick-starter, and

DIAMOND, 1920, 21 h.p. Villiers 2-stroke. All the above machines at makers' iist prices, plus freight charges from works.

USED MACHINES.

USED MACHINES.

BUBEAM, 1902, \$\frac{1}{2}\text{hp}\$, Combination,
Lucas lamps, Klazon born, Cowey
speedometer, black and gold finish,
Only done 200 miles, and indistinguishable from new. Price \$220,
A.J.S., 1919, 6 h.p. Combination, Splitdorf
dynamo lighting sot, spare wheel,
complete \$225,
RUBEE, 1919, \$\frac{1}{2}\text{h}\$, h.p. Combination,
Multi gear, ktok-startor, acetylene
lighting set, H. & B. horn, Dunlop
lighting set, H. & B. horn, Dunlop
IVY 1973, \$\frac{1}{2}\text{h}\$, h.p., 2-stroke, 2-speed,
\$P. & H. acetylene lighting set, \$260,
LLDAYS-ALLON, 1919, \$\frac{1}{2}\text{h}\$, h.p. acetylene lighting set, not ran \$500
miles

SIDECARS.

Watsonian, R. 34, Monarch, and Model H, Millford, Skiff, and Monitor, Ganoelel, B.S.A., and Swan Sporting type.

Taylor's Goach-built Body £11 11s. All Sidecars supplied at List Price, plus carriage from works.

A.J.S. Second-hand Sidecar Body, complete with windscreen, hood, and carrier, \$15 15s

H. TAYLOR & CO., LTD.

SHOWROOMS: 21a, STORE STREET, W.C.1. 52-53, SUSSEX PLACE, S.W.

WHOLESALE: 38, ALFRED PLACE, W.C.1

Garage—Tottenham Court Road.

'Phone—Museum 1240. Kensington 7260.

Telegrams—

"Dynametro. Westeent, London."

MOTOR CYCLES FOR SALE.

Douglas.

Douglas.

DOUGLA'S Combination 2315 (7763), mileage 2,500 M. G. electric lighting speedometer, Kingen, and dry sparse, overhauled Douglas vorks, gunantied me chanically sound; £143; viewed week-end.—Edward Trevale, Queen's Av., Woodrod Green, Essex. [671 Å-D. Douglas Combination, delivered Nov., 1918 Latest type clutch, touring and TT. bars, lamps and 2 generators, Kiaxon hern, Easting win screen and College legabidely, mileage under 500, condition throughout as new £155.—P. Spackman, DManchester &d., Swindon.

DUGLAS 4h.D. Combination, 1916, 3-speed, clutch and the state of the speed of the combination of the speed of the combination of the speed of the speed

Junction Rd., Sheffield.

WE Have in Stock a limited number of rebuilt 2v ready for the noad. Those machine may be purchase for each of one easy terms. Please write for specification for each of one easy terms. Please write for specification for the property of the prop

Duzmo

DUZMO 3½h.p. Single and 8h.p. Twin. Orders strict rotation. Deliveries commence March. All Lancashire and Cheshire enquiries to Leach an Seed, 16, John Dalton St. Manchester. [X26]

Edmund.

 $2\frac{3}{4}$ h.p. Edmund, spring frame, 3 models.—Lists frame, from Gourlay's, Fallowfield. E DMUND, spring frame, 4h.p. M.A.G. twin, Enfice gear, Cancelet sidecar, accessories; £75, barga—Mattock Motor Co., Mattock Lane, Ealing. [85]

ELSWICK-PRECISION, 2-speed, 4h.p., splend order throughout; bargain, £42.—Speechley, Gunnersbury Loue, Acton Hill, London, W.3. ELSWICK-PRECISION, 1915, twin, Besch, B. 3-speed, clutch, kick start, coach car, hood, edition excellent.—Librarian, Public Library, Plaist

Enfield

19¹⁷ 6h.p. Enfield Combination; £130.-V. E. Meric, Kingswood, Weymouth. [8:

19¹² 234h.p. Enfield Twin, Bosch, B.B., nearly Dnulop; £25.—15, Lowther Rd., Kingston. [7 WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, 6h.p. 1917 Royal Enfield combination; £16

19 19 Enfield 24h.p. Lightweight, fully equip £63.--55, Balls Poud Rd., Islington, Lond

ENFIELD Combination, 6h.p., 1916, good condition £125.—Godwin, Marlowes, Hemel Hempsted. Enffeld 3b.p. 1916, small mileage, just overhal anamel and tyres as new, fast; £65.—Maurice I Louth.

FNFIELD 1916 Combination, dynamo; £147/1 Clifford Wilson Mfg. Co., 70, Royal Hospital I S.W.3.

Enfield Twin, 2%h.p., 2-speed, splendid condition tyres nearly new; £45.-87, Truto Rd., W Green.

6 h.p. Enfield Combination, 1914, good condition, in excellent running order; £100.—Clayton, B. St., Rugby.

ENFIELD 6h.p. 1914 Combination, perfect continuing, Elio.—Holden, Wickham, Beckenh

ENFIELD 3h.p. Twin, 2 apeeds, in excellent dition.—L. Parker, 79, Derwent Rd., Pain Green, N.

ENFIELD 1919 21/h.p., 2-stroke, 2 speeds, all sories ,new condition; £62.—24, Cobbett Southampton.

ENFIELD Combination, Sh.p., 1916, fully equil splendid outfit; £140.—374, Grove Green Leytonstone.

ROYAL ENFIELD 6h.p. Combination, electric ing condition, as new; nearest £120.-1, Rd., Kew Green.

ENFIELD 21/h.p., 1916, only run 1,000 miles, did condition; £50.—13, Woodberry Down, bury Park, N.4.

ENFIELD Combination, 1914, 6h.p., first-class and dition, complete; £110.—Seen at Norman's 6a 8t. John's, Worcester.

ENFIELD 1920 Box Carrier Combination, under miles; £200.—Clifford Wilson Mig. Co., 70, 1 Hospital Rd., S.W.3.

BIG All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue-

Enfleld.

RNFIELD 25th.p. Twin, 2-speed, F.E., lamps, mechanical horn, etc., good running order; £38,-5, Cross St., Bedford. [X6840]

5. Closs M., Reutout.

WAUCHOPES, 9. Shoo Lane, Fleet St., London-Wauchopes, 1930 new Royal Enfleid 2-stroke 2-speed models from stock; 568, 1932 new Royal Enfleid 2-stroke 2-speed models from stock; 568, 2016 no offers, 270, no offers, 255, Primess Rd., Bournemouth West.

[8527]

RNFIELD Combination, late model, done 1,800, cauni to new; £135; after 2 o'clock.-25, Davis-wille Rd., Shepherd's Bish, W. [8415

ENFIELD 1916 3h.p. Twin, kick start, 2-speed, condition as new, 62 gns.; first cheque secures.

Towle, 28, Grimsby Rd., Grimsby. [X6634]

19 16 Entield Combination, 6h.p., dynamo lighting, fully equipped; 1146.—Smith's, 10-16, Haversteck Hill, opposite Chalk Farm Tube Station. [0126] ENFIGURE Combination, 8h.p., 1915, in perfect condition, not ridden during war or for last 6 months; best offers.—Box 2,286, c/o The Motor Cycle. [7792

LATE 1917 Enfield, 3h.p., lamps, horn, eto., mechanically perfect, overhauled; £75; seen after 6.30.—Rosslyn, Camborne Rd., Sutton. [8495]

ENFIELD 6h.p. Combination, 1916, in splendid condition, fully equipped, screen, tools, spares, ready for any tour; £145.—Reeves, 5, High St., Purley. [7718] ENFIELD Combination, 6h.p., in splendid condition, humps, horn, etc., recently thoroughly overheuled, costing £26; 86 gns.—15, Summerhill Rd., Dartford, 1795;

1916 6h.p. Enfield Combination, 2-speed, lamps, in excellent condition; offers?—H. Lovatt, 34, Marsh Green Rd., Elworth, near Sandbach, Cheshire.

23h.p. Twin Enfield, Bosch, B.B., countershaft Sules, drive, good condition; £38, or nearest; even larg, week-ends.—42, Sydenham Rd. North, Croydon, ENFIELDS.—Place your name on our list withrout delay, rotational delivery strictly adhered to no premiums.—Bedford Garage, Walsall, Dione; 270.

PURST cheque secures Reyal Enfield 3h.p. light-ning order, ride away; 27 gns.—Nash, 85, Walton St., Aylesbury, Bucks.

19 ¹⁹ (June) 3h.p. Twin Enfield, accessories, splendid condition, owner investing in combination; what offers over £75?—Apply, Box 2,367, c/o 7he Motor Cycle.

ENFIELD 35/h.p. 1913 Twin, 2-speed gear, engine perfect, Bosch, Aunc, complete lamps, horn, punp, tc., good tyres; bargain, £42/10.—Dowell, High Rd., syfleet, Surrey.

1915 Enfield Combination, 6h.n., splendid condition, lamps, born, screen, dark blue conchbuilt body, ew chains; nay trial; lowest £120, no lower offers, lack, Kesworth, Derby.

"NFIELD Combination, 1916, 6h.p. J.A.P., Lucas dynamo lighting, Orto wind screen speedometer, ack cover, new, perfect condition; £150, -14, 1evon-ire Mews West, Marylebonc, W. [6947]

hp. Enfeld Caochbuilt combination, 1914, fully quipped, electric lighting, luggage grid, excellent mining order, recently overhauled, exceptional con-tion; about £150.-68, Bingham Rd, Croydon, [689]

NFIELD Combination, J.A.P. engine, just over-hauled and recovated by makers lamps, screen, p. speedometer, all accessories, perfect condition; 120.—Any trial at 136, London Rd., Kingston, 18842

120.—Any trial at 136, London Rd., Alugassus, (corr.)
1.0.C.H. have a sh.p. Enfeld Combination, in excellent order.—Fair Offer Car House, 5, Heath cellent order.—Fair Offer Car House, 5, Heath Champstead (nr. Hampstead The Station).
1. Hampstead, 3752. Hours 9-7, including Satians.
1. See Section 1. Section

NYFIGURE Coach Combination, 85×85½ mm. cyls, engine No. 46594, Lucas dynamo lighting redometer pares, Falmer cycle car tyres, 1,600 less running no dealers; \$130 lowest.—51, Church Wolverton.

919 Enfield Combination, 6h.p., hood and screen, Intell lighting set, a grand outfit, in perfect conformation, 2170, also another Enfield combination, with pecial 1918 engine, in fine condition, £125,—47, toria Ar., Walthamstow.

t.p. Enfield Combination, 1914, engine 42794, stored 3 years, overhauled, replated, mechani-y perfect, Easting, Tan, Sad, Watford, lamps, tor, spare tubes, expert inspection invited, trial; 5; no offers.—Latham, 215, London Rd., Croydon.

5; no offers.—Latham, 215, London Kon, [8409]

D. Enfield Coachbuilt Combination, fully insured, of Jamps, horn, spars cover, tools, sidecar related, spring cushion, spars grid, engine quality, and spring cushion, spars, but remained, and spring cushion, spars, but remained, and spring cushion, 255 spot of the period of th

GFIELD 1914 Sh.p. C.B. Combination, in good condition, nearly new upholstery, tyres good condition, nearly new upholstery, tyres good Dunlop extra heavy or back, tank just retelled, front and rear lamps, new horn, many parts, new driving and garb, new horn, chain s, excellent mechanical condition; best offer 2867 seen Hereford or Gloucester.—Arkell, Lianut, Ross-m-Wye.

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Proprietors:- Erling L. Newheiter Cobbett & Cedric Crosthweite MOTOR CYCLE DEPT -

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TRY MOTOR CYCLE CAMPING AN IDEAL HOLIDAY.

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MOTOR CYCLES FOR SALE.

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Enneta.

ENFIELD 3h.p., 1919 (July), specially selected and lands-large, hour, hooked with a fact state of the handle-large, hour, hooked with a fact could get a fact that a

Excelsior.

233.-2½h.p. Excelsior, 1915, 2-stroke, 1919 Amar, engine rebushed, go anywhere.-40, Wellington N.W.8.

L ANCASHIRE, Cheshire, North Wales, Isle of Mag only.—American Excelsior; enquiries.—J. Blake and Co., Official Dealers, Liverpool-Manchester. [6586] and Co., Official Dealers, Liverpoor-Manchesser, 1992.

19 20 American Excelsion Combination, Mills-Pullord Read, rear, and sideer lights, with spares; \$190.—Lidd, 19, Church Lane, Hornsey, N. 17649.

THE New 1920 American Excelsion represents the best value for money on the market. Hook new her early delivery. Fitted with Swan de Luxe sidecur.—Edwards and Parry, 4, Blenheim St., Bond St., Martin 2666.

A MERICAN Excelsior Combination, 1916, 7-9h.p., European model, Bosch, 3-speed countershalt, hand and foot control, clutch and brakes, Firestone open, aluminium sidecar, indistinguishable from new thera—122, Godolphin Rd., Shepherd's Buth, W.12.

Fainir.

23h.p. Fafnir, Bosch, Brown-Barlow, spring forks; bargain, £25,-91, Fairfield Rd., Bow. [8843] Fabring 31,9,5,8, and B. carbinetter, Bosch, new helt, good tyres (one new), low frame, lamps, horn, mirror, good running order; £30; after 7, Saturday 3.—6, St. John's Villas, Upper Hollowny, N.19. [8718

Forward.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London, E.C.4.—2½h.p. Forward motor cycle; £27/10. [8912

CROW Bros., Guildford, F.N. agents for the 7h p. 4-cyl. and 2%4h.p. lightweight. Book your machine [3171

F.N. 4-cyl. Solo or Combination; reasonable price and condition; particulars.—15, Farnham Terrace. Sunderland. (2708

4 CYL. F.N., 2-speed clutch essential, any year, price according; also light coachbuilt sidecar.—Hawkins, Broadbridge Heath, Horsham. (8774)

F.N. 2½h.p., Bosch, B. and B., belt drive, ready to ride away; £22 cash, or near offer; Saturday afternoon.-1, Park Rd., Chiswick, W.4.

F.N., 1911, 4-cyl., engine good going order, repairs needed to frame, quick sale; £16; after 6 p.m., or Saturday afternoon.—H. Filmer, 66, Nunhead Lane, S.E.15. F.N., specially built in 1915, round tank, disc wheel, electric light, with sidecar, hood screen, very smart outfit; £155.—Newnham Motor Co., 223, Hammersmith Rd., W.6. Phone: Hammersmith 80, 77897

4. CYL. F.N., 5-6h.p., late 1913, No. 50654, dropped frame, 2-speed, hand clutch, lighting set, original tre Iront, new heavy Felley back, good condition; III. 245, lowest; exchange smaller machine.—II. Hodgson, Queen St., Morcambe.

F.N. (1432). 5-6h.p., 1915, srey model, 2-speed gear and clutch, excellent running order, lattery overhanded by manufactures, Stewart speedometer, lumps and generators, stock of spares, heavy tyres almost new, Brooks pag seat, leather language case, etc.; can be seen F.N. Works, Kimberley Rd., N.W.6; £70, or near offer,

Grandex

19¹⁴ Grandex, 2³(h.p. Jap engine, 2-stroke, shibrication, 2 speeds, nearly new Hutchityres; offers.—149, Clapton Common, E.5. [X0]

Gregoire.

O'VERHAULED and reenamelled, 4'5h.p. Gregoire,
hw C.A.V. magneto, new Senspray carburetter,
26x.2's wheels, supports, and powerful managed
semi-T.T. bars, low, sports, and powerful managed
anywhere; bargain, £45.—Buck, Holmside, Finbore,
Rd, Tocting Junction.

Harley-Davidson.

JACK HEALY, Cork, official Harley agent.—Rotational delivery. No premiums accepted. [6488 Harley Davidson, 1915, electric model, and sidecar; £100.—Brook, Burnham, Somerseting

WAUCHOPE'S, 9. Shoe Lane, Fleet St., London, 1915 7-9h.p. Harley-Davidson and sidecar, 1855

HARLEY-DAVIDSON Flat Twin, immediate delivery; list price, Brock, Burnham, Samarham, 1915

HARLEY-DAVIDSON Flat Twin, immediate livery; list price.—Brook, Burnham, Somerset

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue 117

Harley-Davidson.

HARLEY-DAVIDSON, 1918, 7-9h.p., first-class running order; 95 gns.—Taplin, 159, Hornsey Rd., N.7. HARLEY-DAVIDSON.—Book now for early delivery
—Official Agents, The Motor Cycle Mart. Stafford
[X3382]

1919 Hurley-Davidson Combination, electric equipment; £165, or nearest offer.—O. E. Lovick, [X6668]

HARLEY-DAVIDSON 7-9h.p., 3 speeds, etc., and 2-seater sideon, fitted with hood and wind screen; £140.-3, Parker Lane, Burnley. [X6263]

HARLEY-DAVIDSON, 1915, perfect running order, just overhauled, sidecar; £110, or near offer.—Teesdale, Bucksbridge, Wendover. [8242]

HARLEY-DAVIDSON, 1915, and coach sidecar, completely overhanded and repainted; price £130.—Apply, Myles Francis, Loughton, Essex. [7556]

HARLEY 1915 5-6h.p., single, 2-speed, lovely Sunbarm sidecar, lamps, Tan-sad, and nice lot; £100, bargain.—365, King St., Hammersmith.

HARLEY-DAVIDSON

HARLEY-DAVIDSON

HARLEY-DAVIDSON

Out-Black Horse, High St., Hitchin,

HARLEY-DAVIDSON, 1916, 7-9h.p., Bosch mag.

HARLEY-DAVIDSON, 1916, 7-9h.p., Bosch mag.

sporting torpedo sidecar, good condition; 21.55, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.000, 10.00

7-9h.p. Harley-Davidson Combination, late 1915, 5-speed, K.S., hood, wind screen, speedometer, good condition; £135. — 61, Radnor St., Bradford Moor, Bradford.

19 17 Harley-Davidson Combination, electrically equipped, recently overhauled, excellent condition, spares, accessories; £160.—Tregelles, Winscombe, Somerset.

19¹⁷ Harley, electric horn, lights, speedometer, mirror, any trial, £136; Harley bulbous hack sidear, Triplex screen, hood, £28.—Box 2,333, c/o [8195]

1915 Harley-Davidson, 7-9h.p., electrically equipped, new Easter, 1917, new front tyre, spare chain, splendid condition; 2105.—Averay, 23, Salthouse Rd., Barrow-in-Furness.

HARLEY-DAVIDSON 7-9h.p. 2-speed Model Com-bination, recently overhanled, wearing parts re-newed, new tyre, perfect condition; £105.—4a, Peter-sham Rd., Richmond.

HARLEY DAVIDSON 1916 8h.p., mag. model, 3 speeds, kick start, Harley coachbuilt sidecar, just overhauled and re-enamelled, guaranteed as new; £150.—Mandes (below).

HARLEY-NAVIDSON, 1920, flat twin sports model, electrically equipped, speedometer, pillion seat, 3 speeds and kick starter, only done 500 miles: £165.—Maudes', 100, 61 Fortland St., London, W. [8755]

HARLEY-DAVIDSON 7b.D. 1916, 3-speed, mag. model, with sidecar, hood, screen, lamps, etc.; \$180.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [7895]

19 19 Harley-Davidson, done 1,500 miles, just fitted harmions Harley sidear with extra romovable sent, hood, wind screen, etc.; what offers?—Sabry, 14, Pleydell Av., Stamford Brook, London. (7972)

19 20 Harley-Davidson, horizontal twin, 4h.p., de-livered March 4th, mileage 55, complete with makers' speedometer, horn, and lighting set; £160— 25, Leander Rd., Thornton Heath, Surrey. [8728]

19 ²⁰ Harley Davidson Combination, mag., Mills-Fulford sidecar, complete, speedometer, newly dolivered, no mileage, magnificent outfit; £225; owner bought car.—Tennant, 26, Weir St., Coabbridge, [X6919]

HARLEY-DAVIDSONS, six 1919 7-9h.p. mag-models, £110; excellent engine, gears and byres, enamelling faulty; if enamelled would be worth £17th-ready to ride away—Bull, Triumph agent, Excellent ampton.

HARLEY-DAVIDSON 7-9h.p., 1918, 3-speed, chitch, kick starter, magneto, disc wheels, very little used, excellent condition, any trial, examination, 2147; slac quantity spare parts, cheap.—198, King St., Harley smith.

HARLEY-DAVIDSON, electrically equipped model, special Dunhill siderar, speciameter, only ridden and the special Dunhill siderar, speciameter, only ridden part exchanges considered.—Bramles, Charlton Rd. Shepperton-on-Thannes.

HARLEY-DAVIDSON 1920 Mag. Model, acetylene Highting, electric horn, speedometer, all accessories, new January, done a few hundred mile meaning condition; 2178, or with new metcan; 20 pp. 10 periodic risk places, Reselvik.

Hazlewood.

19 20 5-6h.p. Hazlewood Combination, J.A.P. engine, M.dls-Fuliord sidecar, complete with lamps, horn, etc.; £175.—Thos. Booth, Fredsham.



Electric

Lighting Seis.

The

"FLASH"

4½ volt

Battery Size

52"x41"x21"





For Electric Lighting Handlamp etc. Price 14/7 each.

Batteries.

H.A.H. PORTABLE ELECTRIC HANDLAMPS.

Lasts for years Safe. clean. always ready for use



Attention. For Road. Domestic

Fig. 1040.

HAH Portable Electric Handlamp complete with "FLASH"
4½ volt Battery as illustrated. Price 25 /- each.



New Model, Fig. 573.

HAH Rearlamp how-Red light, lights No. plate. Complete with switch bulb, wire, clip, etc., Price 9/6 each.

HAH ') Clutch '' Tape Special New Size for Motor Cyclist. Fig. 457, Jin. Roll in Tin. Extra adhesive. Not Sticky.
(Note the Yellow Tin)
Price 1/- each.

Delivery of all above from stock. Note,—Postage extra on all the above.

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DELIVERIES—Special efforts have been made lately to special peliveries, and already a great improvement less on heard, it is impossible to give entropy the period of the period period to the period perio NEW SPECIALITIES & ACCESSORIES

FOR 1920. Many new lines are in course of production, and customers should therefore ask for their name to be added to the mailing list for now Catalogues

Will all customers kindly note CHANGE OF ADDRESS.

A. H. HUNT, H.A.H. WORKS, ROAD, TUNSTALL ENG. CROYDON,

CROYDON 2225 & 2226.

Telegrams:
"KEYAGE."
CROYDON.

MOTOR CYCLES FOR SALE.

Hazlewood.

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Joseph Twin Combination, brand new, punsed, all accessories; £200. Wanted, lower cower, and cash.—Box £256, lower for the Motor Cycle.

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Haz

Henderson.

HENDERSON 10h.p., 3 speeds and kick starter, brand
new, nnused; £180.-3, Parker, Lane, Burnley.
(X6551) HENDERSON Combination, carrier seat, accessories, pverhauled.—20, Tornbani Green Terrace, Chiswiot.

ANCASHIRE, Cheshire, North Wales, and Isle of Man.—Enquiries for Henderson 4-cyl, wanted.—J. Blake and Co., Official Dealers, Liverpool-Manchester. [6587]

HOBART for Early Delivery.—Apply, Barnett, Bar-nett and Co., Deal. (6705) HOBART 1919 21/2h.p., 2-stroke, excellent co tion; £50.—Gardner, 5, Albany Rd., Covent

HOBART, Villiers engine, 2-speed, new July, 191 £50.—Knight, 31, Bingham Rd., Addiscom

Croydon,

HOBART 1920 21/h.p. 2-stroke, semi-T.T. bars,
new; £60; exchanges.—R. D. Varty, Thunders.
[8693]

HOBART-VILLIERS 24h.p., 2-speed, as new, complete, £45; Watsonian sidecar, £9.—Dugdale, Radiord, Coventry. HOBART 1920 in stock, 2¼h.p., Villiers engine, 2 speed model; £67/10.—The Avenue Motor Stores, 42, Markhouse Rd., Walthamstow, E.17.

H OBARTS for Brighton and Hove. The Villiers en gined 2½h,b. 2-speed model now available for de-livery within 2 weeks; £67/10. Limited number only-The Goldstone Motor Cycle Depot, 32. Goldstone Villar (220)

BEDFORD Garage Walsall, district agents to Humbers; rotational delivery. [530]

HUMBER 3½h.p., 2-speed, handle start, Bosch; 235 —Statham. 169, Bower St., Bedford. [794

HUMBER 21/4h.p., 3-speed, excellent running; £30

HUMBER Lightweight, 21/h.p., perfect condition £25, no offers.-53, Clova Rd., Forest Gate, E. HUMBER 3½h.p., 1914. 3-speed, K.S., wicker car, accessories £75.—Wilson, 5, Whitham Sheffield

11hp. 3-speed kick starter Humber and wicker 2 car, in good condition; £60.—Hare, 13, I Lane, Watford.

HUMBER 1914 2-cyl. 234h.p., Phillipson, perfe order, smart appearance, lamps, horn; £38.—For 40, Erpingham Rd., Phtney.

WAUCHOPE'S, 9, Shee Lane, London,—1915 6h, Humber combination, horizontal twin water-coole engine, fully equipped; £175. HUMBER Twin, 2%h.p., 3-speed, T.T., Bosch, lamp, ride away; for quick sale, bargain, £30.—Bailet 2, Cranley Mansions, Muswell Hill.

HUMBER Lightweight, mag. B. and B., new Fin Hughs, smart appearance, good running order: 224 stamp replies.—F. G. Rossiter, 35, East St., Elandford.

Indian. INDIAN Powerplus Outfits, just delivered, brand uses —Egertons, Northgate St., Ipswich. [784]

19 5 Sh.p. Indian, splendid condition; £75.—The Booth, Frodsham.

19 14 5-6h.p. Indian, clutch model, complete with a cessories; £65.—Barnett, Barnett and Co., Des INDIAN 7-9h.p., Binks, clutch, T.T., too fast, pert trial invited; £72/10.—W. W. Evers, W.

19 15 Indian Combination, 3 speeds, first-class countries.—Shelley, 147, High St., Harlesden, N.W.

7-9h.p. Indian Coachbuilt Combination, clutch; 1 lower power part.—Mickleburgh, Thames Di INDIAN 1920 7-9h.p. Combination, brand new; of —Seen any time 29, St. Leonard's St., Bromley

19 20 Indians; prompt deliveries.—E. Brown, Indians; Specialist, 3 and 7a, Parker Lane, Burglet Tel.: 194.

7-9h.p. Indian Combination, 1914, 2-speed, completed and in very good running order; £75.—Reyeck Bros., Barnsley.

1016 Powerplus Indian Combination, dynamo Ind. Inf., horn, and starter; 2135.—374, Gree Rd., Leyronecosh, by chutch, tyres good, lenf guil TMDIAN reshm, chutch, tyres good, lenf guil Toriat, reshmelled; 250.—16, St. Mary About Terract, Kensington.

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Indian.

DIAN, 1920, as new, Swan sporting sidecar, drupped bars, dynamo and discs; £220.—254, Archway Rd., 19643 tfornsoy 563. [7643] 15 7-9h.p. Indian and Indian Sidecar, spring frame, clutch, hand and loot starter; £37/10.— 'ictoria Rd., Brighton.

14 T.T. 5-6h.p. Indian, clutch, launes, horn, etc., tyres unpunctured, in excellent condition; £55. Mayfair Av., 11ford. [7615]

OIAN 1916, 7-9h.p., spring frame, 2-speed, kick, clutch, perfect; 75 gns.—Owner, 20, Cauterbur-Croydon, (Buses 34, 59.)

OIAN Combination, 1914, 2-speed, spring frame, scater, hood, screen, perfect; 700 gus.—289a, Leage Rd., Leyton, Essex. [8648]

To Rd., Leyton, Essex.

UTCHI model 7-9h.p. Indian, 1914, excellent runaing order, 260; exchange for 2'4h.p. Douglasklinson, Dittleton, Sideup,
h.p. Indian Combination, 1914, 2-speed, Klaxon
and humps, very tast; 280; seen by appointment—
George St., Richmoud, Surrey.

[786]

)1AN 3/2h.p., 1914, single-cyl., spring frame, clutch. Dunlops, long exhanst, very fast, offers.—
ill, High Rd., Byfleet, Eurrey. [8814]

HAN, 7-9h.p., clutch model, 1914, stored 4 years, excellent condition; £60; after 7, or 1 day.-17, Ranelagh Rd., Ealing. [8834

20 7.9h.p. Indian Combination, N.E.20, just de-livered, and unused; £220, including sidecar, £Bex 2,360, of o The Motor Cycle. [1883] 1p. Indian Road Racer, 1914 clutch model, with ddecar, lamps, horn, speedometer, and it will go bete; £68.—24, Spotkbrook St., Coventry. [X6925]

dAN, 1915, T.T., clutch model, a fast sporting us, in absolutely perfect condition, any examina £95.—Sagar 10. Seafield Rd., Blackpool. [8046]

p. Indian 1915 2-speed Conchbuilt Combination od lamps, Klaxon, excellent condition, fast. fol; £100.—Electricity Works, Surbiton Hill. [880]

IAN 1915 7-9h.p. Clutch Model, fast, complete with lamps, speedometer, in perfect running order. Wild, 60, Holly Lane, Erdugtoa, Birmingham. (X669)

CCHOFE'S, 9. Shoe Lane, London.—7-9h.p. 191-lodian combination, disc wheels, electric, model to sidecar £105; also a 1914 model. £77/10.

E 1914 7-9h.p. Indian, Mills-Fulford sidecar, 2-speed, foot clutch, speedometer, speres, and acce-£90.—Stone, Lambert's Hill, Shepton Mallet

AN Combination, 7-9h.p., 2-speed, nice Swan achbuilt lamps, etc.; any trial; £105, or t; any time.—17. Ebury Sq., Victoria, S.W.1.

t; any time.—17. Ebury Sq. Victoria, S.W.1.
[8854
9 7-9h.p. Indian, Powerplas model, 3 speeds
chutch, just overhauled, in perfect running
bargain.—Central Garage, Bridge St., Cambridge
1 7-9h.p., rollian Combination, 2-speed, clutch,
electric lighting, horn, speedometer, just over
105 gns., or offer.—Stearlock, 103, Northolt
artow.

AN 7-9h.p., 2-speed and clutch, overhauled, le namelled, new tyre on hack, lamps, speedometer ries, very fast; £50.-Plowmso, 46, Iverson Rd. 4, N.W.6.

Indian 5-6h.p. 3 speeds, kick-start, clutch. lemps, tools, original tyres, very low mileege. to new; 70 gas., or very near offer.—Holdway. Bedford.

OGIES to all my Indian Scout enquiries for le delay. Put up with your present mount hor.

W 1920 Fully Equipped N.E. 20 Combinations end of March.—Phone: 943.—Horswill, 42, St., Chester. [8522

AN 1915 Combination, 3-speed, 7-9h.p., Gloria lear, hood and wind shield, fully equipped, ex-condition throughout; £120.—Amory, Avenu-Finchler, N.S.

Indian 7-9h.p. Powerplus Combination, elec-rically equipped, 3-speed, hand and foot clutch leter, tools: £140.—Simpson, 8, Argyll St. Gerrard 1004.

5-6h.p. Indian Coachbuilt Combination, re-manuelled and plated, engine 51 G. 306. Indian H. and F. clutch, 3-speed, electric head light: -Clough, West Air, Washer Lane, Halliax.

H. have a 1916 Indian 5-6h.p., 3-speed, clutch. S., overhauled by makers, fully equipped, exorder.—Fair Offer Car Hoose, -6, Heath St., cad (ar. Hampstead The Station). Phone: cad 3752. Hours 9-7, including Saturdays.

H. have a 1915 Indian 5-6h.p. Combination, peed, clutch, kick start, overhanled, red, plated, as new, electric lights.-Fair Offer 1se, 5, Heath St., Hampstead for Hampstead tation), "Phone: Hampstead 3752. Hours loding Saturdays.



THE

COLMORE CUP TRIAL

HAS PROVED ONCE AGAIN HOW PERFECT IN DESIGN AND CONSTRUCTION IS

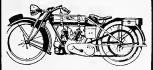
THE CLASSIC N.U.T. MOTOR CYCLE.

In this most strenuous competition the machines were submitted to every possible kind of test and the whole course of approximately 100 miles had to be covered "non-stop."

THE N.U.T.

achieved "Best Performance" of the day and was awarded

THE COLMORE CUP



Specification in brief of the 네.p. N.U.T. "V" type twin-cylinder engine-3-speed countershaft gear box with clutch and kick starter, chain-cumbelt transmission, adjustable lootrests, 26×23 in. Palmer Cord tyres, Brooks addle and toolbags, Lucas dynamo lighting set and horn.

PRICE COMPLETE, 140 GUINEAS.

We are Sole Agents for N.U.T., and our large contract enables us to offer very early deliveries.

EASTERN GARAGE Co.

Official Repairers to R.A.C., A.C.U., A.A., & M.U.

418, Romford Road, Forest Gate, E.7.

Telephone: 490 East Ham. Telegrams: "Egaraco, London."

MOTOR CYCLES FOR SALE.

Indian.

I NDIAN Combination, 1915, 2-speed, kick starter, dual clutch, wing screen, lambs, spare chain, tube, serfect condition; £110; no offers,—Hazelton, Woodside, Picardy Hill, Betvedere.

INDIAN Combination (red), 5-6h.p., 3-speed C., K.S., electrically equipped, horn, Tan-Sad, splendid condition; any trial; £135, of exchange Morgan, -10xall, c/o Renve, 5, High St., Purley. [7717]

1915 7-9h.p. Indian Combination, 3-speeds, aluminum discs, wind screen, speedometer, electric lighting and horn, smart turn-out; 115 gus-207, Latchmere Rd., Clapham Junction. [8121]

1 O 20 Indian Towerplus Combination, dynamo light-ing, leg shieble, michel bund brake, human-land, leg shieble, michel bund brake, human-color, 70, Coombe Laue, Windledon, 1 O 2008, 70, Coombe Laue, Windledon, 1 NDIAN 1914 7-9h.p., 3 speeds, Phenix sidecar, electric lighting, horn, speedometer, good running order, little used; \$120; by appointment.—Holcroft, Strubbery, Kingswinder, budley, 17906

NDIAN Combination, 7-9h.p., 2-speed, spring frame, electric, Gloria C.B. aidecar, spring wheel, hood, screen, all necessories; 85 gas. Satudav atter 1 p.m. -76, Stuart Rd., Wimbledon Park, S.W.19. [7571]

19 16 Indian 7-9h.p. road racing clotch model, engine guaranteed perfect, aluminium discs, lamps, Klaxon; any trial: 279,—Bartlett, Hazlewood, West Wycombe Rd., High Wycombe, Bucks.

LATEST 1920 7-9h.p. Indian Combination, dynamo bighting, speedometer, etc., a maguificent outlit, brand new Jone 150 miles only; \$220, or offer; seeu any time.—C.S., 14, Swaton Rd., Bow, E.S. 7625, 5355.

19 16 Indian Combination, 7-9h.p., 3-speed, foot clutch, spring frame, electric lamps and horo, hood and screen, stored 3 years, fine condition; any trial by appointment.—P. Egerton, Comshall Mill, (2012)

INDIAN T.T. 1914 7-9h.p., 2-speed, kick, hand clutch, Hedstrom engine, new heavy Danlop and Pedley tyres, recently overhauled, in first-class condition, lamp set, etc.; accept £65,—29, Broughton Rd. West Eahler.

1915 (late) Nearly New 7-9h.p. Indian Combination, and Chick start, countershaft gears, hand chick provided the start of t

19 16 7-9h p. Iudiaa Compination, 3 speeds, foot and hand clutch, electric lamps and horn, speedometer up to 80 m.ph., mileage 2,500, very fast; £145: consider exchange for low-r power model, cash adjustment.—Bunntof, 42, Erac's 8., Newtowa, Montgomeryshire 1916-17 Indian Combination, new balbana back

Dunion, 42, Drief St., Newtown, Montgomerfeinite,

10 16.17 Indian Combination, new bulbous, Sack
new extra heavy Dunlops, just thoroughly overhanled;
£120; or exchange countershaft machine, Norton or
Trumph preferred and cash—Burges, Two. Oxor
10 14 Indian 7-91.p. Combination, new tyres, disac,
the sack of lamp, Klason, tools, etc., engine, etc.,
overhauled, outfit repainted purple and upholstered
this winter (£40), now as new; £115.—Steel, New
College, Oxford. Trial, Morris's Carage, Long Wallo

Oxford.

POWERPLUS Indian, Model G, 1916, T.T. bats,
PR.S. lamp, les guards, mechanical horn Clinches
Draddanaght unders, good appearance, long exhaust:
a fine cound machine; first offer £120.—Johnson,
Penmacanama Penmacamawr.

INDIAN 1914 7-9b.p., 2-speed clutch, T.T. model, spring frame, new extra heavy Aron on front. Dunlop studied on rear, just overhauled and reenamelled makers' colours, exceptional condition and appearance: 275; exchanges—R. D. Varty, Thundersley, Rayleigh, Ersex. [8694]

NVICTA, 1919 Villers engine, 21th.p., 2-stroke, perfect condition, as new, with accessories; £50.

Ivy

IVX.-The Walsall Garage, Walsall, can supply at early dates. [7218

TVI 2-speed 2-stroke Orders booked for early de-livery - Rothwell and Milbourne, Cowleigh Garage, [6185]

TVY 21/2h.p. 2-stroke, single, just delivered; offers.

115, Earlsfield Rd., Wandsworth, S.W.18
Phone: Battersea 2096. [8443

IMMEDIATE Delivery of all Ivy models, the acknow-ledged finest lightweight.—Full particulars, H. G. Henly and Co. London and District Agents, 91, 6t Portland St., W.I. Mayinir 4084.

James.

THE Walsall Garage, Walsall, for good deliveries of all James models. [7226 JAMES.-All models; early deliveries.-A. J. Young and Co., Ltd., Newmarket. [0148

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B19

MOTOR CYCLES FOR SALE. James.

JAMES 41/4h.p., believed 1914, 2-speed, powerful: £55.—Griffith, 6, Gipsy Hill, Norwood. 18924 JAMES Combination, 1920, 44/h.p., brand new, in crate; offers.—Box 2,361, The Motor Cycle. [8890

19²⁰ 5-6h.p. James Combination, delivery 7 day. what offers.—Box 2,371, c/n The Motor Cycle.

19²⁰ James 2-stroke 2-speed, immediate delivery; £70.—Humphries, High St., Shaftesbury. [7766 19 18 James 2-stroke, 2-speed, equipped, perfect, mechanically as new; £58.—Hobbs, Shepton [8276]

19 James 5-6h.p. Combination, screen, accessory, sories.—Strutton, 133, High St., Harlesden, N.W.

19¹⁷⁻¹⁸ James 4½h.p. Combination, speedometer, lamps, etc.; £125.—Drever, Hazelcroft, The Grove, Finchley, N.3. [7921

LATE 1919 James Combination, 6h.p., Easting wind screen, outfit as new: £175; seen any time.—29, St. Leonard's St., Bromley-by-Bow. [8712

4 h.p. James, 1914, single gear, clutch, new helt, good tyres, disc wheels, in good order; price £35.—Box 2,257, c/o The Motor Cycle. [7640 JAMES 41/h.p. Combination, good condition, chanically perfect, tools, accessories, comple price £85.—Bray, Stationer, Potter's Bar. [79]

1917-18 James 44/Ap. Combination, all-enclosed chain, cush drive, little used, original tyres; £118.-72, Longridge Rd., Earl's Court. Western 1344.

f8838 James 4h.p. Combination, all chain drive, 3-speed countershoft, fully equipped, wind screen, hardly scratched, perfect condition; £85.—Reynolds, Water-leach, Camba.

19 20 T.T. James 3/h.p. Twin, original Show machine, aluminium discs, lamp, 2 generators, exceptionally fast; owner bought car; £120.—Pratt, 170, Bromptton Rd., S.W.3.

19 19 (September) 5-6h.p. James de Luxe Combination, Lucas lamps (3) and horn, Watford speedometer, excellent order.—Apply, John Duncan, 20, Wester Contes Gardens, Edinburgh.

WHITEY and Sons, James Specialists.—Delivery of brand new 1920 solo machines, 3½h.p. twins and 2-strokes before Easter gnamuteed.—7, The Vale, Acton, W.3. 'Phone: Chiswick 151...

19 16 James 44hp. Combination, 1920 engine and mag, 3 lamps, dissolved acetylene, 2 heavy Dunlops, overhouled by makers; price £120.—17, Winchester Rd., Birchfeld, Birmingham.

1916 James 40, h.p. Combination, 1920 engine and mag., 2 heavy Dunlops, 5 lamps, dissolved acetylene, overhauled by makers; £120.—17, Winchester Rd., Handsworth, Birmingham. [X6798

W. WHITEY and Son, the James specialists and for your James in stock: legshields, hurgage grids, and spares.—7, The Vale, Acton, W.3. "Phone: Chiswick 1513."

JAMES 5-6h.p. Combination, late 1919, not ridden 200 miles, Cooper hulhous sidecar, Easting, latest npholstored Tan-sad, Klaxon, lamps, fully insured; £175-Thompson, Chemist, 159, Stratford Rd., Birmingham.

19 is 3½h.p., Twin James Motor Cycle, 3-speed clutch, kick starter, excellent condition, in all respects similar to the 1920 model; 80 gps; aprly alter 8 o'clock or Saturday alternoon.—257, Brockley Rd., Brockley, S.E.

JAMES 2-stroke, 2-speed, new Cowey speedometer Miller laupp set, Klaxon horn, other fitments enamelling splendid condition, real good machine: £65 or exchange genuine higher power.—Hoy, 73, Swator Rd., Bow, London.

Rd., How, London.

J AMES 1916 345b.p. Twin, only run 1.500 miles, 3.

Jecobs, countershaft gear, free engine Rick starter, lamps, and speedometer, Palmer tyres understarter, lamps, and speedometer, Palmer tyres under tured, guaranteed in perfect mechanical condition, and a rare bargain, 90 gas; light coachbuilt sidear for attachment, with all fittings, 15 gms. extra; sell either separately.—Write, S.R., Box 3,772, e/o Erdwood's Advertising Offices, 30, Fleet St., London, E.C.4.
[8862

A LL-RED Special Recing 3½n.p. J.A.P., 1914, 90 hore, Bosch. Senspray, lomps and horn, will do 60 m.p.h.; £53,—Wellington, 40, Lowlands Rd., Harrow.

J.E.S.

J.E.S. Motorcyclette, little nsed, owner going over-scas, must sell; £18.—Box 294, c/o The Motor Cycle. [X6465]

J.E.S. Motorcyclette, better than a scooter, economical, reliable.—Enquiries invited by J. Blake and Co. Liverpool and Manchester 16579

J. E.S. 1h.p., about 1916, attached strong gent's cycle, splendid condition; £19; motor attach-ments without cycle, £12; hest offer accepted; ap-proval deposit.—Rev. Brown, 104, Congleton Rd., Sand-ach, Cheshirc. gent's

COVENTRY MOTOR MART

LONDON ROAD, COVENTRY.

"Selection, Coventry"

1920 Models in Stock to-day March 11th. Hazlewood-Jap, 6-8 h.p., combination

Alldays Allon, 2-speed, kick-start, hand clutch, (2) Glyno, 2-speed, hand clutch. (4) Metro-Tyler, 2-sp., discs, long exhaust. Metro-Tyler, 2-speed, long exhaust.

Connaught, standard model, single speed. Connaught, miniature model, 2-speed,

kick-start, hand clutch. Sun-Vitesse, 2-speed, Sturmey gear box,

kick start. Calthorpe, 2-speed, Enfield gear. Calthorpe-Jap, 2 speed, Enfield gear. lvy, 2-speed, kick-start, hand clutch. Hobart, 2-speed.

British Excelsior, 2-speed.

Quickest Deliveries of INDIAN. SCOTT. HUMBER. NEW IMPERIAL. P. & M. ALLDAYS ALLON. CLYNO. CALTHORPE. HOBART. CONNAUGHT. ARIEL. EXCELSIOR. BAT. METRO-TYLER. IVY. ZENITH. WOOLER. HAZLEWOOD. ROYAL RUBY. SUN-VITESSE. N.U.T. LEA-FRANCIS.

> "CASTLE THREE" "PREMIER SUPER" Runabouts.

GRINDLAY. VIONTGOMERY. **FULFORD**

CANOELET. MILLS-SIDECARS

in Stock.

The COVENTRY MOTOR MART, LTD., London Road. COVENTRY.

"Selection, Coventry." Telegrams:

MOTOR CYCLES FOR SALE.

J.H., Villiers, 2-speed, lamps, unpunctured; Moar, 53, Hampton Rd., Forest Gate, WAUCHOPE'S. 9. Shoe Lane, London.—1915 and sidecar, 7-9h.p. M.A.G. engine, Sturmey-1 3-speed countershaft gear; £120.

K ELECOM, 3½hp., B. and B., a.o.i.v., Bosch ride away; £16.—22, Hayelnek Terrace, I sea Park Rd., S.W.

Kerry.

£8.—Kerry, low built, acumulator ignition.—3
Ormond St., Newtown Row, Birmingham, [£26; 3½h.p. Kerry, B. and B. Bosch, perfect fixed gear.—Oilman, 16, Lennett Rd., well, London.

Lea-Francis

19 19 Lea-Francis Combination, all-chain, editive, luggage and petrol carrier, low mile new; £135.-3, Regent St., Rugby. EA-FRANCIS, 1920. - Place your name a waiting list for delivery of these arist mounts.-A. J. Sproston, Ltd., 198, Gt. Partlar W.1.

LEA-FRANCIS 1920 4h.p., takes sidecar, kie lamps, speedomêter, etc.; owner going t £130.-Munro, Burlington, Orchill Av., Gerrard's Bucks. L EA-FRANCIS 31/h.p. Twin, 1914-15, specie petition model, excellent condition and apprearefully used, equipped, overhauled, ready for £90; after 6.-5, Abbey Rd. Maneions, St. John's N.W.

1014 Lea-Francis 4h.p., 2-speed, hond an clutch, kick stort, Klaxon, lamps, silent, s just overhauled, guarantee mechanically perfect, inud.: £75.—Lt. Loam, Repatriation Camp, Moi Winchester.

LEA-FRANCIS, late 1914 model, heen in store speed, free engine, splendid chain drive, det wheels, engine in first-class running order; 285, gain.—Field and Palmer, 9, North St., Emsworth

1915 Levis, good condition; £40.—Central Southport.

LEVIS, hrand new, 1920, horn, knee grips; 52, Ditton Rd., Surbiton.

LEVIS.-Popular models, in strict rotation. Young and Co., Ltd., Newmarket. LEVIS 25/th.p., 2-speed, countershalt; £52. Elm Honse, West Wickham, Beckenham,

CYRIL WILLIAMS for early delivery of Chapel Ash Depot, Wolverhampton. LEVIS, 1915, 2-speed, Amac carburetter, 2 £54.-Mandes', 100, Gt. Portland St.,

19¹⁹ (November) 2¹/₄h.p. Levis, as new, sma age; £50.—Richards, Bath Terrace, Bicester

LEVIS 1914 2%h.p., 2 speeds, wonderful hill-£50.—Taylor, Dentist, Greenwich. 'Phone

LEVIS 21/4h.p., absolutely perfect condition, lamp set, discs; £49.—Brown, 3, Cedar St., lamp set, dis burn, Darlington. 2 1h.p. 2-speed Levis, very fast, Senspray, 2 2 excellent running order; £50.—88, Pa

LEVIS, as new, done 600 miles, Enfield clutch, chain drive, lamps, horn, tools. Birdwell, Barnsley.

19 20 Levis Popular, just received from never heen ridden; £60.—Lithgow, £ hrigge Rd., Goodmayes.

LEVIS, 2½h.p., de luxe model, excellent hill-fast, condition perfect, lamps, horn, tool -27, Norman Av., Twickenham.

19 19 (late) 2½h.p. Levis, 800 miles, perfec Lineas lamps and horn, spare belt, tool Trickett, Calveley, Tarporley, Cheshire.

LEVIS, late 1915, engine perfect, thoroughly machine, mechanical horn. P. and H. light any trial; £41.—Wroughton, Decorator, Swadli

LEVIS 21/4h.p. (July, 1919), perfect condition overhauled, lamps, horn, Watlord tripmeter; £52/10.—Nesbitt, 19, Waldeck Rd., Eoling

LEVIS.—We strongly recommend, and can early, this famous 2-stroke.—District aget Walsall Garage, Wolverhampton St., Walsall. 444.

LEVIS 21/h.p. 1920 Popular Model.-Hardio and Lune, Ltd., authorised ose Woodstock St. (off Oxford St.), Bond St., W.1. Mayfair 6559.

LEVIS Populars convertible into 2-speed with the addition of the Roc countersh-Apply. Roc Gear Dept., A. W. Wall, L. Mills, Birmingham.

L EVIS Popular 2li.p. 2-stroke, P. and H. lamps, Klaxon, E.I.O mag., new Dunlop on rear, cham-sion little machine; 40 gns.—C.J., 7, Mapesbury Rd., Irondon's N.W.2.

19 19 (Sept.) 27(h.p. Lovis 2-stroke, somi-T.T., 2-speed rat tyre, milecus 600, fast machine, good condition: ny trial hero; £65,-Winte, Jackson, Old Hall, Barming, faddstore, Kont.

Lincoln-Elk.

19 Lincoln-Elk 3lt.p., T.T. model, done 150 miles, as new, lamps and accessories; £50.—ack, 69, Boundary Rd., East Ham, Essex. [8768]

"INCOLN ELK 1914 31/thp., Starmey-Archer 3. speed gear and clutch, new Avon and Dunlon rees and helt, splendid running order; £50.—E. Allea, reenham Common, near Newburry, Berks. [8775

M.C. 414h.p., 1919, S.A. gcar box, W.D. bars, mechanical hora, kneo grips, excellent condition; 85.-27, Wilbury Av., Hove. [8320]

7. M.C., B. and B. carbinetter, Bosch mag, new 1 tyres, etc., just overhauled; 230, or nearest 1 tyres, etc., just overhauled; 230, or nearest 1 ter.—B. D. Micklethwaile, Birdsedge Mills, Denby ale, near Huddersfield.

ade, near Huddersfield.

19 4)h.b. L.M.C. Combination, Sturmey-Archer

3-speed countershalt, kick starter, h.b. clutch,
alnoum-beit, 3 lamps, Cembran, coschbuilt
illord sideen, Dunloys, done and proceeding and a stalk scartifichen, fast, powerful 125 gns.—Newell,
Coleridge Rd., Crouch End, N.S.

[6438]

Marloe.

[ARLOE Motor Bicycle.—Sole agents United Kingdom for the above. 3½h.p. 2-stroke motor bicycle, ed with clutch, 2-speed gear, and Precision engine; ce 80gns.

UP-AGENTS Interested please apply, H. A. Saunders, Ltd., 230, Monument Rd., Edgbaston, Biraghun. Machines in stock. [6554]

Martin.

10h.p. Overhead Valve Racing Martin-Jap, sportsman's meunt; 65 gns.—Phone: Finchley 1119.

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18 [82] [RTIN, 1913-14, T.T. sporting model, 4h.p.; £2] overhand last month, fast, good lamps; £50, Laucaster Rd., W.11.

Martinsyde.

Martinsyue.

ARTINSYDE-NEWMAN.—Barnes Motor Garage having been appointed special anthorised agents promise earliest possible deliveries commencing month.—Secretan and Mallet, Ltd., 149, Lowther ade, Barnes, S W.13. Phone: Hammersmith 1743.

ARTINSYDE-NEWMAN Combination, the sets sation of Olympia.—Book you order now for strict ton delivery with J. Black and Co., the motor experts, 110-112, Bolt St., Liverpool, Britain's life motor cycle saloon; ulso at Blackfriars St. cohecter.

Matchless.

AUCHOPE'S, 9, Shoe Lane, London.—8-10h.p. overhead 1914 Jap-Matchless, variable gear; £65. [8092 tow Bros., Guildford, West Surrey egeats for this first-class outfit.—Matchless in name and [3173]

Matchless Combination, Lucas dynamo lighting, new; after 6.—Freda Lodge, 5, Brixton Hill,

20 Matchless Model H Combination, new; offers
-Letters only, A.B., 29, Meadow Rd., Lough offers.

ATCHLESS.—Exceptionally early delivery of this super passenger combination.—Parker's, Brad-gate, Bolton. [X6742] 20 Matchless, Model H.—To ensure delivery, send enquiries, Clapham (Motors), King George St... (5094)

TCHLESS Victory Model, 1918, sileat as a car, spare wheels, etc.; £165,—175, The Grove, Dep-Hill, S.E.S.

TCHLESS (late) 8h.p. Combination, spare wheel, uggage grid, Lucas accessories, nearly new; -365, King St., Hammersmith. [8778

TCHLESS Victory Model, special hulbous hack sidear, Tan-Sad, little used; seen any time; -Briscoll, 58, Woodfield Rd., Ealing, W.5. [8439] PORY Model Matchless Combination, June, 919, as new, small mileage, all accessories:
-Wilson, 218, St. Albans Rd., Watford. [8555]

6 8h.p. Matchless-Jap Coachbuilt Combination, 3-speed, hood, screen, lamps and horn; £120.— utfield Rd., Stockton Heath, Warrington. [7941 4 Matchless Combination, 8h.p., kick starter, and clutch, wind screen, guaranteed sound; room; 280.—Reynolds, Waterbeach, Cambs. [8863]

5-14: 8h.p. Matchless-Jap Combination, 2-specdaew coachbuilt body, thoroughly overhauled, electhing: £95.-91, Brent St., Hendon, N.W.



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SECOND-HAND

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1020 AJS. 6 h.p. Combination.
1030 NORTON, 33 h.p. Brooklands model
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Sideoar.

SECOND-HAND

1919 MOTOSACOCHE 6 h.p. M.A.G. Combina-

101.

1917 RUDGE, 31-h.p., and Rudge Sidecar.

1916 NEW HUDSON, 21-h.p., 2-speed.

1914 WOLF-MOON, 2-speed, new engine and

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1916 NEW IMPERIAL, 23 h.p., 2-speed, kick-1916 HARLEY-DAVIDSON and H. Sidecar. 1916 (late) B.S.A. "K" and Sidecar 1917 JAMES and James Sidecar, Lucas dynamo. 1919 NEW IMPERIAL, 8 h.p., and hulbous Side-

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151, High St., WALTHAMSTOW.

Phone: 169 Walthamstow. Grams: "Cyclotomo, Phone, London."

50, High Rd., WOOD GREEN, N. 22 'Phone: 1956 Hornsey.

387, Euston Road, N.W.1. (Opposite Great Portland Street Station). 'Phone: 4978 Museum.

MOTOR CYCLES FOR SALE.

Matchless.

19 20 Model H. Matchless Combination, spring frame, spare wheel, dynamo lighting, hood, screen; offers.—Seen any time 29, St. Leonard's St., Bromley-by-Bow.

MATCHLESS 1920 Spring Frame Combination, book at once to ensure extra early delivery at list price.—Pattison Bros., 29, Montford Place, Kenning-ton, S.E.11.

WAUCHOPE'S, 9, Shoe Lane, London.—7-9h.p. M.A.G.-Matchless 1915-16 model combination, rully onlipsed, hood, screen, accessories, includes sparse covers; £165.

19 20 Model II Matchless Combination, dynamo lighting, hood, screen, rear-driven speedometer, eg guards, etc., new; £245,-2, Nightingale Rd., Lower Clapton, N.

M ATCHLESS-J.A.P. 8h.p. 2-speed C.B. Combination, kick start, Bosch, Amac, lamps, tools, climb anything; seen week-ends; £85.—Owner, Tongham Cottage, Tongham, Surrey.

M ATCHLESS Combination, 6h.p. M.A.G. cagine, 3-speed gear box, K.S., lamp, horn, Cowey speedometer, watch, tools, spares; £130.—29, Nightingals Place, Woolwich, S.E.18.

MATCHLESS 1915 Combination, M.A.G. engine. dynamo lighting set, screen, speedometer, full set of spares, including 2 new covers; £120.—Caig, Sunnymenal, Wallasey, Cheshire.

MATCHLESS-JA.P. 1914 4h.p. Twin, Armstrong 3-speed and clutch, Bosch, in splendid condi-tion; any trial; 60 gns.—Streeter, Down Farm, Preston Candover, near Basingstoke.

90 BORE 1914 Matchless, J.A.P. 8-10h.p., o.h.r., 2-speed, K.S., 2 lamps, new back tyre, good condition, engine perfect; £100.—Thomas, Lyndhurst, Chiltern Rd., Wendover, Bucks.

M ATCHILESS Combination, C.B. car, J.A.P. B. 10h.p. engine, c.h.v., Mabon variable gear; trial willingity: £100, or nearest offer.—Smart, 35, Corporation Rd., Gillingham, Kent. [8587]

L ATE Model Matchless Combination, M.A.G. engine, spare wheel, Lucas dynamo lighting set, hood and screen, heautiful condition; price £165, lowest.—Apply, Canty, Crockenhill, Swanley, Kent. [7914]

MATCHLESS 6h.p. 1914 Racing T.T. Model, o.h.v. Bosch, B.S.A. carburetter specially tuned, lamps, horn, pump, new Dunlops, suitable for sidecar; 275, or near ofter.—Dowell, High Rd., Bridet, Surrey. [8813]

MATCHLESS, 1914 mag., 7-9h.p. combination, very fast and powerful wooderful hill-climber; immediate possession; £98; trial run by appointment during week-end.—Brown, Flaundea, Alexandra Rd., Wetford.

M ATCHLESS.JA.P. Combination, £85; Concept. M. sidecar, Bosch, Amac, Cower speedometer, horn, single speed, 3 lamps, new belt, excellent condition: appointment only.—Watts, 37, Okshampton Rd. Keneal (7731) Concelet

MATCHLESS-J.A.P. Combination, 8h.p., 1918, 3 speeds, clutch, 4 detachable wheels, electric lighting, horn, tools, spares, excellent condition, run 4,000 miles; 175 gns.—Riddoch, Fonthill, Reigate, Surrev. (8726 Surrey.

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MATCHLESS Model H Combination, dynamo light-nas, fully equipped. Bock now for early delivery. -Authorised London agents, Vivian Hardie and Lane, Ltd., 24, Woodstock St. (off Oxford St.), Bond St., W.I. 'bone: Muyfair 6559

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MATCHLESS Combination.—Book your orders with Ross, 86, High Road, Lee, S.E., for 1920 spring Imme 8hp., Matchless combination. A model always on view at above address. Deliveries guaranteed strictly as per order received. Retail price as ruling at time of delivery. A large assertment of second-hand motor cycles of all makes always in scock. [5242]

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Metro.

METRO-TYLER.—Enquiries from Liverpool and district invited by J. Blake and Co., 110-112, Bold St., Britain's premier motor cycle saloon. [6581]

1918 Mct., Britain's premier motor cycle salcon. ISSI
1918 MctroTyler, 2-stroke, sincle speed, diese, lamps, promitment; 249,—142, Sarciol Rd., Scutt Tottenhau.
METRO-TYLER 2-stroke, late 1919. T.T. bars, long foot plates, horn, pump, tools, excellent condition, only done 500 miles; £50; seen by appointment—7, Asimount Rd. Highgate.

MINERVA 31/2h.p., B. and B., mag., ride away; £20.-100, St. John's Rd., Redhill. [8139]

£24.—Minerva 25(h.p., Amac, C.A.V., running order.—Bill, 54, Dundonald Rd., Wimbledon. [8000 31h.p. Minerya, mag., B.B., new belt, saddle, guards; £25.—Bailey, West End, Lifton.

Ph.p. Minerva, Bosch, Amac, chain drive, good run-ning condition; £26.—76, Western Rd., Southall, [8020] 18020 1 h.p. Minerva, E.I.C., B.B., adjustable puller, lamps, horn, very fast; £25,-10, Upper Park Rd., New Southgate, N.11.

23h.p. Minerva, clutch, new tyres, belt, mag., in 24 good running order: £25.—19, Commercial Buildings, Saltesford, Warwick. [X6749]

23.h.p. Minerva, coil ignition; seen running; after 4 6 o'clock; £10.—Hampstead, 2, Nuthurst Villas, Benhill Rd., Camberwell, S.E.5.

21h.p. Minerva, Dixie mag., inst overhauled, wants
2 tuning up, good condition; £18.—Baxendale,
20, Mordaunt Rd., Harlesden, N.W.10. [8163 MINERVA 31/2h.p., spring forks, Bosch, B. and B., recently overhauled; £23, or near; bought combination.—Wallis, 18, Nassau St., W.1.

MINERVA 234h.p. 4-stroke, in excellent minning order, new mag., drip feed pump, tubes, belt and order, new mag., drip feed pump, tubes, belt and rear cover; £23.—Apply, Motor, 27, Brunswick St., rear cover; £23.—Apply, Motor, 27, Brunswick St., [7660]

6 h.p. Minerva Twin, Beach, B. and B., 2-speed, handle start, 2 practically new tyres, sidecar chassis optional, in good condition: 245, or near offer—Gost Abert Act, Newport, Mon. [X6677]

Monarch.

MONARCH 254h.p. villiers 2-stroke, Alhion 2-speed gears, not done 100 miles; £65.—Roberts, Blencathra Garage, Keswick.

Motosacoche.

MOTOSACOCHE 3/4h.p., good condition: £40.—Shilli-toe, Wymondley, Bury, Stevenage, Herts. [7802] 25.-214h.p. Motosacoche, 1914, splendid condition. —South Bank, Moreton Rd., Worcester Park,

2 1h.p. Motosacoche, Bosch, new Amac, adjustable 2 pulley, good condition, fast; £28.—9, Lawrence St., Newark.

21h.p. Motosacoche, mag., Amac, new helt, alu-4 minium boards, Xl'Ali saddle; first £19.-58, High St., Staines.

St., Staines.

2 1h.p. Motosacoche, new B. and B., Bosch mag.,
2 2 Drnid forks, new foot brake; £20; after 6 p.m.
46, Pulborough Rd., Southfields, Wandsworth,
[8452]

1942 Motosacoche 25th.p., new Amac belt, Dunlop tyres, Bosch, all lamps, just fitted new rings, periet running order; £30.-15, Swanton Rd. [8207]

19 15 3/An.p. twin Motosacoche, inst overhauled, M.A.G. engine, Enfield gears, Bosch, Amac, Delza valves, chain drive; £65; any trial, two uppfanthorpe, Spalford, Newark, Notts.

New Hudson

NEW HUDSON 2-stroke, single speed, running order; £26.—Maidment, Emsworth, Hants. [8641

19 6 New Hudson, 2-speed, lamps, teols; 246-77 New Hudson, 3-speed, clutch, kick starter, in Perfect condition; no offers, 256.—14a, Balham Hill, S.W.

NEW HUDSON 2-stroke, 2-speed, latest 1920 model, ready to ride away; £75.—Tilleys, The Esplande, [8470]

19 14 24h.p. New Hudson-Jap, 3-speed clatch, lamps, complete, £45.—Hammond, Waterloo Rd., Shepton Mallet. [7840

4 h.p. New Hudson Solo, Bosch, B. and B., excellent condition, snip; nearest £45.—Ivydene, Norwich Rd., Thornton Heath, Surrey. [7764]

Rd., Hoffston Hella, Suffey.

NEW HUSSON, 6hp. J.A.P., No. 12797, new tyres, Draul Mark II; £40, after 5.30.—Hyams, 42, Standard Mark II; £40, after 5.30.—Hyams, 42, Standard Mark II; £40, after 5.30.—Hyams, 42, Standard Mark III; £40, after 5.30.—Hyams, 42, Standard Mark III; £40, E. Combination, electric Mark III; £105.—Lambert, Googe Yard, St. John St., Augel, £.C.

1020 Agru, St. John Sc., Augu, E.U. [6011]
1020 [6], New Hudson Combination, brand new; Strowener Crescent, Hyde Park, Corner. [817]
13 [1], New Hudson, 3-speed, handle-bar eluteb, St. P. P. P. P. Hudson, 3-speed, handle-bar eluteb, St. P. P. Langue, Eyres new all in good condition; 550.—Hare, 13, Loates Lane, Watford.

NEW HUDSON Combination 1914 6h.p., 3-speeds, clutch, K.S., coachbuilt sidecar, excellent condition, stored during war, £95.—Marshall, 55, 8041 lands AT., Southampton.

B 16 Six Twin New Hudson Combination, hand clutch, K.S., 3-speed countershaft, splendid condition, 250 just spent on tyres, doing up, etc., best offer accepted. -8, B. Rudd, 40, John St., Luton. [7807



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6 b.p. New Hudson 1914 Coachbuilt Combination, speed, clutch, kick starter, lamps, horn, speed, clutch, kick starter, lamps, horn, speeder, etc., good running order and condition; £94456, Whitehors Rd., Thornton Heath, S.E.

10 17 6h.p. New Hudson Combination, 3-specific control of the cont

19 15 New Hudson 2-stroke, 2-speed, counterand lights, perfect mechanical condition, discs, elections, horn, etc., very mart and sporty, must a £57/10 cash.—199, Fox Lane, Palmer's Green,

1914 6h.p. New Hudson Combination, O.B. side Armstrong 3-speed, clutch, K.S., lamps, & sparce, etc., stored 3 years during war, tyres in elent condition; £95, or nearest—Tonnell, Mar Guildford.

19 14 New Hudson Big Six C.B. Combination speeds, clutch, kick start, all accessories, completely overhauled (£20 spent); best offer owe gns.—Borrow, Padnell Farm, Cowplain, Cost

19 (December) Big Six Twin New Hudson of bination, 3 speeds, clatch, K.S., done 400 npunctured, Klaxon, P.H. lamps, legalieds, tube, plug, good tools, like new; seen London; 21 Box 2.334, clo The Moor Cycle.

NEW HUDSON and Sidecar, 4h.p., July, 1919 hitle used, 3-speed countershaft gear d kick start, full set lamps, 2 generators, speedom and spares; £130; seen by appointment.—E., 60, loughby Lane, Park, Tottenham.

New Imperial.

19 20 New Imperial 6h.p. Solo, new, at list. [X]

19 20 New Imperial, light tourist models în st Clapham (Motors), King George St., Green NEW IMPERIAL-J.A.P., believed 1916, fast, s lamp; offers?—304, Manchester Rd., Bolton

NEW IMPERIAL, 2-speeds, excellent cone lamps; £48:-190, Kentish Town Rd., N.

NEW IMPERIAL 2Mh.p., 2-speed, perfect continuous, horn; £55.—Chinhurst House, Selby St. Albans.

NEW IMPERIAL Junior, 150 miles, complete, horn, etc., registration; 68 gns.—Worhoys, 8 Rd., Biggleswade.

NEW IMPERIAL 2½h.p., 2-speed, lamps, goodition; trial; £38.—Luckin, College Arms, ber, Basingstoke.

19²⁰ 8h.p. New Imperial, sidecar, electric light done 400 miles; £172/10, ne officts. Brompton Rd., S.W.3.

8 h.p. New Imperial W.D. Combination, new lamps, tools, very fast; £140; trial.—Ker Butcher, Whyteleafe.

2 3h.p. New Imperial, 2-speed countershalt 24 tyres. lamps, etc.; £45.—The Haven, Sutherland Rd., West Croydon.

NEW IMPERIAL-J.A.P. 2% Jb.p., 2-speed, horn, and tools, thorough good running £45.—Glendevon, Pymore Rd., Bridport.

NEW IMPERIAL 1919 25th p., 2-speed, han clutch, kick starter, horn, lamps, perfect tion, as new; 275.—Robinson, Liptons, St. Alhans. 19¹⁷ New Imperial-Jap, 2⁸/₂h.p., 2-speed, kids handle-har clutch, lamps, horn, pump, and £50.—Adams, Pigeons Farm, Greenham, Newbury.

NEW IMPERIAL-J.A.P. 23/h.p. 1916 2-speed, mechanical horn; £48; after 12.30 p.m. Se any time Sunday.—North, Wood Lane, Binfield,

19 19 New Imperial, 23/11.p. J.A.P., 2-speed, very fast, hardly used, in perfect con £60; Weking district.—Box 2,365, c/o The Moto

NEW IMPERIAL 24h.p., 1915, 2-speed, over throughout, new Clincher covers and belt, horn, etc.; £52.-51, Maury Rd., Stoke New N.16.

BARGAIN, New Imperial, 8h.p. J.A.P., countershaft gear box, clutch, condition mechanically perfect, a snip; 75 gus.—8a, Lane, Lewisham.

NEW IMPERIAL 1917 8h.p. W.D. Combine speeds, Brown and Barlow, Millfort side lamps, very small mileage; £140.—Maudes', 11 Portland St., London.

DON'T wait till Easter.—1917/2 New J.A.P., 2-speed, free, countershalt, lam pump, toolbag, abruinium discs, splendid sacrifice all on; £55, nearest.—Johnson, 4, St., Aylesbury, Bucks.

HOR Sale, at 3 days' notice, Sh.p. New J. W.D. model, mileage less than 2,000, without brand new Rido Easy 4-point sideen just everhauled and decarbonised; what coch all milbrooks, Earls Colne, Essex.

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New Imperial.

NEW IMPERIALS, A.P. 1919 8h.p. Combination, under 1,000 miles, completely equipped, Tan-Sud, par chain, etc., very quiet; 1338; seen any time.—No., Avenue Rd., Lewisham.

Avenue AR., Lewisham.
ATE 1916 New Imperial-Jap, 25/h.p., 2-speed, just-l been rebushed and overlanded, lumps, horn, per-tendition; £52, or near offer.—Davis, 42, Thirsk L., Clapham Junction, S.W.11.

NEW IMPERIAL 1917 24th, 2-speed [1919 tunks, guards, cylinder, somi-Till, just robushed, new sings, valves, heavy Clincher, A.K. grips, filtor discs, tungs, tools spure bolt, chain; £56, a barguin.—Harrison, 13, Cyde Park, Bristol.

20, 19, Quo and, MINON, Edward Market, Minon Market, Minon Son miles, Cameo wind screen, new, not done 50 miles, Cameo wind screen, new, not done 50 miles, Cameo wind screen, E. Minon, etc., very smart turner, first electure 2170 secures; owner buying car.—E. Wellie, Theories Buildings, Cambridge, (8)38

ACK. HEALY, Cork, official Norton agent.-Rota-tional delivery, No premiums accepted. [6486 100au deurery. Ao premiums accepted. 19485 [918 Big Four Norton, Military Model, all-chain (nedescel), good condition; £100.—H. Barnett, 1948. [2644] [917 T.T. Norton, countershaft, 3-speeds, Norton sidecar, speedometer, lamps; £125. After 6.—[askel], 5, Brixton Hill, S.W. [8130]

9 19 Norton Big Four, November, excellent condition, P. and H. lamps, Cowey, horn; £140; there abroad.—Tidy, Ascot. Phone: 390. [7751] VORTON 1914 4h.p. and Sidecar, 3-speed, Cowey, largest F.R.S. (replated), Klaxon, Binks; £65.—en Martin's Garage, Highgate Hill, N.W. [8558]

9 20 Big Four Norton, delivery April, deposit £10 paid; what offers for option.—Broombead, Pensirst, Malvern Rd., Acock's Green, Birmingham. [7865] JORTON, 1916, B.R.S., new condition, equipped; £85; exchange first delivery 1920 T.T. Rover, sh adjustment.—32, Winchester Rd., Colchester.

9 19 354h.p. T.T. Norton, done 500 miles, excellent tune, no accessories, might arrange view in Lonner, what offers?—Basil Davies, St. Wean, Bodmin.

JORTON 3½h.p., B.R.S. 1914 frame with 1919 ergine, mechanically perfect but enamel poor, the enamel state of the enamel state

Cuncelet sidecar, wonderful for speed and fiestity, complete lamps, tools, pump, kneegrips, various ute, maniline had very little use; nearest £120.—well, High Rdl, Byfleet, Surrey. [8810

1. Norton, Binks carburetter, Philipson pulley, Rare P. and H. lamps, Klaxon, original tyres, butter the camel and plating new, whole thormal control of the control of the

6h.p. Twin N.S.U., Avon tyres, less mag., £15,-16, Mason St., Walworth. [8858 16, Mason St., Namouva.

S.U. 1914 44' Twin. 2-speed, f.e., kick start, ride away; £42,—90, Crayfold Way, Crayfold, Kent. [8538]

.S.U. Combination, 6h.p., 2-speed, Bosch mag., Binks carburetter: £30.—Rowley, 35, Sudebill, Newmill, LHuddersfield.

S.U., gear-driven mag., 26ia. wheels, m.o.v., new Duniop back, plate, caamel good; £17.—Bunce, nham Royal, Bucks. [8381

S.U. Twin, free engine, speedometer, horn, sidecar; £35; inspection 9.30 a.m. to 5.30 p.m.—675, Comcial Rd., Stepney, E.14.

S.U. 6h.p. Combination, Bosch mag., Binks carbur-etter, 2-speed; first cheque £30 secures.—William ley, Sudehill, New Mill, Huddersfield. [7564]

S. U. 3(Ap. Twin, 2-speed, genr, latch and a second services, "Iravis, 92, Burry St., Heywood. [8642] S. U. 3(Ap. Twin, 2-speed, genr, latch and a services, a

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N. U.T. 1922 Model 3½h.p., Lucas dynamo lighting, deletric horn; 140 gils, complete.—Authorised London agents, (vivino Hardto and Lang, Ltd., 24 Woodsteek kt. foff Oxford 8t.), Bond 8t., W.I. 'Phoes. Maydra 655. Book now for early deliver.

O.K., 25(h.p., 2 speeds, countershalt, 1917; any trial; splendid condition; £38.-53, Russell Rd., N.15.

1917 O.K. 21/h.p. 4-stroke, 2-speed, good condition, ride away; £42.—Loveridge, 7, Chapelhay St., Weymouth. [X6734

O. K.—New 2-speed 2-stroke, Villiers, in stock.—Chandler, Reyre and Williams, Hitchin, Herts, 1996.

O.K.-J.L.P., 2-speed, aluminium discs, copper ex-haust, ride away; £52; no offers.—North Ealing District Railway Statuo.

O.K.-VILLIERS, new 1920, 2-speed, countershaft, in stock; £65.—Frunk Whitworth, Ltd., 139, New St., Birmingham.

O.K. Junior, 1917, 4-stroke, o.h.i.v., 2-speed, new tyres, aluminium footboards, Klaxon; £45, or near offer.—Owner, 2, New Rd., Richmond, Yorks. [7742 O.K. Junior, 2-speed, countershaft, m.o.i.v., mechanical horn, foctboards, io top-hole condition; £40.—10, Sunbeam Villas, Alexandra Rd., Ashford Common, Middlesex.

F.O.C.H. bave an O.K.-Union 25(h.p., brand new; Hist price.—Fair Offer Car Hourse, 5, Heath St., Hampstead (or. Hampstead Tube Statioo). Phone: Hampstead 3752. Hours 9-7, including Saturdays,

21h.p. O.K. Eugnae with magneto, Amac, controls, bracket, generator, front and back wheels fitted tyres, takes, all good condition, eagine, magneto overhanded to or separately; offers.—Rylatt, Union St., Gengasev.

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OMECA-J.A.P., two weeks old, Lucas hern, perfect;
£67.—Saunders, 131, Broomfield Rd., Coventry.
[X6866]

1 \(\Omega \) 16 Omega 2\%h.p., 2-speed, lamps, etc., perfect; 19 to Omega 254b.p., 2-speed, lamps, etc., per 42 gns.—30, Canning Crescent, Wood G

19²⁰ Omega-Jap 2-speed, just delivered, not ridden; what offers?—Lewis, 45, Broad St., Newtown. Montgomeryshire.

OMEGAJAAP., 2-speed, and medel de luxe, and 74 gns. respectively.—Stocked by Lloyd Son, 29, Station St., Lewes. at 66

19²⁰ Omega-Jap, 2-speed, done 85 miles only, as new, lamps and horn; £70; sidecar machine wanted.—Empson, Gamlingay, Sandy. [6868

1920 Omega-Jap, 2-speed, clutch kick starter, fully compared lamps, hora, practically brand new best offer over £75.—Deed, 29, Silver St., Hull. [7557]

P. and M.

CYRIL WILLIAMS for early delivery of P. and M.'s.-Chapel Ash Depot, Wolverhampton. [X8624 P. and M. Combination, W.D.: £105.—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., S.W.3.

19 16-17 P. and M., io perfect order, lamps, boro, ct., complete as new; £75, or nearest.—125, High St., Mertoo, S.W.19.
D. and M. Combination and all of the complete as new; £75, or nearest.—125, High St., Mertoo, S.W.19.

P. and M. Combination, 1919, little used, condition almost as new; £105; seen any time.—Randall, 88, Church Rd., Barnes, S.W.13.

P. and M. R.A.F. Model, in perfect running order, lamps, pump, good tyres; bargain, £60.—Write, Dowell, High Rd., Byfleet, Surrey. [8811

19 P. and M. Combination, usual accessories (no speedometer), spleadid condition; £120; Loudon.—Box 2,349, c/o The Motor Cycle. [8879

P. and M. standard, recent model, good order and appearance, Turner conclibulit sidecar; £66 solo, £75 combination.—Riches, Harlow, Essex. [8305]

1920 3/2h.p. P. and M., 2-speeds, kick start, horn, etc., ron 250 miles, and goes splendidly; £108. Hertford district.—Box 337, c/o The Motor Cycle.

19¹⁹ P. and M. 3'h,p., aluminiam disc, lamps, horn, etc.; £110, or near offer; pascratched, perfect; expert examination invited.—7, Market 87, Chesham.

P. and M., 1919, October, Canoelet Minor sideca lamps, horo, etc., very little used, condition sow: £115; ao offers; trial Saturdays.—Chibna Aspley Rd., Woburn Sands. [838]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B23

P. and M

P. and M and Cancelet sidecar, electric lighting, disc wheels, etc., very sporting, 105 m.p.g., tyres as new, any trial; £120.—
Jowett, Brook Lane, Chester. (X6917

P. and M., two 1917 R.A.F. models, some parts missing, engines excellent; come and examine; lowest, £40 each—Edwards, 7, Exhibition Rd. South Kensington, London.

PHELON-MOORE, ex-military stores, completely overhauled and guaranteed by us, £73; Milliford and P. and M. sidecars to suit, ex stock.—Mandes, 100, 6t. Portland St., London, and 100, Paris St.

P. and M. coachbuilt Combination, new tyres, tubes, F.R.S. and P. and H. lemps, all spares, X.L. pan saddle with back rest, excellent condition, carefully used, genuine machine; £90.—Furner, Old Vicarage, Horsley, Nailsworth, Glos.

1919 31/h.p. P. and M. Combination, engine No. 8386 B., with 3 Lucas lamps, tools, and horn, has heen very carefully need, and is in excellent condition throughout; price £120.—Watts, 1, Holly Place, Humpstead. Tel.: 507 Humpstead.

P. and S.

P. and S.

WAUCHOPE'S, 9, Shoe Lane, London.—2'4h.p. P. and S. hy Pearson and Sopwith, 2-speed models, £67/15; 2-speed free engine and kick starter models, £74; delivery from stock.

Peugeot.

PEUGEOT 2%h.p., 1915, H. and B., ride away; 35 gps.-99, Dartmouth Rd., Brondesbury, N.W.2. 23h.p. Pengeot, ronaiog order, Bosch, B.B., 21 4, wheels, spring forks, low, ride away; £15.—Ford, Sotwell, near Wallingtord, Berks. [X6797

5 h.p. Twin Peugeot Coachbuilt Combination, Bosch mag., 2-speed gear, all in good condition, 55 gas,; seen after 1 o'clock Saturday.—Bailey, 112, Carlyle Rd., Bouth Ealing, W.5,

Portland.

PORTLAND, 2½1,D, 2-speed, 2-stroke Dalm engine, Albion 2-speed gear, handsome 2-stroke, fitted with foothoards; early deliveries; £66,—Mandes', 100, Gt. Portland St., London.

Precision.

PRECISION Enquiries Invited by J. Blake and Co., the leading motor cycle experts, Liverpool and Manchester. [6582]

2 3h.p. Precision, new, and sporty appearance, long exhaust pipe, good running order; £35 for quick sale.—19, High St., Kenilwotth.

PERCISION 44h.p. 1915 Combination, 3-speed gear and clutch, lamps, in first-class running order; £65.—Taplin, 159, llornsey Rd., N.7. 18843

4 h.p. Precision Twin, 2-speed, free engine, gear box, just overhauled, lamps, horn; 260.—J. T. Allsopp, 8, logle Villas, Woodhouse Rd., North Finchley, N.12.

PRECISION C.B. Combination, lamps, born, Klaxon, pillion, not soiled, 3-speed, clutch, guaranteed; £85.—Lee, 14, Half Moon Crescent, London, N.1.

4 h.p. Precision Coachbuilt Combination, 2 speeds, Lamps, speedcometer Binks, tools, Dunlop tyres, nice condition taken for debt; £65.—Kennard, Butcher, Whytelease.

PRECISION (1914) 2½h.p., Brampton variable pulley, lamps, tools, 120 m.p.g., fast, condition excellent throughout; £47/10 firm; seen after 5.30.—13, Everest Rd., Eitham, S.E.9.

PRECISION Big Four Coachbuilt Combination, 3-speed countershaft, K, start hood, screen, Lucas lamps, done about 80d, unscratched, like new; £110.— 36, King David Lane, Stepney.

PRECISION 1913 374h.p., T.T. model, extra large tank, T.T bars, Bosch waterproof mag. new Dunlop studded tyres, excellent condition; £45; exchanges.—R D. Varty, Thuodersley, Essex. [8695]

PRECISION 3!4h.p., Norton frame, tank, etc., Brooks racing saddle; sole reason for selling, high cost of petrol; ready to ride away; first £25 secures, Lo.r.-V Schofield, Drakes Broughton, near Perstore.

Premier.

PREMIER 31/2h.p., late model, very little use: £72.—Heath Place, Orsett, Grays. PREMIER 31/h.p., 3-speed, K.S., good order; 260. Bowker, Garage, Aylesbury. [X6463

19 14 31/h.p. Premier, 3-speed countershaft gear, complete with accessories: £55.—Barnett, Barnett and Co., Deal.

PREMIER 1914 4h.p., Binks, Bosch, lamps, periect order; Epsom district; £50.—Box 2,356, c/o
The Motor Cycle, [8885]

19¹⁴ Prenier 3½h.p. C.B. Combination, clutch, 3-speed, Bosch, speedometer, lamps; £58.-25, Stanmore Rd., Leytonstone, E.11 [8730

PREMIER 31/dap, variable pulley, Druids, lamps complete, good condition; £35; ride away; between 5.30 and 8.30,—Wutson, 75, Buchanan Gardens, Harles den. [7826



LIVE UP TO **OUR IDEALS**

the following extracts from letters received will prove :-

Launceston, 11-2-1920. "In 1916 I got from you a new— motor cycle and it has given me every satisfaction—and I do not cease to be gratiful to your general manager for his trouble and excel-lent acrice."

Rev.

Durham, 5-2-1920.

1 am very pleased with your straightforward business methods and your courteous attention to postal clients."

Ellham, S.E.9, 11-2-1920.
"It is refreshing to find a Firm anxious to take trouble, no me's behalf. It is of course the proper vary to conduct successful and continuous business, but unfortunately so many firms seem to overlook the fact now-a-days."

Major-

"I thank you for the consideration you have shown me in the matter of my have shown me in the matter of my have shown a world of perempt-ry nerchants, such treatment is refreshing."

Let us give YOU the same FAITHFUL SERVICE. We offer the following well-known makes for EARLY DELIVERY:

ARIEL ALLDAY ALLON, BLACK-burné 4 hp. Clyno Lladiweladi, biamond Edmund, Ndian, ivy L.M.C., METRI-TYLER, NEW IMPERIAL SFARALROUK SUN, velugette.

" SKOOTAMOTAS "

Delivered from Stock.

J. W. TOLLADY. General Manager,





MOTOR CYCLES FOR SALE.

Premier.

PREMIER, T.T., 31/2h.p., lamps, speedometer, able pulley, Bosch variable jet, tyres excel—20, Bartholomew Rd., Kentish Town.

PREMIER 31/h.p. 2-speed and Coachbuilt Sidespleadid order turonghout; £58.—Speechler Gunnersbury Lane, Acton Hill, London, W.3.

PREMIER 3%h.p. Twin Combination, new coach sidecar, Bosch, new carburetter, lamps, and cessories; must sell; £50.—Francis, Kingsbury, Abayer.

PREMIER 35(h.p.-Twin, overhead inlet volves, s carrier, fast and smart-looking mount; barge £39; apply after 7 p.m.-23, Arlington Rd., Ca Town.

1914 Premier 31/sh.p., 2-speed C. shaft, clittch, F fully equipped; expert examination; sideous chine, appearance perfect; £65.—M., 58, Abbey Chertsey.

PREMIER (Inte 1914) 2½h.p., C.A.Ÿ. mag., been thoroughly overhauled, condition excell B S. Marshall, Ltd., 33-34, Foley St., W. 'P) Mayfair 5906.

PREMIER 3½h,p., 3-speed countershaft, wit ford sidecar, excellent condition: £85.—ham Motor Co., 223, Hammersmith Rd., 'Phone: Hammersmith 80.

PREMIER 3½h.p., brand new, B. and B., B pulls well, take a sidecar ride away; £4 will exchange, 2½h.p. Douglas preferred.—B House Stables, Boro Green, Kent.

PREMIER 3½h.p., clutch model, h.b.c., new e fitted Oct., 1919, mechanical condition guara perfect, oversize cover on rear, front and rear la price £55; can be inspected and tried here.—Bebb, mills, Kerry, Montgoneryshire.

1913 34th p. Premier, Sturmey-Archer 3-speed clutch, overhauled and enamelled for E all tools, new lamps and horn, perfect in every d will take 2 and light sidecar anywhere; £50.—B 21, Bulkeley Rd., Popton, nr. Stockport, Che

Quadrant.

WAUCHOPE'S, 9, Shoe Lane, London.—New trant combinations, 4½h.p., 1920, new 3 models, £122/10,

19²⁰ 4½h.p. Quadrant Combination, show manufactor and 200 miles, well fitted out; £1 Sprunt, 57, Clock House Rd., Beckenham, Kent.

QUADE Nº1 44/hp. Coachbuilt Combination (cum-helt, B.S.A. 3-speed countershaft gear, lhorn, etc., reliable; 288.—9, Grandison Rd., Cla Common.

Radco

RADCO 21/4h.p., 2-stroke, 2-speed, at list price; Cruse, Radco Agent, Warminster, wilts.

R ADCO special 2-speed, perfect, complete; 24, 472, Harborne; Park Rd., Birmingham. [3] RADCO 1917 2-stroke, 2-speed, ready for End; £45.—14a, Balham Hill, S.W.

10 15 Radco, small mileage, 2½h.p., 2-stroke, 1 horn, perfect condition; £32.—18, Deodar Putney, S.W.

R ADCO 1916 234h.p., splendid condition, read holidays; £35.—Mimosa, Chesnut Rd., E Wash, Middlesex.

RADCO 2-stroke, very low, sporty, 1914, any here; first £28; hargain.-7, Ridgmount Montpelier Rd., Sutton, Surrey.

I MMEDIATE Delivery from Stock, new 1920 1 2-stroke 2-speed; list price, £60/10. — W Motor Works, Ely, Cambs.

RADCO (July, 1919), 2-stroke, single-speed, that Klaxon, tyres as new, excellent condition the out; £48.—Cullen, Foxball, Didcot, Berks.

RADCO.—Islington agents; deliveries now com ing. Book your order now; no premiu Pritchett a Automobile Garage, Park St., Islington

R ADCO 2-stroke, new, single-speed, £48. 2 £55; delivery from stock and at early Buy now and make sure of Easter mount; exchanged.—Avon, 85, Church Rd., Willesden.

Reading-Standard.

READING-STANDARD 8-10h.p. Combination speed, clutch, kick start, lovely condition; 53, Russell Rd., N.15.

PEADING-STANDARD C.B. Combination, 12 2-uped clutch, lick starter, ell-chain; own abled; excellent condition; offers over £120 trial.—Maiestic, 195-7, Stonhouse St., Clapham mon, S.W.4.

SEND postcard for particulars of Regent 5.7h.
twin to us. We can give earliest deliveries of
machines.—Elliott Bros. and Stevens, Cambi Lanarkshire agents. Rex.

REX 31/2h.p., fixed genr, mag.; £17.-20, Weston Upper Norwood, S.E.19. 3 th.p. Rex, coil ignition, running order; £

B24 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Rex.

REX 6h.p. Combination, F.E., splendid condition [8664 £55,-63, Atlugtord Rd., Brixton.

6 h.p. Rex Twin, clutch model, Bosch, Dunlops; £40. Coleman, Sheldon Rd., Chippenham. [8410 R EX Speed King, single, overhanded by makers, Grade: £40.—Letters, 1, Fuirthorne Villas, Charlton, S.E. [7619]

WAUCHOPE'S, 9, Shoe Lanc, London.-8h.p. twin Rex combinations, new 1920, early delivery. h.p. Rex Combination, splendid condition; £65.— 145, Stephens Rd., Tunbridge Wells. Phone;

R^{EX} Combination, 1912, free engine, 2-speed, stored during war; £40; Globa sidecar.—Williams, Holly Cottage, Billingshurst.

31h.p. Rex. mag., 2-speed gear, Palmer tyres, and enamel good; £20; ride away.—Barker, iron-monger, Potter's Bar. [7905]

6 h.p. Rex Coachbuilt Combination, 2 speeds, land tools, fast and powerful, trial given; £75.—Smy Bootmaker, Whyteleafe. lamps,

REX 3 sup, running order, new tyres and carbu-retter old type, but sound, suitable beginners; [8255]

19 13 Rex 5-6h.p. C.B. Combination, 2-speed, free engine, complete with lamps, horn, etc.; trial Rd., Ware.

6 Lp. Rex. overhead valves, hand clutch, 235; side-car for sume, 213-10; apply after 7 o'clock.— Mr. Dur, Berkhow Place, Beckbow Rd., Uxbridge Rd., Shepherd's Bush.

REX 6h.p. Twin. Bosch, handle start, Druids, Fliilipson gear, spring pillar, exceptionally comfortable, mechanically perfect; 240, or near,—18, Micheldever Rd., Lee.

BRAND New 1920 Rex 4h.p., Model 77, combination, interchangeable wheels with spare; list price, £154/15; owner must sell.—Offers to Box 320, [8453]

REX Combination, all chain, No. 3284, 8h.p., late 1914, identical 1920, 3-speed A.J.S. gear, very powerful so examination, just overhauled; 100 gns.; or exchange means sole with cash.—62, King's Rd., Wimbledon, Phone: 1024

Minibeton. Figure : 1022.

[EX Sh., 1912 Combination. 2-speed, re-enamelled type jistons, only hen tested, witing to lift cylinders type pistons, only hen tested, witing to lift cylinders dew top speed band, Goodyara Dianou tyres unpunctured, new Dunlop belt, brand na Marcomery No. 2 coach sidecar, full set lamps, in all seemits, a mart new outfit, ready for season's worth, ready for season's worth, ready for season's worth.

Rex-Jap

REX-J.A.P. 6h.p. Combination, splendid condition, thoroughly overhauled, nearly new Montgomery cachbuilt sidecar; £80.—Rubery, 49, Lonsdale Rd., Volverhampton. Rover.

1919 Rover, 3-speed, and sidecar.—J. C. Pickering

ROVER 1920 T.T. 31/h.p., brand new: £100. or nearest.-79, Castleton Mansioos, Barnes. [8660 1917 Rover Combination, Lucas dynamo lighting, as new. Call after 6.-5, Brixton Hill, S.W.

LD Rover 21/sh.p. accumulator lightweight, ride away; £11.-8. Cheriton, Henley-on-Thames. 20VER, 3-speed and clutch, usual accessories, nice condition; £50.-13, Vicarage Rd., Teadington. (8776)

920 Brand New 31/h.p. 3-speed Countershaft Rover, not registered.—Clarke, 15, South St.,

OVER 5-6h.p Twin, just received Irom makers, solo or combination, at makers' price.—Rose's arage, Uxbridge.

arage, Uxbridge. [8248]
OVER Combination, 6h.p., brand new, kbaki,
model, fully equipped; £170.—8c, North End
d., Golders Green. [8904]

d. Golders Green. 18904

914 Rover 31½h.p., 3-speed hub gent and clutch, nearly, new Dholops; £50.-Westrope, 82, New-tr Rd. Leyton, E.10.

OVER 6h.p., 1919. 3-speed combination; £135 Newnham Motor Co., 223, Hammersmith R. 6. Phone: Hammersmith 80. [78] OVER 1914 3½h.p., 3-speed, absolutely new condition and appearance, all accessories, mud shields, a, £65.—Reynolds, Waterbeach, Cambs. [8867]

a, 265.—Reynolds, Waterbeach, Cambs. [8867]
OVER Late 1919 6h.p. Trin, not W.D., toppedo cane sidecar, as new, lamps, tools, spares; £145.
Thire, 121, Adelaide Rd., Chalk Farm. [X6820]

The Service Co.,

ARE NOW BOOKING EARLY DELIVERIES OF MOST WELL-KNOWN MAKES.

EXCHANGES AND EXTENDED PAYMENTS ARRANGED.

SECOND-HAND

MOTOR GYCLES

In addition to our usual comprehensive STOCK of the above, we have a LIMITED NUMBER of each of the following (all selected machines) for CASH or EXTENDED PAYMENTS.

23 h.p., 2-speed, £67 10s., or £14 10s. Deposit and 11 Monthly Payments of £5 5s. 7d.

CRIUMP

4 h.p. 3-speed countershaft, £87 10s., or £20 Deposit and 11 equal Monthly Instalments of £6 14s. 8d.

These are Government overhauled and renovated machines.

31 h.p. 2-speed R.A.F. Model. from £78, or a Deposit of £16 10s. and 11 Monthly Payments of £6 2s. 6d.

(Overhauled and Renovated by The Service Co., Ltd.)

All the above machines are in good running order, and tested by our own skilled mechanics.

We have only a limited number of these Motor Cycles, and early application is necessary in order to avoid delay.

289, HIGH HOLBORN, LONDON, W.C.

'Phone: 6430 Holborn. 'Grams: "Admittedly."

MOTOR CYCLES FOR SALE.

Rover.

19 19 (late) T.T. Rover, engine No. 7773, h.h.e. Philipson pulley, electric head and rear lamps, done 200 miles; £95,—Donovan, 19, West St., Ryde. 1804

3 h.p. Rover W.D. Model 3-speed, Bosch, B. and B., Lamps, and accessories, spleadid condition; £58.—
Whitaker, Stone Chair, Shelf, nr. Hulifox, Yorks, Victor, 186707

Wardaker, Stone Chair, Sheff, nr. Hulifox, Yorks. (X6707)

R OVER 1917 3(3).p.p., countershart 3-speed, in splen-ped-dicondition, with coachbuilt sideour, 2 lamps, and speed-ancter; £115.—Warner, The Bungalow, Atta-borough.

19 19 33/4h.p. Rover and coachbailt sidecar, 3-speed countershalt, mileage 500, fully equipped, as new; £130.—Matthews, 81, Little Ealing Lanc, [8022]

ROVER Combination, C.B., 31/h.p., 3 speeds, clutch, Bosch, splendid condition, pull anywhere, lamphorn, wind screen; £85 lowest.—Seen Kays, Bond St., 1855.

ROVER 1917 3'Ab.p., Millford sidecar, 3-speed consters bart, Brooks B175, good tyres and space, very fast; £125, no offers; appointment.—37, Harriev St., Bethnal Green, Loadon.

R OVER: 3'(h.p. 2-speed, free eogine, disc wheels, 2 lamps, mechanical horn, tyres nearly new, splendid condition; £65 or good 2-stroke and £20.—E. Ormesher, Shaw Heath, Stockport.

R OVER Combination, 1913, 3½h.p., 2-speed, complete with lamps, wind screen, horn, stored during war, never used for business, excellent condition; £30 -Dawsoo, Brunswick Terrace, Stafford. [7538

1917 Rover 3½h.p., 3-speed countershaft, K.S., P. and H. lamps, horo, etc.; this machine is practically as new; price £95; seen by appointment Ash Rectory, near Wrothan, Kent. Tel.; Ash 9.

1977 T.T. Rover, Philipson pulley, large lighting set, Cower, kees crips, spere belt and valve, beautiful time; may be viewed and tinde, Essex; no reasonable offer refused for quick sale.—Box 2,289, c/o The Motor Cycle.

1919 3'sh.p. Rover, 3-speed combination, lamps, hora, speedometer, sparcs, just overhauled, good condition: £135's seen Allum's Garage, Cambridge.—K. Crawford, 3, Clements Gardeas, Cambridge.

P.O.C.H. hare a 1919 315th, Royer and brand her coach idiocan. 3-peed counterfalt, clutch field starter, fully equipped, as new mileage under 300.—Fair OHer Car House, S. Heath St., Hampstead (nr. Humpstead Tube Station). Phone: Hampstead 3752.

Houris 9-7, including Saturdays.

Hours 9-7, including Saturdays. [6846 Oct Obsert, 1919, Rover 6h.p. Jap Combioation, in p. perfect condition, as new, only ridden 450 miles. Perfect condition, as new, only ridden 450 miles. 28×3in. Magnum Dunlops, Luous horn, Bonniksen speedometer, special wide leg-shields, spare tube, tools, and spares, a magnificent machine; list price, £130.—(X5951 Croshy, Old Bank House, Leanington. (X5951

Royal Ruby.

Jack Healy, Cork, official Royal Ruby agent.— Rotational delivery. No premiums accepted. [6490 ROYAL RUBY, 1920, 2' h.p. Villiers 2-stroke, brand new, just delivered; £52.—Call or write, 142, Pale-well Park, Mortlake, S.W.

ROYAL RUBY 1916 254h.p., 2-speed, kick starter, hand clutch, absolutely new condition; £45,—Reynolds, Waterbeach, Cambs.

WAUGHOPE'S, 9, Shoe Lane, London.—8h.p. 1919
Royal Ruby combination, fully equipped, hood, screen, Lucas, accessories, Cowey warning signal, Camero wind screen; £230.

wind screen; £230.

P. O.C.H. have a Royal Ruby 2-stroke, Villiers engine, good order.—Fair Offer Car Honse, 5, Heath Str. Hampstead incar Hampstead Tube Station). Phone: Hampstead incar Hampstead Station Saturdays, 16869

Rudge.

CROW Bros., High St., Guildford, Rudge agents, supply at list prices. (X7948

RUDGE 314h.p., Grado Multi; £35, bargain.-63, Arlingford Rd., Brixton. WAUCHOPE'S, 9, Shoe Lane, London.-5-6h.p., Rudge Multi and sidecar; £110.

RUDGES.-Early delivery of all models.-Bedford Garage, Walsall. 'Phone: 270.

RUDGE 3 2h.p., adjustable pulley, new tyres; £48.
-Holden, Wickham, Beckenham, Kent. [8221

19 18 3 h.p. Rudge Multi Combination for Sale: RUDGE LO.M. Model, delivery this month; whoth offers: Gray, East Finelley Station, London, N.2.

19 3 Jh.p. Rudge Multi, April; £85.-W. Owen and Sons, Brunswick Rd., Lane End. Buckler. [X6679]

19¹⁴ Rudge Multi. clutch, not done 3,000 miles; £53.—Seen Clayton Garage, Clayton St., S.E.11.

RUDGÉ Multi 1920 314h.p., mileage 500, complete: £110.—Chambers, 60, Creffield Rd., Colchester.

MOTOR CYCLES FOR SALE. Rudge

RUDGE Multi 31/h.p. C.B. Combination; £3 Lambert, Goose Yard, St. John St., Angel, WAUCHOPE'S, 9, Shoe Lane, London.-3'-1.0.M. Rudge Multi, £110; another, 1915 ma

RUDGE, 1912, clutch, very sound condition; £55, camberless or best offer.—Lambert, 2nd Coy., R.M.C., Cam-[7760]

7-9h.p. Rudge Multi, absolutely in stock; £147, plus carriage.—A. J. Young and Co., Ltd., New-market.

RUDGE Multi 31/h.p., special engine for speed we long exhaust, T.T. bars, 1914; £55.-51, Do Rd., Clapton. arow bee

19 15 5-6h.p. Rudge Multi and Bramble Sidecar, in good order; £87/10. — Woodliffe, Orby Rd., Burgh, Lincs. [8486

Multi Combination, C.A.V. hand amps, burn; £90, or near.—36, St. 19 '7 Rudge Multi Combination, C.A.V. hand clutch, lamps, barn; £90, or near.—36, St. Thomas Rd., Hackney.

19 '19 (November) 1.O.M. Rudge, complete, lamps, barns, and smidshields, perfect order; £108.
C. S. Rawlins, Rugeley.

RUGGE Multi 1917 3½h.p., C.A.V. mag., 650×65 tyres, lamps, excellent condition, small mileage; £74.—Mandes' (helow).

RUDGE Multi 1914 31/2h.p., C.A.V. meg., Watford speedometer, head lamp, and horn, small mileage; £68.—Mandes', 100, Gt. Portland St., London.

19 (Sept.) 3/h.p. Rudge Multi, new, mileage under 200, lamps and horn; 110 gus.—Scott, Market Sq., Bishop's Caetle. (X6886

R UDGE 31/2h.p., multi gear, clutch; £67/10.—Newn-ham Motor Co., 223, Hammersmith Rd., W.6.
Phoue: Hammersmith 80. [7901

1 9 (Nov.) I.O.M. Rudge, perfect condition; any trial; owner buying higher power; £100.—Boulton, Mars St., Smallthorne, Staffs. [7630

RUDGE Multi, late 1916, 4h.p., fully equipped, condition new, very fast, insured; £75.-28a, Damhurst St., Munster Rd., Fulham. [8788

R Under Multi, 1917, spare valve and belt, tools, lamps, tyres like new, ride away; £30.—56, 8pen-cer Rd., Wealdstone, Middlesex.

R UDGE 34ch.p., in good running order, believed 1913; £35; genuine; any trial or examination.—Stevons, 184, Peutonulle Rd., King's Cross. (7725-

RUDGE Multi 3/h.p.; Godiva sidecar, perfect conductor; £65.—Bradford, 2b, Boundaries Rd., Balham, S.W.; or write, 123, Tooting Bee Rd., Balham.

10 10 I.O.M. Rudge, 7-9h.p. twin, Lucas head, tail, special show model finish, perfect machine, unstratched, mileage 100; offers.—9, Eaton Rd., Coventry, [X6821

RUDGE Multi 31/2h.p. C.B. Combination, 1917.
hand clutch, spare belt, 3 lamps, good mechanical condition; £90, or nearest.—100, Burton Rd., Derby, [3590]

RUDGE, sporting solo, discs, lamps, Klaxon, new
Dunlops, very fast, reliable, easy starter; £48.—
Matthews, 4, Cornwall Mews, Gloucester Rd., S.W.7.

1914 31/h.p. Rudge Multi Combination, lumps, horn, lords; any trial; privately owned, in first-rate order; £70.—Seen Instone, Engineer, Cove, Farmborough, [7720]

19 (late) Rudge Multi Combination, used 3 months, mileage 1,500, hood, side curtains, wind screen, etc., absolutely new condition; 110 gns.—35, High St., Dartford.

RUDGE Multi Combination, 5-6h.p., newly overhauled, in periect running order, new cylinder, clutch, Multi gear; what offers -Kirkwood, Commercial Hotel, Strauraer.

RUDGE Multi, Oct., 1919, 3½h.p., touring model, done 500 miles, excellent condition, genuine; £100; after 3 p.m.—Salsbury, Birchwood, Sydney Rd.

RUDGE (two), privately owned, 1914, clutches, new tyres, belts, lamps, accessories, excellent running order: £50, £48, bargains.—Andrews, Conway House, order: £50, New Romney

RUDGE Multi, 3½h.p., 1916, 1919 Middleton side-sidecar, wind screen, apron, new heavy tyres, lamps; £95; trial after 6.—Southey, 70, Ferndene Rd., Denmark Hill.

Denmark Hill.

19 18 Radge Multi 31/h.p. Combination, lamps, horn, speedometer, knee grips, tools, etc., very smart turnout; £110.—Beardmore, The Holt, Forest Rd., Loughborough.

2 h.p. Rudge Combination, cane sidecar, Grado pulley, 22 real good condition; bargain, £55; deferred pay-ments arranged. Closed Sundays.—Bunting's Mort Ex-change, Wealdstone. [8823]

19 19 Rudge Multi, mileage 800, lamps, Klaxon, spare belt, tabo, nsual kit, new spotting Sandum sidecar; £115: seen Saturdays.—Wing, Dunston, Gt. Northern Rd., Dunstable, Beds.

19 16 3/hp. Ruder Multi Coachbuilt Combination, hand clutch, P. and H. lighting set, good condition, perfect order, 75 gus.—Coliyer, 33, Angusta St., Puplar, London, E.14.



Spring is coming and you will require your new mount. Make your selection from those below, and a joyous time is assured.

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METRO-TYLER, long exhaust, disc wheels.

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RUDGE Multi Roadster, just delivered, list price, also 1915 Rudge Multi, new back wheel, engine overhauled, new tyres, lamp set, £55.—Cruse, Radge Agent, Warminster, Wilts.

19 20 344h.p. I.O.M. Rudge Multi, with Rudge coachbuilt sidecar, tools, electric lamps, accumulators, Easting wind screen; price £150.—C. P. Dewhurst, Tarporley, Cheshire.

R UDGE Multi 35/h.p., practically brand new, ridder 500 miles, absolutely unscratched, unpunctured, extremely fast, P. and H., Lucas hora, kneegrips, £105.—206 (seen 2574), Cavendish Rd., Balham, S. 181

RUDGE Muiti 3½h.p., many new parts, tyres sood, inners unpunctured, lamps, generator, horn, pump speedometer, absolutely without a mechanical lault 267, no offers.—Salmon, Stationer, Sydenham. Phonos Syd. 375.

Budge Multi 3½h.p., 1915, Budge C.B. sidecar apsedometer, etc., stored 3 years, mileage 3,700 absolutely splendid condition; 297, or near offer —Clausen, 5, Leighton Buildings, Westminster (ar Milibank Hospital).

F.O.C.H. have a 1914 Rudge Multi 3½b.p., excel lent order, fully equipped.—Fair Offer Car Hunss 5. Heath St., Hampstead fr. Hampstead Tub Station). Phone: Hampstead 3752. Hours 9-7, in cluding Saturdays.

R UDGE Multi, Oct., 1919, 300 miles, not rnn last A months, Lucas lamp not used, Canoelet 4-point coachbuilt sidecar to match, storm apron, all as new and unsoiled, full kit, horn; £135.—2, Wyndham Rd, Edghaston, Birmingham.

1019 Rudge Multi 5-th.p., Millford sidecar, Otto wind screen, acetylene lighting, Cowey speedometer, Stewart born, spare belt, full tool kit, outils cleaned and perfect; seen Saturday arter 3; 2135.—Dixon, Rox too Cottage, Princes Risboro', Bucket.

P.O.C.H. have a 1919 Rudge Multi and Sidecar, 34, h.p., small mileage, fully equipped, excellent order,—Fair Oiler Car Hone, 5, Heath St., Hampstead (ir. Hampstead Tabe Station). Those Hampstead State Sta

R UDGE Multi 33/4h.p., chutch, fice engine, Sensins, Penher cords, speedoneter and milease, acetylene lighting, Tan-Sad pullion seat, mechanically perfect trial anywhere: £60; apply after 3 o'clock Saturday, or Sanday morning.—67, Abbott's O'clock Leyton,

Ruffells.

19 2%h.p. Ruffells-Villiers, 2-speed, C.A.V., tools, under 400 miles; £56.—Harper, 186, The Rye, East Dulwich.

19 19 Scott, complete with all accessories; 100 ms.-3, Parker Lane, Burnley. . [X6262 SCOTTS.-Place your order now with the Bedlord Garage, Walsall. Phone: 270. [5308

SCOTT 334h.p. Twin, 2-streke, 2-speed, free engine, 48 gns.-9, Tollington Place, N.4. [7667

SCOTT, 1913, 2-speed, water-cooled, Binks, Bosch, ride away.—145, High St., Woolwich. [8740 SCOTT 1915 Combination, 3%h.p., water-cooled, splendid mechanical condition, lamps, horn, spares: £85.-67, Poppleton Rd., Leytonstone. [8564]

© 55.—Scott, water-cooled, 2-speed, lamps, discs, Elinks, Klaxon, low, racy.—Bulloch, 17, Park Binks, Kla Lane, Wembley.

19 14 Scott, good condition, engine and gear box just overhauled, good tyres; 50 gus.—Grov Cottage, King's End, Ruislip, Middlesex. [853]

19 19 Scott Combination, electric lighting, horn, etc. new condition; £170.—Balfour, High St. Blox

10 14 Scott Combination, just averhauled, laid by during war, condition, tyres, running order good; £95, or nearest -50, Cassio Bridge Rd., Wetford.

SCOTT Combination, believed 1915, recently over hauled, fitted Bosch: £70, lowest, or exchange late Baby Triumph.—Green, Swiss Cottage, Milton CCOTT 1919 3%h.p Combination, improved labricator, Scott siderar, all lamps, horn, etc., var. small mileage; £145.—Maudes', 100, Gt. Portland St. London.

10 20 3%/h.p. Scott Combination, as new, not run 200 miles, lamps, horn, and spares; owner huying cartrial invited; to be seen Durham; £167/10.—Box 2.335 clo The Motor Oyele.

33hp. Scott, water-cooled, Binks, Bosch, counter of shate, kick start, chain; £45; ride away; etchange lightweight, Velocette preferred.—Voigt, Perrymead, Prestwich, Manchester. [845]

LATE 1914 Scott Combination, recently overhault 2 new tyres last season, B. and B. carburett horn, very fast; 75 gns.; owner going abroad.—Toolega, Dartford Rd., Whitehill Estate, Crayford, Kent.

SCOTTS. Scotts. Scotts.—E. W. Ball, 6, Wheeler Rd., Edgbaston, Scott's Birmingham agent. will show you anything worth knowing about Scot you buy from me, and give you absolute confidence your mount.





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In the Springtime.

THERE are hardy riders who indulge in the pastime of motor bicycle riding all through the year. They are, of course, glad when springtime comes round, but not so glad as the fair-weather rider, who, for the first time after the long and dreary winter, takes out his machine in the balmy air of early April. The weather is not too hot, the air is bracing and invigorating, the daylight saving has just come into force, and long rides may be taken without there being any necessity to light the lamps. At this time of the year a run in the open country, when the buds are bursting, invigorates the body, refreshes the mind, and gives health and enjoyment to the jaded worker.

Before the machine is taken out from its winter quarters, it should be carefully overhauled and thoroughly cleaned. The process of cleaning has other advantages than merely making the machine beautiful. Often when washing down the crank case, brushing between the brake controls, and removing all traces of dust and mud, loose nuts and frayed control wires are discovered, and the rider has an opportunity of putting these in order before riding is begun. The tyres should be carefully examined, pumped up hard, and left to see if they will stand the pressure; all moving parts should be lubricated, the reservoirs filled with oil and petrol, lamps cleaned and filled in case one is overtaken by darkness, and then all is ready for the full enjoyment of the English springtime.

The roads still suffer from the indirect effects of the Great War. We are often asked if such and such a road is in good condition. questions are difficult to answer; all that can be said is that most roads are in very fair to good order, Bad stretches are often encountered, but they are not, as a rule, of any considerable length; and, happily, our roads have not suffered so badly as those in France and Belgium, in which countries it will probably take years to render them rideable with comfort.

Progressive Design.

T gives us considerable pleasure to be able to describe in this issue a new motor cycle, features in the design of which will go far to satisfy popular cravings. It incorporates light weight, ease of control, two speeds, entirely enclosed transmission, accessibility, automatic lubrication, interchangeable wheels, and pressed steel open frame, and it can be hosed down for cleaning purposes. All these features have been demanded separately many times during the past, and here we have them combined in a neat and practicable form and marketed at a price which compares favourably with that of some scooters.

Mass production and practical design are the main features which enable this end to be accomplished, and we cannot emphasise too strongly the importance of this latter point.

Designers who are contemplating new models would do well to study shop production to a greater degree than in the past, and to bear in mind the fact that it is not necessary to sacrifice efficiency in order to obtain quick production. In fact, in many existing cases it would be easier to produce a more up-to-date and scientific design.

Engines, gear boxes, transmission, and frames have become so standardised in main essentials that those responsible for design and manufacture appear to be frightened of any form of change; and, so long as this is the case, progress will be slow or non-existent, and we shall have to rely entirely on newcomers who design and manufacture on up-to-date lines for any advance in motor cycle practice. Fortunately, there are a few who realise this, and it is to be hoped that they will prove strong enough to fight the apathy which undoubtedly exists at the present time.

All branches of engineering have progressed so rapidly of recent years that it is a pity that motor cycles should lag behind, as is undoubtedly the case.





SCOTTISH TOURS.

EDINBURGH, Dalbeith, over the Moorfoot Hills to Innerleithen, cross the river, and proceed direct south to Varrow Water, take right-hand turn skirting north side of Saint Mary's Loch, avoid right turn and proceed to Tibbie Shiels; direct route to Mofat, main road by Devil's Beef Tub, avoiding left turn at top of hill, and stick to main road to Edinburgh vin West Linton if desired. This route is about 70 miles, and includes much wild, mountal nous country, particularly in the Saint Mary's Loch district. It is a sporting route with many attractions.

An easier and less hilly route encircling the Lammermuir Hills, which would perhaps be preferable if weather is cold, would consist of stirting the coast via North Berwick, thence via Dunbar and Ayton to Chirnside, Nuns, Lauder, Dalkeith and Edinburgh. About 100 miles.

On the Devoust

GLASGOW, follow north bank of Clyde to Dumbarton, Helensburgh, Garelochhead, proceed along east shore of Loch Long to Arrochar flotely, direct route across height of land to west shore of Loch Lomoad, proceed south to Balloch, and return Dumbarton to Glasgow. About 70 miles. This route comprises much fine loch scenery and no bad bills.

A really sporting and difficult route recently undertaken by the GLASGOW, Western Club in their Palmer Tropby Trial is as follows: Inverbeg, Anniesland, Canniesburn, Bearsden, Old Kilpatrick, Dumbuck, Balloch, straight up west shore of Loch Lomond to hotel at Inverbeg, proceed over height of land down Glen Douglas (exceedingly dangerous hill) to main road, skirting east shore of Loch Long, Arrochar, up Glenece and Rest-and-Be-Thankini to Loch Restlinds, and the control of the Company of the Compa



THE MIDLANDS, WALES, SOUTH AND WEST OF ENGLAND.

LIVERPOOL (ferry to Birkenhead), Queensferry, Mold Ruth'n Corwen, Pentre-Vechas, Bettws-y-Coed, Llaurwst, Colwyn Bay Abergele, Rhuddian, Hollywell, Northop, Queensferry, Birkenhead, Livetpool. Approximately 150 miles.

MANCHESTER, Cheadle, Wilmslow, Congleton, Bosley, Rud-yard, Leek, Ashbourne, Mappleton (Dove Dale), Youlgras, Rowsley, Bakewell, Buston, Chaple-en-le-frith, Hayfield, Glossop, Hyde, Manchester. Approximately 130 miles A run taking in Rudyard Lake, some of the Derbyshire dales.

LEEDS, start from Dyneley Arms (crossing of Leeds-Otley and Bradford-Harrogate roads). Pool, Harrogate, Ripley, Pateley Bridge, Greenbow, Jeft. at Hebden to Burnsall, Barden Tower, Belton Abbey, Addingham, Ilkley, Otley, Dyneley, A sporting run of just under 60 miles, readily available from Leeds, Fradford, Wakefield, or Halifax. Many single figure grad-ints, both up and down.

NOTTINGHAM, Ripley, Matlock, Bakewell, through Monsal Dale, Tideswell, Chapel-on-Frith, Buxton, Bakewell, Matlock, Ripley, Nottingham: 94 miles. A run through fine Derbyshire scenery; no difficult hills.

NOTTINGHAM, Thurgarton, Southwell, Newark, Kelham, Ollerton, through the Dukeries (Sherwood Forest) to Worksop, Mansfield, Nottingham; 2,4 miles.

An interesting route through historical districts and pictures are series.

turesque scenery.

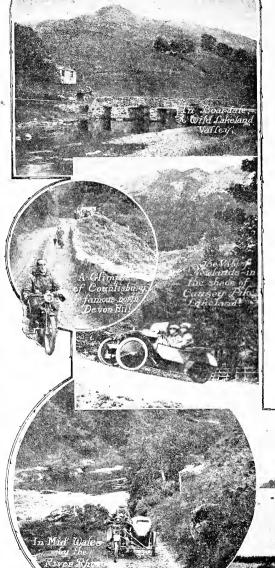
BIRMINGHAM, Henley-in-Arden. Stratford-on-Avon, Clifford Chambers, Mickleton, Chipping Camden, Fish Hill, Broadway, Winchcombe, Cleeve Cloud, Chethenham, Tewkesbury, Upton-on-Severn, Malyern Wells, Malvern, Worcester, Droitwich, Bromserve, Elminigham. Approximately 1 no miles. An interesting spring run south of the Midland metropolis, taking in some of the finest scenery in the Severn valley.

BIRMINGHAM, Halesowen, Kidderminster, Teubury, Leominster, Kington, Presteigne, Knighton, Clun, Cravea Arms, Bridg-north, Stourbridge, Halesowen, Birmingham, Approximately 130 miles. A run across the borders of Wales. Good scenery.

SOUTHAMPTON, Totton, Lyndhurst, Holmsley Station, Christ-church, turn back here and keep R., Milton, Lymington, Beau-lieu, turn L., Lyndhurst, turn R., Cadanan, turn L., Fording-bridge, turn L., Ringwood, turn L., Stony Cross Inn (near Rufus Stone), Romsey, turn R., Southampton. A zigzagging in the New Forest of approximately 93 miles.

BRISTOL, Red Hill, Churchill, over the Mendips to Cross, whence the road is a dead level to Bridgwater, here keep to the right. Nether Stowey, Quantoxhead, Willton, Dunster, turn L. up the hill to Timberscombe, Cutcombe Wheddon Cross, Twerton, turn L. Halburton, Willington, Taunton, Durston, Othery, Glastonbury, Wells, Chewton Mend p. Farringdon Gurney, Pensford, Bristol. Approximately 150 miles.

PLYMOUTH, Devonport, take the ferry to Torpoint, Anthony, Pollsathie, Menheniot Stetion, Listend, Dobwalls, past Doublebos Station into the beautini Giskerd, Dobwalls, past Doublebos Station into the beautini Giskerd, Downston, or of which, turn R. for Bodmin, whence it is hilly to Wadebridge, again turn R. through St. Kew Highway, Camelford (whence a trup can be made to Trebarwith and Tintagel), Davidstow, Piperspöol, Lannesston, Milton Abbot, Tavistock, Velverton Station, Plymouth. Approximately a parmile run through levely scenery.



landing Stage Bala Lake, North Wales



Comfort Before Noise.

N the last Six Days the A.C.U., with Dr. Low's aid, surmounted one great technical difficulty, and managed to hold a silencer test without dragging in all the fuss of laboratory experiments. As an incurable hater of silent motor cycles, I restrained my pen on this topic, knowing that on this question I am in a minority, and that it is the badge of minorities to suffer. Silence may be a controversial matter, but comfort is not. I have ridden through most of the Six Days Trials held on British soil, and I have tackled them on every conceivable type of 'bus. On some occasions I finished each day with an aching back and stiffened wrists. On others I burbled gently in to the night hotel, feeling at peace with all the world, thanks to the splendid insulation of my machine. There is surely something amiss with a Six Days Trial which, whilst ostensibly conducted to inform the buying public which motor cycles most nearly meet their requirements, yet absolutely ignores comfort-a point which most utilitarian riders value above most features.

A Jury or Apparatus?

THE A.C.U. is, of course, acquitted of all blame for this omission by the obvious fact that it is so difficult to devise a test of comfort which shall classify a hundred machines rapidly and accurately. Is the problem insuperable? It could be tackled in two obvious methods. When the A.C.U. trials staff includes a gentleman who can cinematograph the pitting of an exhaust valve, or words to that effect, he could surely devise some apparatus in the form of an Earl's Court wiggle-woggle with a recording pencil, which should instantaneously give a comfort-graph of each machine as it passed over a platform countersunk in a bit of private road; and the job would not bother him more than changing a plug. My friend Captain Aston did the trick with cars by attaching electric bulbs to the salient parts of the chassis, and photographing the bus as it rocketed over pot-holes in the dark. Such a recondite mind as Dr. Low possesses would surely evolve a far simpler

method. But if Dr. Low refuses to rev. freely in response to tactful suggestions by Mr. Loughborough, what about a jury of motor cyclists?,

One Way of doing it.

JOU prepare a hundred yards of assorted abominations in the way of bad road surfaces-strips of new metal in three sizes, grease, ruts, potholes, etc. You station half your entry at each end. You procure a dozen amateur riders, middle-aged men of average stature, John Citizen, "Poy" type. Each of the jury rides a machine across the prepared strip, picks up another at the far end, rides that back, picks up another, and so on, till he has worked through the entry. No fine classification is attempted—just three classes, "good," "medium," and "bad." Second trips are taken about any machines on the borderline between two classes. In all previous trials we have wasted many hours pottering at legal limit along untold miles of level highway in good condition. Such "making up mileage" is inevitable to some extent, as it takes us to where steep hills grow, or capacious hostelries exist; but a great deal of this easy going is included to swell the distance to some conventionally rotund figure, and the time would be better spent in a really informative test.

Steadiness on Grease.

WHEN I am picking my way over really slimy grease on a two-wheeler, I generally feel a transient enty of any car that comes along; but the vantage is not all on the side of the four-wheeler. Not far from my house there is a two-mile climb, largely sunk in a cutting which retards drying of the surface, and exacerbated by an over-cambered road. You can get skids here: long after the rest of the district is safe. I went up and down this hill on a bicycle one day last week, and later on I repeated the journey as a passenger in a small car handled by an expert. The surface was identical on the two runs, but whereas my Scott with Palmer cords never swerved by half an inch, either descending or ascending, the car threatened to get right out of control until its speed was sternly curbed.

ed.



A LTHOUGH, in some quarters there appears to be some doubt as to whether the T.T. Races will be run this year, there is no doubt that a large section of the trade and the public are looking forward to the event as a test of some of the new designs which have been introduced since the end of the war.

event as a test of some or the new designs which have been introduced since the end of the war.

Much speculation is rife as to the particular types of engines which will secure the honours for the Senior (500 c.c.), the Junior (350 c.c.), and the class for 250 c.c. machines which will compete for The Motor Cycle Trophy. It is therefore interesting to review past races since the

first T.T. in 1907.

It may not be known to the average newcomer to the world of motor cycles that in 1907 and 1908 single and multi-cylindered machines raced separately, and it is perhaps curious that a firm now famous for its singles won the twin event and a concern now known for its big twin won the single-cylinder race. A 3½ h.p. Matchless, ridden by C.R. Collier, won the "single" event, and H. R. Fowler, on a 5 h.p. Norton, secured the "multi" race. The next year J. Marshall (3½ h.p. Triumph) and H. Reed (5 h.p. Dot) were first in their respective classes.

In the 1909 event the singles and multi-cylindered machines were raced together, the singles being limited to 500 c.c. the twins to 750 c.c., and, as was to be expected perhaps, the latter secured first and second places, for twins had been developed during the preceding two years, and the average speed of the winner was almost equal to that of C. G. Pullin, who won in 1914. The times for the 1909

race were as under:

 I.
 H. A. Collier, 5 Matchless (738 c.c.)
 49.01

 2.
 G. Lee-Evans, 5 Indian (714 c.c.)
 48

 3.
 W. F. Newsome, 3½ Triumph (499 c.c.)
 44.9

For the 1910 race, the maximum of the twin capacity was reduced to 670 c.c., and the result was the same as the year previous, i.e., twins first and second, single third:

Average Speed.

1. C. R. Collier, 5 Matchless (666 c.c.) 50.6

2. H. A. Collier, 5 Matchless (666 c.c.) 49.2

3. W. Creyton, 3! Triumph (499 c.c.) 47.9

In 1911 a further reduction was made in the capacity of the twins, this time the limits being 585 c.c. and 500 c.c. for twins and singles respectively, and 34 h.p. twins secured first, second, and third places:

 1.
 O. C. Godfrey, 31 Indian (584 c.c.)
 Average Speed.

 2.
 C. B. Franklin, 31 Indian (584 c.c.)
 47

 3.
 A. J. Moorhouse, 31 Indian (584 c.c.)
 46

1912 saw the singles and multis running on equal terms for the first time, and the single secured second position, as it did also in 1913; but in 1914 it finished first, with a

single and a twin tying for second place and another twin fourth.

The results of these three "level terms" races are therefore of greater interest at the present time than the others:

	1012.	-
		rage Spec
Ι.	F. A. Applebee, 31 Scott (486 c.c.)	48.6
2.	J. R. Haswell, 3½ Triumph (499 c.c.) H. A. Collier, 3½ Matchless (496 c.c.)	47.2
3.	H. A. Collier, 32 Matchless (496 c.c.)	46.5
	1913.	
	H. O. Wood, 31 Scott (486 c.c.)	48.28
2.	A. R. Abbott, 31 Rudge (499 c.c.)	48.27
3.	A. H. Alexander, 31 Indian (496 c.c.)	47.6
	- 1014.	
Ι,	C. G. Pullin, 31 Rudge (499 c.c.)	49.9
	{H. R. Davies, 3½ Sunbeam (499 c.c.) } O. C. Godfrey, 3½ Indian (498 c.c.) }	48.3
٠.	O. C. Godfrey, 31 Indian (498 c.c.)	
4.	H. V. Colver, 31 Matchless (496 c.c.)	48.3

Thus, in those Senior T.T. Races, when singles and multi-cylindered machines were run on equal terms, singles secured one first and three second places, V twins one second and two thirds and one fourth, and two-stroke twins two firsts (the total of ten in three races is brought about by the tie for second place in the last race).

The Junior Races.

Of the four Junior Races, only one has been won by a single, i.e., in 1914. 1914 was certainly the single's big year, for, as in the Senior Race, this type of engine secured first and second places. In the first race (1911) a single was second, and in 1913 third.

The results of the four races were as follow:

	1911,	age Speed.	
τ.	P. J. Evans, 27 Humber (340 c.c.)		-
	II A Collins Metables (340 C.)	4X.5	
2.	H. A. Collier, 2 Matchless (297 c.c.)	391	
3.	H. J. Cox, 21 Forward (339 c.c.)	38	
	1012.		
Ι.	W. H. Bashall, 2 Douglas (350 c.c.)	39.6	
2.	E. Kickham, 27 Douglas (350 c.c.)		
	E. Mickiani, 21 Douglas (350 c.c.)	38.8	
3.	H. J. Cox, 23 Forward (344 c.c.)	36.5	
	1913.		
τ.	H. Mason, 27 N.U.T. (341 c.c.)	43.7	
2.	W. F. Newsome, 21 Douglas (356 c.c.)	43.6	
	TI C Newsonic, 21 Douglas (350 c.c.)		
3.	H. C. Newman, Ivy (346 c.c.)	41.7	
	1014.		4
I.	E. Williams, 27 A.J.S. (348 c.c.)	45.6	
2.	C. Williams, 27 A.J.S. (348 c.c.)	44.7	
3.	F. J. Walker, 3 Enfield (345 c.c.)		
3.		43.3	

Thus in the four Junior Races we have singles securing one first, two second, and one third; V. twins, two first and three thirds; flat twins, one first and two second. Again, it would appear that all types have an equal chance of winning the 1920 race.

MOTOR (YCLE

This Year's T.T .-

So far the single-cylinder two-stroke has not figured conspicuously in either the Senior or Junior Races, but in some quarters it is thought that the great advance made since 1914 in this type of engine makes the single-cylindered two-stroke a formidable opponent of other types for this year's Junior at all events, while it seems not unlikely that The Motor Cycle trophy for 250 c.c. machines will be won by one of them.

The winner's speed in the Junior Race of 1914 was 45.6 m.p.h. A 23 h.p. Levis (349 c.c.) ridden by P. Pike, was placed thirteenth, the average speed P. Pike, was placed infreenin, the average specu-being 39.7 m.p.h., a similar size Peco being twenty-second at 37.2 m.p.h., while a 2½ h.p. 1y, having a capacity of 269 c.c., secured twenty-eighth position (30.6 m.p.h.), with a 349 c.c. Levis thirtieth (28.3 m.p.h.).

Two-strokes, therefore, have proved that they are capable of surviving the severe gruelling of a T.T. Race. There are other types of engines, such as three-cylinder radials, which have been introduced recently, among which there are possibilities of some surprises.

A Single-cylinder Advocate.

REGARDING which type of engine will carry off the respective races, Eric Williams, present holder of the Junior

trophy, predicts another victory for singles.

"Each enthusiast has his particular favourite," he writes, "but rarely can he answer with genuine facts why it should stand the best chance. Others say the race is more or less a lottery, like a horse race. True, the rider has nnly to pick up an inconsiderate nail to put him out of the running

"As for the machines, there are only a few manufacturers who can turn out a machine that will average 50 m.p.h. on those 200 miles of rough road, with all its corners and ever-varying gradients

and descents.
. "Doubtless we shall have some surprises in engine and gear designing; aluminium alloy slipper pistous should be fairly general, overhead valves, lighter steel flywheels better

balanced, and the all-important gear ratios with more of them.

Personally, I predict another victory for the single in each race, built much lower and more compactly with four or more gears, but the twin two-stroke will want some watching, and will be a hot favourite. With young and new blood in the saddle, it will be a hot and exciting race, and, if not reckless, worth going a thousand miles to watch."

Opinion of the Senior T.T. Winner.

G. PULLIN, who won the Senior event in 1914 on a Rudge-Multi, is undecided between two-strokes and four-stroke singles. "Eliminating the human element," he says, "and bearing in mind he severe and hilly nature of the course, one would xpect to find the successful engines among the class iving a good power output over a considerable range I speed, and also capable of maintaining their output hroughout a continuous and strenuous period. Fuel onsumption within reason can be neglected. Results hould therefore he looked for amongst the two-troke engines, especially the water-cooled type.

"Personally I expect to see the Senior Race won

y either a two-cylinder water-cooled two-stroke, or single-cylinder side-by-side valve air-cooled four-roke engine. I think the flat twins will put up a better showing than previously, but additional complications and lack of experience in these larger type engines leave much to be desired to make them serious competitors,

"The Junior Race, I anticipate, will be won by a single-cylinder air-cooled side-by-side valve machine, its only serious competitor being the flat twin of this capacity.
"The 250 c.c. lightweight class will undoubtedly be won

by an air-cooled two-stroke engine, as the amount of work a specially tuned engine of this type will do is wonderful.'



II. ALEXANDER, who was third in the Senior Race of 1913 on an Indian twin, favours the V or a flat of 40, 47, and 55 m.p.h. for the 250, 550, and 500 c.c. classes. Writing from Edinburgh, he states his opinion that "the 250 c.c. Tourist Trophy Race will be won this year by a two-stroke machine, chiefly because of the superior hill-climbing and

the superior hill-climbing and 'pick up' of these engines over the 250 c.c. four-stroke engines. The 350 c.c. race will, I think, be won by a 'flat twin' fitted with three or four-speed gear, with an extra high 'emergency' with an extra ligh 'emergency gear. These machines, owing to their 'revving' qualities, will be as fast down hills as the fastest big machines, and it must be remembered that a considerable part of the course is downhill.

"For the Senior Race, I favour again a flat twin or V type twin, both fitted with overhead inclined valves, and again I would say a three or four-speed gear, for the latter of which I think there is till need, owing to the large variations of uphill and downhill gradients on the T.T. course.

"A combination of one of the

above types of engine, with an 'infinitely' variable gear such as the Zenith, would stand a strong the Zeniui, would statud a strong chance, and the Scott should again be well in the running, provided, of course, they are entered, which, apparently, is a doubtful point. With a representative entry, I would put the average speeds of the winners as 40, 47, and 53 m.p.h. respectively."



(Top) Cyril G. Pullin, holder of the Tourist Trophy (shown below), which he won in 1914 on a Rudge. (Bottom) Eric Williams, riding an A.J.S., won the Junior T.T. in the same year.



THE winner of the twin event in 1907, H. Rem Fowler, does not consider the conventional twostroke as a possible winner, except in the 250 c.c. class. "I think," he says, "that it will be a toss up between the four-stroke twin and four-stroke single. In the twin you have greater flexibility and acceleration, and in the single simplicity and stronger working parts, hence greater reliability.

I do not think the two-stroke will have much

chance, with one exception, and this, in my opinion, does not properly represent the type, being watercooled. In the mediumweight class I rather favour the twin, as in this particular size engine the type seems usually more efficient and much faster on this course, as rapid acceleration and flexibility count so much. In the real lightweight class I think the air-cooled two-stroke should win."

air-cooled two-stroke should win.

F. A. Applebee the Senior winner in 1912, considers past experience of greater importance than a positionar engine type. "The the question of any particular engine type. "The result of the T.T. Race has never been a foregone conclusion," he writes, "and it is, in fact, the glorious uncertainty that makes this event so popular amongst motor cyclists. Very little help can be obtained by studying the results of previous races, as these show that the honours have hitherto been fairly equally divided between the different types of engines. One cannot help thinking,



The Tourist Trophy.

This Year's T.T .--

however, that past experience counts for a good deal, and for that reason I shall be more than surprised if those manufacturers who have done well in the past do not carry off premier honours this year. Further than that I do not feel disposed to go, for I am personally of the opinion that at the start of a T.T. race it is fairly safe to assume that a dozen riders will be in the running for premier honours, and that the ultimate winner will be the one whose lucky star was in the ascendant that day.'

own with the four-stroke of equal capacity. Some of the new flat twins might provide a surprise, but I think this is rather unlikely. Taking all things into consideration, I think a single-cylinder four-stroke to be the likeliest winner.

Each type appears to have an equal chance, but it is interesting to take the matter further. In the 1914 Senior Race there were seventeen awards. Single-cylinder machines were first, second (tied), fifth, minth, eleventh, twelfth, thirteenth, fourteenth, and sixteenth. V twins: Second (tied), fourth, seventh, eighth, tenth, fifteenth, and seventeenth. Flat twins: Sixth. A two-stroke twin came eighteenth.

If we take the first dozen

finishers in the last Junior event, we find that the twins show up to advantage. Singles were placed first, second, fourth, and sixth. V twins: third, fifth, eighth, tenth, and eleventh. Flat twins: seventh, inith, and twelfth.

It will thus be realised that there appears no decided reason why any particular type of engine should win the T.T. races this year.

J. R. Haswell, who ran second in the 1912 Senior Race, favours "a good, healthy single in a machine that is easy to steer." This latter point is a very important factor. "I favour," he says, "for the T.T. a

good, healthy single in a frame that will steer. frame that will steer. Such a machine will take a lot of catching in the Senior Race. Gears, con-trols, steering, and a comfortable riding position help to win as much as the

"An old T.T.-ite has almost an unfair advantage over the newcomer.

A few trips round and he is quite at home. It takes a new pilot some time to get accustomed to the course."

The second prize winner in the last Junior event, Cyril Williams, is in favour of the single-cylinder four-stroke for all events. He writes as follows:

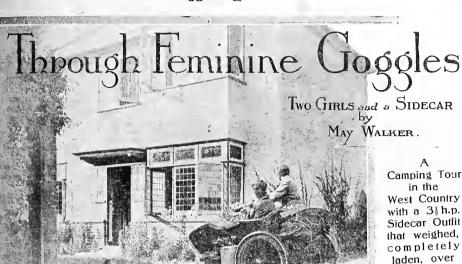
"In my opinion, a single-cylinder four-stroke will win the Senior, Junior, and The Motor Cycle Trophy. For high efficiency and ability to stand hard work, such as an engine gets in the T.T., it is unsurpassed. I do not think the air-cooled two-stroke yet capable of holding its



ROAD SCENES DURING THE LAST T.T.

(Top) A unique photograph depicting a rider at Balliz Bridge with both the wheels of his machine twelve inches or more from the ground (Centre) At Quarter Bridge. (Bottom) On the down grade at Keppel Gate.

8 cwt.



FTER years of motor cycling, a holiday of several weeks in one vicinity promised to be boring, so early last August a girl friend and I decided to have a camping tour with a sidecar. Our equipment included a 31 h.p. Ariel outfit, a folding tent, two sleeping bags and eiderdowns, a small methylated spirit cooking stove, aluminium saucepan, kettle, and frying pan, tins for butter, tea, and cocoa, a Thermos for milk, and various other

items too numerous to mention. Strong straps held our kitbags to the luggage grid, and the interior of the sidecar and the footboard were adorned with various camera cases serving to hold

toilet requisites, etc.

The tent was made for us, at a cost of £3 10s., by Messrs. Edney, of Boxmoor. It measured 4ft. 6in. x 6ft. 6in. and 6ft high. It folded or rolled into a neat canvas bag. A light tarpaulin was carried to cover the machine.

A Heavy Load.

It was some trouble getting the whole outfit on the machine; however, with a little ingenuity it was achieved, and the total weight with driver and passenger aboard turned the scale at 8 cwt. Truly a big

load for a 3½ h.p. engine!
We made Oxford our starting point, and called on friends near Abingdon, refusing their offers of hospitality beyond permission to pitch our tent on their back lawn for our first night under canvas. We were away soon after breakfast, passing through Wantage, then away along the Swindon road to Faringdon. We just skirted Swindon, and met large crowds of workmen going to their mid-day meal, and a very goodnatured set they proved to be, being most anxious to direct us on the way to Bath.

Near Chippenham we met two women touring on push bicycles. They were laden, like ourselves, with much luggage and the usual camera, and we thought they glanced enviously at our superior mode of travelling.

Approaching Bath we had some splendid views from the top of the hills that surround the classic spa, and on a long run down into the ancient city, we found our rear brake block was so worn that it was almost useless. Although we tried every garage in the town (and in many other towns also), we were unsuccessful in finding a block to fit. Later on, the Ariel Co. were good enough to send us a replacement.

Leaving Bath, we had a good climb on to the hills again, but the Ariel plodded steadily on, and I began to think that I should not have to shed my passenger so many times as I anticipated when planning the tour.

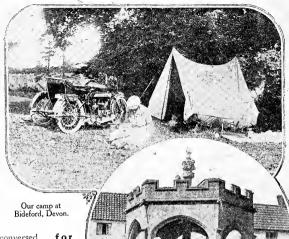
We had tea on the side of a hill, and filled our kettle from the depths of a cavern down some mossgrown steps. I will admit I did not altogether like the idea of using water from a dripping well, but a cottager smiled at my fears.

The town of Wells was a revelation; directly we entered the town we felt the atmosphere of the place. It seemed almost a sacrilege to make a noise in the vicinity of the cathedral, or to pass through the

wonderful archway in the road.

A Two-day Location.

Day was drawing to a close, and we wanted to reach Cheddar before pitching our tent for the night, so on we sped. However, Rodney Stoke was our sleeping place, and on reaching this hamlet we approached a lady farmer for permission to camp in her meadows. She directed us to the sheltered way under her window, and it was not until we had



conversed for some time that we discovered that Cheddar was three miles further on. Our new friend was so anxious to be hospitable that we decided to stay in her cheddar.

we decided to Chedar.

stay in her
grounds for a day or so, especially as such necessities as milk and eggs were readily obtainable from the farm.

Leaving our camp standing for two days, we scoured the neighbourhood of the famous Chedar Gorge. Then we went on to Weston-super-Mare, "Civilisation," it must be admitted, was a poor attraction compared with our roving life off the beaten track.

We made for Glastonbury, with its ruins, through Bridgwater, over the Quantock Hills, where we had our first taste of the red dust of the district. Then on to Watchet, with its quaint little quay, and up the hills out of the town to camp for the night near a farm that overlooked the sea.

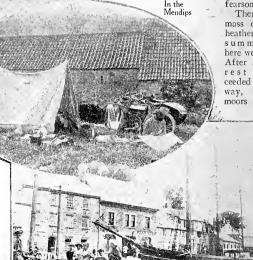
In the "West Countrie."

Next day we were following a winding road alongside the River Exe, between lofty hills thickly clad with trees, and down "Rest-and-be-Thankful" Hill, which proved a long trying slope now that timber waggons have cut the surface into ruts a foot deep. We camped near Timberscombe, a hamlet at the foot of Dunkery Beacon,

and we thought of the robbers of Exmoor, but after a day in the open one sleeps too soundly for the ghosts of Blackmore's characters to disturb one's dreams.

An early breakfast of bacon and eggs deliciously cooked on our picnic stove, and we were off again through Dunster, where we made a halt to secure photographs, and then on to Minehead. was still comparatively early in the day -before ten o'clock, in fact-and the morning mists still hung over sea and We were anxious to make the acquaintance of Porlock Hill, so we steered that way. At the foot of the famous climb we debated whether we should attempt to scale it, but our heavy equipment made us favour the new motor road, although we were told by the natives that the surface of the new one made it as difficult to climb as the other. Paying our sixpence toll at the gateway, we soon found that it was miles of bottom gear work, and bad surfaces with nothing on our right hand but a flimsy piece of wire netting between us and space. It seemed an immeasurable depth into the ocean, but the joy of riding in such country banishes fear, and with a good machine well equipped as regards brakes, the tourist need have no qualms about





Low tide in Padstow Harbour.

Through Feminine Goggles .-

mouth by way of Countisbury, and I must admit that I was far from happy descending this well-known hill, especially as there was a rapidly moving car behind me. When the car driver approached me and asked if I could direct him out of that part of the country, as he had burnt out one of his brakes, it was apparent that there had been good reason for my nervousness.

We decided to camp in the Doone Valley, and although it is supposed to be one of the loneliest spots in England, we were not the only camping party in the" Land of Lorna Doone." Incidentally, we paid a half-crown camping fee here, the first

charge of its kind that we were

asked to pay. We stayed a few days camping on a farm near Bideford, during which time we visited Westward Ho! and Clovelly. Then we followed the road to Crackington Haven, a wild and, as yet, unexploited corner of the North Cornish coast. That night St. Juliot provided an ideal camping ground, and, after a lesson from the farm people in the art of snaring

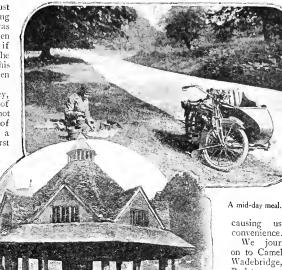
rabbits, we went on to Bos-

castle. Fortunately, it was a

run down of two miles into this place, as we had foolishly run out of petrol.-The spirit with which we were supplied was of very inferior quality,

> Old Cottages Dunster.

> > On the coast at Westward Ho.



Butter Market, Dunster.

causing us inconvenience.

We journeyed on to Camelford, Wadebridge, and Padstow, near which place we came upon a large motor caravan. We envied the owner, for a more ideal means for

touring can scarcely be imagined; the driver sat in his home to steer, and for him there were no terrors of bad weather.

As the weather appeared to be breaking up, we decided to abandon the contemplated trip along the North Coast, and make our way to the south, where we found better roads and travelling easier.

Torpoint supplied our camping site that night, and in the distance we could see

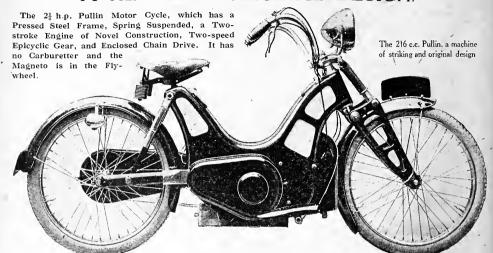
the vessels in Plymouth Harbour. Next morning we crossed the ferry to Devonport, and, choosing the main London roads, made good speed through Dorsetshire and Wiltshire to Oxford. A puncture near Newbury, however, made us very late.

It had been a most enjoyable holiday, and not at all expensive. It was possible to pitch our tent in ten minutes, but taking it up again next morning was a somewhat bigger proposition; in fact, to carry our equipment neatly on the motor cycle was something we never succeeded in doing.

We found friends everywhere, and permission to camp was always given very

readily.

A NEW AND ORIGINAL DESIGN.



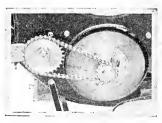
A GA1N we are able to place before our readers the first description of an entirely new lightweight motor cycle of revolutionary design. From its specification, judged in conjunction with its special features and price, the newcomer gives promise of wide success in the lightweight field. Designed by Mr. Cyril G. Pullin, who gained fame by winning the last T.T. race in 1914 when riding a Rudge, the new mount is already in an advanced state of production by an entirely new concern styled the Pullin Groom Motor Co., Ltd., with offices at

Cylinder head, showing formation of fins. Observe compression control valve on the top.

24, Buckingham. Gate, London, S.W., and a new factory at Alperton, Middlesex.

The "Ideal" Specification Attempted.

The object of the designer has been to produce a machine which, whilst possessing a pleasing and compact appearance, is at the same time simple to manage, confortable to handle, and clean to ride on all kinds of roads by riders of either sex. Further to promote the utility of the design, the handiness of the machine has been increased by building the engine in the frame at the lowest point, in order that the centre of gravity of the machine may be kept down to a pitch which renders it stable on greasy roads, and easily handled when being manueuvred about.



Primary drive with cover removed, revealing inspection lid in flywheel magneto.

In the Pullin lightweight the outstanding feature is perhaps the pressed steel frame, a feature long urged in these columns. But there are other points of equal interest and importance in the design, such as the special type of two-stroke engine with automatic carburation and lubrication, the combined magneto

and lighting generator in the flywheel, spring frame, pressed steel forks, interchangeable wheels,

spring frame, presse changeable wheels, handle-bar operated clutch and two-speed gear, and fully enclosed chain transmission to the rear wheel—truly an array of attractive points suggestive of an ideal specification of the future motor bicycle rather than an actual description.

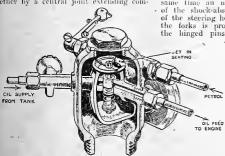
While all these features are in-cluded in the general design, the machine is being produced at the definite price of £44 -cheaper than many scooters! Considering the presentday prices of medium - powered lightweight machines, it will be agreed that the new Pullin production marks a big step in manufacturing progress in 1920. In this connection should be empha-sised that in designing the machine, production costs were at all times borne in mind, which enables the remarkably low figure of £44 to be fixed.



The pressed steel forks' with enclosed shock absorber.

A New and Original Design .-

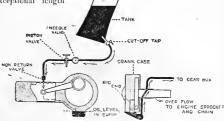
Reverting to its mechanical details, the pressed steel frame is stamped out of sheet steel in two sections (as shown in one of our sketches), and welded together by a central joint extending companion.



The mixing valve shown in section. The small piston valve for controlling the lubrication will be noted.

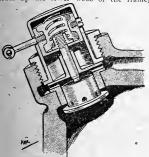
bracket above the steering head. The action of these forks will be readily understood from the illustration, the forks hinging on the transverse pin under the steering head, and causing at the same time an up and down movement of the sheering head. Lateral rigidity of the forks is provided for by designing the hinged pins of exceptional length





Diagrammatic layout of the Pullin lubrication system; the arrow indicates the oil path.

pletely around the construction. The two pressings are ribbed and parallel to give the maximum strength against road stresses, and the complete framework has a dip in the contre to provide an open frame suited to ladies, or those who prefer to ride with a long motor cont to protect the knees. In the lower part are carried the engine and gear hox units, their fixing being arranged to brace up the lower webs of the frame.



The special valve in the cylinder head, which allows the compression to be varied by passing the mixture back into the crank case. The valve is raised or lowered by the small control arm rotating in an oblique slot in the outer easing.

while the two upper "arms" of the frame form the petrol and oil compartments. The enclosure of the engine and gear box unit within the pressed steel frame has not been allowed to militate against the accessibility or easy removal of these units; on the contrary, there is no part of the engine, ignition, or gear box systems which cannot be got at or short space of time.

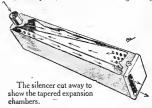
Pressed Steel Forks Adopted.

The front forks are also made of two steel stampings, their movement being controlled by a compound coil spring, enclosed in a telescopic tube hinged to a with wide bearings. As will be seen, this type of fork is devoid of complications, easily assembled or dismantled, and has a minimum number of parts and bearing surfaces.

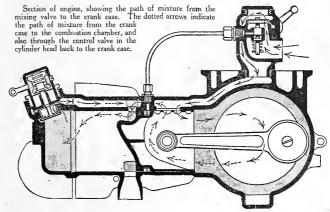
Rear Wheel Springing.

The rear suspension consists of two neatly enclosed coil spring shock absorbers hinged to a point on the main frame just below the saddle. shock absorbers have steel tubes extending down to hinge pins on the horizontal fork stay, and to the chain transmission case on the other side, since the casing is again a pressing, and performs the dual purpose of chain protector and fork stay. Both stays are hinged to a tubular sleeve in the main frame, so that when vertical movement of the rear wheel occurs, these two members (locked, of course, by the rear axle) pivot upon this point against the action of the com-pression springs in the telescopic tubes below the saddle. Both front and rear shock absorbers have rebound springs within the sliding telescopic tubes, hence the fullest possible amount of comfort

An original design of two-stroke engine has been adopted. It has a single air-cooled cylinder, arranged horizontally, the bore and stroke being 2½in: (63.5 nm., 216. c.c.); 3 h.p. is developed at 1,900 r.p.m., the normal rating being



2¼ h.p. The cylinder barrel and crank case are formed in a single iron casting, the cylinder head being detachable by withdrawing four bolts, which arrangement not only allows of simple and easy decarbonisation, but also permits of the withdrawal of the piston and connecting rod through the cylinder without dis-

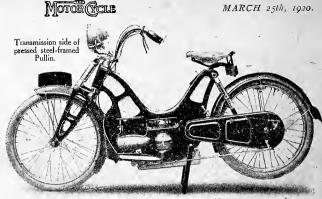


A New and Original Design .-

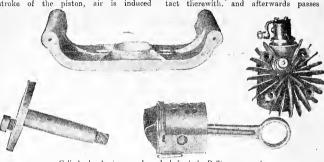
turbing the engine fixings. The cylinder head and also the piston are of cast iron, the piston having two rings fitted in a common slot, and pegged in position to prevent rotation. A simple method of securing the gudgeon pin in the piston by means of a small pin and two brass caps is employed. The connecting rod has a phosphor bronze gudgeon pin bush and a roller bearing for the big end. A single disc web type crankshaft is em-ployed, rotating within a large phosphor bronze bush in the flywheel side of the crank case.

Action of the Engine Explained.

The cylinder of the Pullin engine is of the three-port type, but the transfer port and the general induction and carburation system on this engine are somewhat new in principle, no carburetter of the ordi-nary type being employed. On referring to the sectional drawing of the engine, it will be seen that above the crank case is a "mixing" valve, held upon its seating by a light spring. When a depression occurs in the crank case on the outward stroke of the piston, air is induced



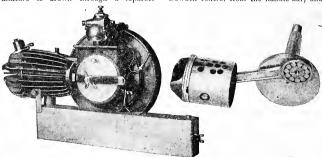
passage in the top of the crank case through a port in the cylinder wall into the crank case. The mixture is then the crank case. The mixture is then compressed, and is able to cool the head of the piston, by reason of its close contact therewith. and afterwards passes



Cylinder head, piston, and crank shaft of the Pullin motor cycle.

through the main intake past the valve and seating in the direction shown by the arrows. At the same time petrol is drawn through a fine hole in the seating and becomes mixed with the flow of air on its way to the engine. Following the indicating arrows in the diagram, the mixture is drawn through a separate through the same port in the cylinder wall and holes in the upper wall of the piston, through the outer channel, and thence through the transfer port into the. cylinder.

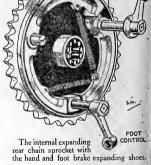
In the cylinder head is a valve, positively lowered from its seating by a Bowden control from the handle-bar, and



(Left) View of the Pullin two-stroke engine, showing the large door in the crank case for facilitating the removal of the crankshaft. (Right) Piston and roller bearing connecting rod of the Pullin lightweight. Observe the holes in the piston wall for the transfer of mixture from the crank case to the cylinder. The silencer is beneath the engine, and forms a complete unit with the latter.

this forms the single control by which the engine power and speed are regulated. If the valve is lifted off its seating, a certain proportion of the charge com-pressed within the combustion chamber is forced through the passage cast in the exterior of the cylinder back into the crank case, hence the amount of mixture exploded in the cylinder is not only varied, but the compression is also varied in unison. It will be seen that unless the engine is running at maximum speed, the valve is constantly passing a certain amount of mixture from the cylinder back to the crank case, but a very important point to remember is that, although the compression in the cylinder is reduced at lower engine speeds, the

HAND



compression in the crank case is main tained at its fullest extent at all times which eliminates one of the commones faults of two-stroke engines in the starve tion of the crank case at small throttopenings and the inefficient transfer of mixture through the ports into the cylin der. No float chamber mechanism is use in conjunction with the mixing valve as petrol can only flow when the valve off its seating and the engine inducing a in the normal manner. Directly the engine stops, the valve drops on its seing, and the issue of petrol through the small port is automatically prevented A finger-operated needle valve with

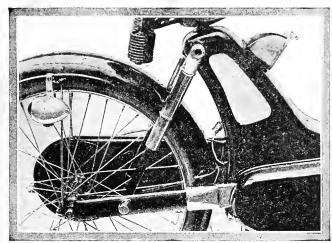
MOTOR (YCLE

A New and Original Design,-

graduated dial on the mixing valve device permits of variation of the petrol supply for climatic or other reasons.

Novelty in the Lubrication System.

The lubrication system, as adopted on this engine, is as original in conception as the carburation arrangements. Machined in one with the stem of the mixing valve is a small piston, which cast inside the mixing valve chamber. Referring to the diagram of the lubrication system, oil flows from the oil tank through a pipe to the small piston valve in the mixing chamber, and thence through another pipe to a non-return valve communicating with a hole in the eylinder wall. The oil flows from the tank to the valve by gravity, but from the valve to the engine the feed is accelerated by the crank case suction, and as the mixing valve proper rises or falls in unison with the speed or suction of the engine, so does the small piston valve also regulate the quantity of oil that is passing to the engine, hence the engine is automatically lubricated ac-cording to the amount of work it is doing. From the port in the cylinder doing. From the port in the cylinder the oil flows on to the cylinder wall, and also drips on to the gudgeon pin



Filler cap, rear lamp, and stays containing springs.

The two pressings which form the main frame shown in the rough state before they are welded together and machined where necessary.

earing through the series of holes in ne piston, and, finally, drains into a nall well formed in the bottom of the

The connecting rod throws up sufficient I from this well to lubricate the big-

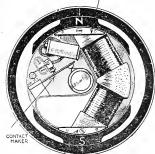


end roller bearing only, the mass of oil in the well being forced up by crank case compression through a channel at the back of the crank case to the main crankshaft bearing. In the crankshaft itself is drilled a diagonal hole, which allows of the oil feed from the well being passed through the crankshaft, at every crank case compression, to a pipe which feeds the gear box and rear chain transmission. will be seen, therefore, that the general lubrication system of the engine is entirely automatic in relation to the speed of the engine and its power output. A graduated needle valve is fitted at the side of

the mixing valve chamber for regulating the flow of oil from the oil tank to the automatic piston valve control.

Still more originality is displayed in this remarkably novel type of motor cycl . For ignition purposes a special form of magneto is employed, consisting of two circular permanent steel magnets and cast iron pole pieces (which, as a mass, form the "flywheel" of the engine), and a stationary armature with high and low-

ARMATURE POLE PIECE

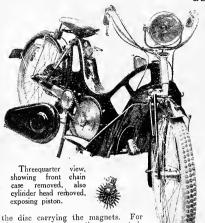


ARMATURE POLE PIECE PIECE

Diagram of the field magnets, pole pieces, and armature of the ignition and lighting generator.

tension coils mounted on an aluminium back plate behind the crank case. The layout of the magnets and the armature is shown in diagrammatic form, and it will be observed that there are two coil units situated in V formation between the laminated pole pieces. Each coil has high and low-tension windings, and a contact maker of the ordinary blade type is mounted on the armature back plate and operates on the cam on the "fly-wheel" boss, access to the platinum points being gained through a trap door





in the disc carrying the magnets. For lighting purposes alternating current is obtained by tapping the low-tension circuit, and with head and rear lights illuminated, there is ample current still available for ignition. The ignition firing point is fixed on each machine before delivery, but a split boss carrying the armature assembly on the crank case allows for variation in timing, if necessary.

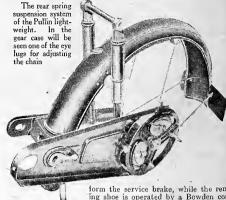
The engine is held by three bolts within the main frame, and is more easily removable than might be imagined; furthermore, all the working parts of the engine can be taken out clear of the machine for cleaning and adjustment purposes without disturbing the cylinder and crank case casting. A large circular door with a clamp bar and wing nut is fitted on the outside of the crank case for this purpose.

Cooling is effected by a head-on draught of air passing the cylinder fins through an opening in the lower part of the main frame, and although the engine appears to be boxed in to a great extent, we are assured that the cooling arrangements have been proved to be satisfactory.

Below the engine is a silencer, having internal chambers arranged in such a manner as to eliminate noise to a large degree.

Epicyclic Two-speed Gear.

From a sprocket on the outside of the flywheel the primary drive is taken through an encased ½in. ×4in. roller chain to a two-speed epicyclic countershaft gear mounted in the rear portion of the main frame. The high and low speeds, giving respectively ratios of 6 to 1 and 12 to 1, are obtained by a bevel type of balance gear, having a sliding cone unit which, when moved to certain positions by the Bowden control from the handle-bar, gives the high or low speeds, or the neutral position equivalent to declutching. The two main shafts of the epicyclic gear are mounted on ball bearings, and all the revolving parts, including the clutch cone surfaces, are, as aforemen-tioned, lubricated by the oil feed from the engine. As in the case of the engine, the whole of the parts of the gear box can be dismantled in a few minutes without disturbing the main casing, after first of all disconnecting the transmission chains



From the gear box the drive is taken through another roller chain in. X in., adjustable for tension, to the rear sprocket,

and it will be noticed from the illustrations that the gear case (the inside of which, as already mentioned, replaces the horizontal rear stay) is on the outside of the rear down tube, thus making it a simple matter to remove the cover and

so get at the chain.
Within the rear chain case the back sprocket runs on an independent roller sprocket runs on an independent roller bearing, the drive being communicated through dog jaws. By knocking out a central spindle, the rear wheel can be removed without disturbing the main sprocket, chain adjustment, or the chain case, whilst the front and rear wheels are interchangeable. Within the main sprocket are three expanding shoes and two operating spindles. Two shoes are two operating spindles. Two shoes are expanded by the foot brake control, and

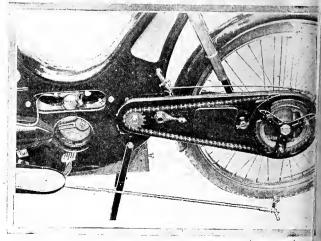
form the service brake, while the remaining shoe is operated by a Bowden control from the handle-bar. Thumbscrews are

from the handle-bar. Thumbscrews are provided on both brake controls outside the gear case for easy adjustment. 24in. × 2in. Hutchinson tyres, twis grip engine control, pressed steel carrier and metal tool box (the latter not show) in the illustrations), are included in the specification, and only two standard size of nuts, with the exception of the larg tubular bolts, are used throughout the machine. The petrol consumption i stated to be 110 miles per gallon, and the weight about 130 lb. Head and ta lamps are not included in the specifie price of £44, but these, together with "stand-by" battery, will be supplied a a slight extra cost.

Altogether the machine provides striking example of the progress machine the design of motor cycles and methods employed to cheapen the control of the contr

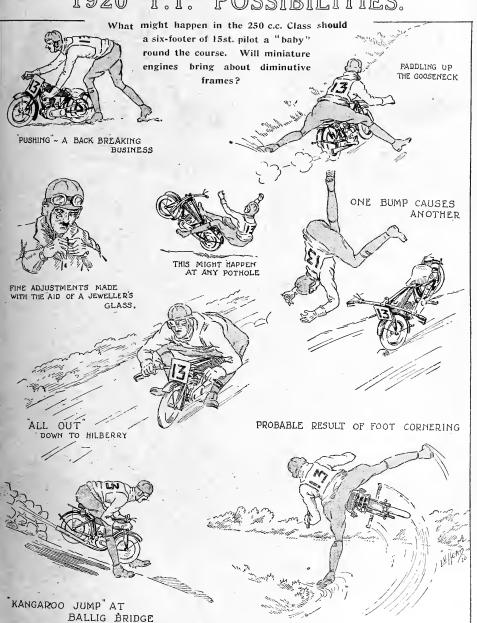
of production.

We hope shortly to give this machine to the shortly to give this machine to the shortly to give this machine to the shortly to give this machine. a trial on the road, and to record on impressions of its general behaviour.



Crank case cover and chain case removed revealing big end and brake system.

1920 T.T. POSSIBILITIES.



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COMPLETE SPECIFICATIONS (ALPHABETICALLY ARRANGED) AND ILLUSTRATIONS OF MOTOR CYCLES, THREE.WHEELED RUNABOUTS, AND SCOOTERS AT PRESENT ON THE BRITISH MARKET.

Buyers' Guide, which first became an annual feature in 1906. The specifications given have, in most cases, been supplied by the makers, Where prices have been quoted, however, it must be understood that these are in many cases provisional For the first time since the termination of hostilities, we renew an old-established feature of "The Motor Cycle" in the form of and subject to alteration, owing to the unsettled state of labour and the difficulty of obtaining supplies of raw material. and may be regarded as accurate.

A.J.S.

A.B.C.

4-speed gear, car type (top 5.4 to 1). Height of saddle 30in. Wheelbase 55in. Ground Oil 1 quart. Price £130. Price £130. 3 h.p. A.B.C., flat twin, 69×54 mm., 398 c.c., overhead valves, detacbable heads Claudel-Hobson carburetter, single-lever. Semi-automatic lubrication, sight feed. magneto, gear driven. clearance 7in. Petrol 24 gallons.

Weight 230 lb. Spring frame. Price SOPWITH AVIATION AND ENG. CC SOPWITH AVIATION Molton Street, W.I. Abingdon King Dick.

Lucas or M-L magneto, chain driven.

Amac carburette, two-lever.

King Dick 3-speed countershaft gear (top 4-64 to 1).

Height of sædde 30-jin. Wheelbase 6oin. Ground 6-7 b.p. King Dick, twin-cyl., 50°, 73×95 mm., 795 c.c., side-by-side valves.
Automatic drip feed lubrication, adjustable.

Clearance 4th.

Clearance 4th.

Weight 270 lb. (approx.) Pirice (137 ros.

Weight 270 lb. (approx.) Price (137 ros.

Other models: 4l bp., 1-cm, 490 cc.; weight other models: 4l bp., 1-cm, and machine, single, 1410, price (1701, 1233), price (190, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701, 1701

King's Road, Tyseley, Birmingbam. Acme.

Drip-teed lubrication from oil tank.
M.L. magneto. Ama cabutetter.
Amary-Arabra 3-speed geat (109 4½ to 1).
Height of saddle 31m. Wheelbase 64 jio. Ground 3 h.p. Acme-Jap, 85.5 x 85 mm., 976 c.c., side-by-

lons. Oil 5 pints.



clearance 6in.



Amac carburetter. Single gear. 24 h.p., 2-stroke, internal and external flywheels. Petroil lubrication. Ericsson or E.I.C. magneto.

Price (40 195. THOMAS AND GILBERT, Union Street, Smethwick, Birmingham. Oil 2 pints. clearance 4in. Petro 11 gallons We ght 130 lb

3] h.p. Alecto, 2-stroke, 76×70 mm., 345 c.c.
Derje-feed labrication diven.
Ame special extracturent, 2-stroke.
Bluman special extracturent, 2-stroke.
Bluman special extracturent, 2-stroke.
Chain and belt transmission. Height of saddle 30in. Wheelbase 53in. Ground Alecto.



CASHMORE BROS., T. Grove Road, Balham, S.W.12. Weight 165 lb.

Alldays-Allon.

Alldays-Allon, 2-stroke, 70x 76 mm., 292 c.e. E.J.C. unganeto. B. and B. carburetter.
2-speod gear, lists starter, clutch.
Height of saddle zyin. Ground clearance sim.
Percol it, gaillons. Oil 3 pints.

ALLDAYS AND ONIONS, LTD., Matchless Works, Birmingham.

Name and L. drip-leed lubrication.
E.I.C. magneto, chain driven.
B.and B. enbuerier.
Ariel sapeed countershaft gent (top 5; to 1).
Height of saddle 3oin. Wheelbase 5oin. Ground 34 h.p. Ariel, 86.4'×85 mm., 498 c.c., side-by-side valves. and L. drip-teed lubrication. Ariel.

Percentance 4,11.
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Percentance

Armis

Mechanical smith of service, 74×8¢ mm, 350 cc. Mechanical smith individual individual individual Mechanical smith individual service quart. Chain and belt transmission. Helpfu of seaffed 23m. Wheelbass 53in. Ground elegance fin. ARMIS CYCLE, MANUFACTURING CO., 290-29t, Heneage Street, Birningham. Weight 180 lb. Petrol 1, gallons.

Ayres-Layland.

Sump and splash lubrication.

5-7 h.p. Cove 688 c.c.



Petrol 24 gallons. Oil 3 pints.
Weight 276 lb. Spring frame.
Price Li58 (with coachbult sidear),
THE VIADUCT MOTOR CO.,
Broadbeath, Manchester.

rlearance 53in.

6 hp. J.A.P., 2-cyl., 75×85 mm, 770 c.c., side-by-side valves. Best and Lloya lubrication semi-automatic. Thomson-Econect magnete, Lucas Maggino if Annac carburcter, single or two-lever. Bat 4-speed gear, ball bearing. Height of saddle 28 jin. Wheelbase 58in. Ground Thomson-Bennett magneto, Luc electrically equipped model, Oil 3 pints. Bat.

Free (199 38) with detachable interchangeable other model. (143 Other MANUFACTURING CO. (1998), BAI MOTOR MANUFACTURING CO. (1998). Penge, S.E. 20. Weight 300-315 lb. Prtrol 2 gallons,

charance 45in.

Price £95.

Ground Thousan-Bennett magneto Ama carburetter, Fredson z-speed gas, 5 to 1 and 9 to 1 Heirit to sadde 31in. Wheelbase 64in. G Petro 2 gallons. 5. Weight 230 lb. F. E. BAKER, LTD., Precision Works, King's Norton

34 h.p. Precision, 2-stroke, 74×81 mm., 350 c.c. Mechanical and automatic lubrication.

Beardmore Precision,

p., single-cyi., 85×88 mm., 499 c.c., outside flywheel, side-by-side valves, Blackburne. I.B. magneto, chain driven, Splash Labrication.

Amac carburetter. Sturmey-Archer or Burman 3-speed gear, clutch, kick starter Ground Height of saddle 3rin. Wheelbase 60in, clearance 47in. Chain drive,

Petrol 2 gallons. Oil 3 pints.
Weight 250h.
Direc 4.15.
Balschung, detachable wheels, price 4.19.
With spare wheel, price 4.10.
Balschung, detachable wheels, price 4.290
BUNEY AND BLACKBURK, LTD. 166-168, Shaftesbury Avenue, London, W.C.2.

2-speed gear (51 and 9 to 1) Klek starter, Height of saddle 2gin. Wheelbase 521in. Ground 2] h.p. Villiers, 2-stroke, 70×70 mm., 26g c.e. Drip-feed lubrication.
C.A.V. magneto. Annac carburetter. Bown-Villiers. Weight 156 lb. Other

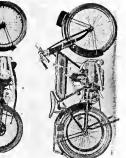
for model: Same machine, with Albion gear (54 and 9 to 1) or single-speed. Holus Works, Summer Lane, Birmingham.

Thomson-Bennett magneto.
Drown and Brahow carbinetter, semi-automatic
3-speed countershaft gear (5.1, 8.1, and 1.1,8 to 1).
Height of saddle 30in. Wheelbase 564in. Ground 6 h.p. Bradbury, 2-cyl, V, 7+5×86 mm., 749.75 c.c., side-by-side valves, Drip-feed lubrication. Bradbury.

Perceivant with the state of th Wellington Works, Oldham.

2] h.p., 2-stroke, 70×70 mm, 20g c.c. C.A.V. magneto, chain driven. Ames corbustetts. Single-speed gear (sporting model, Height of saddle, 27in. Wheelbase 54in. Ground British Standard

Petrol 14 gallons. On 3 pints. •
Pretor 14 gallons. On 3 pints. •
Pretor 14 gallons. On 3 pints. •
Pretor 15 Wells 130 lb.
Other models: Similar machine (standard model). 120 b., price 450 158: with 2-speed counter-Statt, price 457 158: 2-speed, clutch, and kick start, price 463 5s. BRITISH STANDARD MOTORS, 145, Lichifield Road, Aston, Birmingham,







clearance 6in.

B.S.A.

Length 95in. Width 24in. 6-7 h.p., twin-cyl. (50°), 76×85 mm., 771 c.c. • Mechanical oil pump lubrication, hand pump for emergency.

the models: 4, hp., reyl., 537 cc., B.S.A., caphuetter, 238 b. chain drive, price £103, chain-cum-yel drive, price £103, p. c.y., T.T. models single geared gly M.N. CHAM SMALL ARNS CO, LTD, Small Heath, Bfruingham.

23 b.p. J.A.P., 70×76 mm., 292 c.c., side-by-side B. and L. drip lubrication, semi-automatic. C.A.V. magneto.

Lion Works, Barn Street, Birmingham.

Petroi z gallons.
Weight 330 lb.
CAMPION CYCLE CO., LTD.,
Robin Hood Street, Nottingham. clearance sin. Sump lubrication.

Carfield

2] h.p., 2-stroke. Best and Llcyd drip feed lubrication, semi-auto. Chain-driven magneto.

Brough.

Petrol 34 gallons. Oil 3 pints.
Price Lico. Weight 23 lb.
Other model: 34 lb., ho, twin, 70×64.5 mm.,
500 c.g., weight 100 lb., price £140 (prov.)
W. E. BROUGH AND CO,
Baslord, Nothingham. T.B. magneto, gear driven.
Amac earburetter, single-breschaft gear (top
Sturmey-Archer 3 spoel countershaft gear (top
4.9 to 1 and 3.75 to 1).
Height of saddle 30in. Nuclease 5gia. Ground 5 h.p.Brough, 2-cyl., flat twin, 70×90 mm., 660 c.c., side-by-side valves. Hand pump lubrication, splash feed.

Amac carburettre B.S.A. new type 3-speed countershaft gear. Height of sadde 3.2m. Length 95in. Width Petrol 2, gallons. Oil 3} pints. Pirce 4,330 lb. E.I.C. magneto or Lucas Magdyno.

557 c.c., B.S.A,

Calthorne.

Anne carbinetter.

Height of saddle spin. Wheelbase 5zin. Ground
Performer Him Ni quart
Perfor if gallow Weight 1481b
Price (50 6s. Weight 1481b
2 stroke, weight 1531b; price (56 5s.
2 stroke, weight 1531b; price (56 5s.
CALTHORPE MOTON CYCLE CO.

6 h.p. J.A.P., 2-cyl. (50°), 76×85 mm., 770 c.c., side-by-side valves. Chain-driven magneto. A and B. carburetter. Sturmey-Archer speed countershaft gear. Height of saddle 3oin. Wheelbase 56in. Ground Campion.

clearance șin.
Petof î; galion: Oi 1 quart.
Petof î; galion: Veight 138 lb.
Other model: Ladv's similar specification, f65 28.
HANWELL AND SONS COMPONENTS, LTD.,
Northampton.

Chater-Lea

Ground

Cedos 2-speed gear, Height of saddle 28in. Wheelbase 47in.

2‡ h.p. Cedos, 2-stroke, 62 × 70 mm., 211 c.c. Oi. drip pump lubrication. Runbaken magneto. Cedos carburetter.

Cedos.

23 h.p., 2-stroke, 70×70 mm., 269 c.c. Dup-feed lubrication. British magneto. Amac carburetter. British magneto. Amac carburetter. Chater-Lea 2-speed gear. Banner Street, E.C.1. onf. Oil I quart. Weight 135 lb. CHATER-LEA, I Petrol I gallon Price £66.

LTD

Cleveland.

Countershaff gear, 6.1 to 1 direct, 10 to 1 low, wearn to find forder of the form drive. Price 47s. Weeth 1751b. Price 47s. Weeth WESTERN MOTORS, LTD. Norton Street, Liverpool. 3 h.p. Cleveland, 2-stroke, 69.85×69.85 mm., 268 c.c., engine running across frame. Berling magneto. Schebler carburctter, automatic. Petro, Inbrication.

Clyno.

hand pump Lucas magneto, chain driven; de luxe model has Lucas Magdyno. 8 h.p. Clyno, V twin (42%), 76×102 mm., 925 c.c., side-by side interchangeable valves, detachable cyl.nder heads. Mechanical drip feed lubrication and auxiliary Prirol 2; gallons. Oil 3 punk.
Weight tool b. with sidecar (not supplied solo).
Price: Standard forst, D. Luve £33.
Other, model: 3, h. h., services, 7xx-79 mm., other, model: 2, speed clutch, belt (idlaweight. CLYNO ENGEREIM). CO., ILD., Pellam Street, Wolverhampton. Amac carburetter, single-lever, automatic. Clyno 3-speed countershaft gear, all-chain drive. Wheelhase 5gin. Ground clearance sin.



Amac carburetter, two-lever. Burman 2-speed gear, kick starter, and clutch. Height of saddle 25±in. Wheelbase 52in. Ground 24 h.p. Union, 2-stroke, 70×76 mm, 292 c.c. Sight feed drip lubrication. Ranbaket magneto. clearance 6in. Petrol 1‡ gallons.

COVENTRY MOTOR MART, London Road, Coventry. 2-speed, without clutch and the 55.





24 Inc. Communght, 2-stroke, 73×70 mm., 293 c.c. Petroll inhication. magneto.
Amac, B. and B., or Sensyay carburetter.
Sturney-Archer 2-speed gear (top 5å to 1), kick starter.

Height of sadile spin. Wheelbase 5th. Ground Petrol Fashlow 301 quart Petrol Fashlow 301 quart Petrol Fys. Weight 458 lib., single scared, 154 lib., 457; miniature models; 3-spect 154 lib., 457; miniature model, 3-spect 156 lib., 170; sangle scared, 251 lib., 457; iminiature model, 3-spect 150 lib., 170; li

New Bond Street, Birmingham

Corona.

4 h.p., r-cyl., 72 x 110 mm., 488 c.c., staggered One-piece crankshaft.

Mechanical pump lubrication.

R.I.C. magneto, chain driven. valves. Outside flywheel.

Araac carburetter. Single gear. Belt transmission. Height of saddle 32in. Wheelbase 54in. Ground clearance 5m, Approx. oil 2 pints,

LID. Weight 170 lb.
METEOR MANUFACTURING CO., L.
98, Tollington Park, London, N.4.

Cotton.

Ground A ha. Williers, s-stroke, 70×70 mm, 269 cc.
Diriviest labrication.
Chair-diven magnetic.
Arase catherer magnetic.
Arase diverse figure.
Chair or and best transmission.
Height of saddle. 38in. Wheelbase 54in. Ground gallons. Approx oil 3 pints.

6s. Weight 170 lb.

COTTON MOTOR CO.,
11a, Bristol Road, Gloucester. clearance sin. Petrol 14 ge Price £68 6

Coulson-B.

Capac carburetter, automatic. ar. (Specially made for this Ground machinej every preventy machinej every machinej every chekupu ot sadde 3zim. Wheelbase 5gin. Gr Petrol 2 gallons. Oli r quart. Weight 193 lb. "Shring frame. Preve 593 ls. "Shring frame. Oliver, goodels: 22 hp. 2-stroke Union or 21 h.p. Blackburne, 71 × 88 mm., 350 c.c. Best and Lloyd drip-feed lubrication.

E.I.C. magneto. Capac carburetter, at Albion 2-speed gear. (Specially made

or models: 23 h.p. 2-stroke Union engine, single gear, price (55; 4 h.p. Blackbure, single gear, sporting model price 499 185. ASLETT COULSON ENGINEERING CO. Albion Street, King's Cross, N.I.

Coventry Eagle.

2] h.p. J.A.P., yo.x76 mm, .92 c.c. Had pump lubraction. C.A.V. magneto. B. and B. carburcter. Sturney-Archer 2-speed gear, clutch, kick starter.

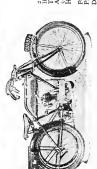
Height of stable, 27th 18 and 18 and











al ha, 1.4.p. reoft, 70×76 mm, 292 c.c.i.
B. and L. d. h. p. reoft, 70×76 mm, 292 c.c.i.
C.A.V. imperfect of undurintan.
Ana. carbiretter, data driven.
Briffeld 2-speed gear (top 6 to 1).
Reign of saddle 28in.
Vetra 8 allows. Oil r quart.
Vetra 100 in provident 2 speed gear, it kit, starter;
Same mobilismer 2-speed gear, it kit, starter;
THE D.F. AND M. Storken. Wolverhampton,

Hand and automatic lubrication.

E.I.C. magneto.

Ballo magneto.

Surmery-Arrber 3-speed countershaft gear.

Height of saddle 29m. Wheelbase 60-jin. Ground 8 h.p. J.A.P., 2-cyl. (50°), 85.5×85 mm, 976 c.c., side-by-side valves.

charance sin-ym. Intercoase Oojin. Ground
Petrol 2; gallons. Oil 3 pints.
Price 1570

Other model: 33 hp., single-cyl, 70×76 mm.,
592 cc., 2*speed Albion gent, weight 140 lb.,
697 4s.

DOT MOTORS, Ellesmere Street, Hulme, Manchester.

Douglas.

2³ h.p. Douglas, twin, h.o., 60.9×60 mm, 350 c.c., side-by-side valves. E. C. magnation britisation, pump and sight feed.
E. C. magnatic britisation, pump and sight feed.
E. C. magnatic britisation pump and sight feed.
Height of saddle gast, Mat states.
Height of saddle gast, Mat states.
Clearance, with inder britishes gain. Ground
Petrol 14 gallon. Oil 19 pains di 4m, without ofm.
Weight, 201b. (195 lb. without chatch). Other model: 4 b.p., 593 c.c., 252 lb., price fire. DOUGLAS MOTORS, LTD., Price £90 nett cash.

Kingswood, Bristol,

Dreadnought.

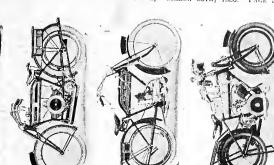
Villiers, z-stroke, 70×70 mm., 269 c.c. Prip-feed pump lubrication. M-L or C.A.V, magneto. Albion 2-speed gear.
Petrol 1½ gallon. Oil 1 quart.
Price £59 15s. Amac carburetter.

Clyde Works, Freeman Street, Birmingham,



Ground 2-stroke, 85 × 88 mm., 500 c.c., truncated piston. Best and Lloyd drip-feed lubrication. Thomson-Bennett magneto. Amac carburetter.
Speed countershaft gear top 4 to 1),
Height of saddle 2pn, Wheelbase 56in, G,
Clearance 5in,
Petro 24 gallons, Oil 3 pints,
Price 485, Weight 240 lb.

DUNFORD AND ELLIOIT (SHEFFIELD), LD., 96, Bath Street, Birmingham,





Duzmo.

3½ b.p. Duzmo, 1-cyl., 89×79 mm., 496 c.c., over-Pressure feed lubrication, two mechanical pumps. C.A.V. magneto, chain driven. Ground Amac carburetter, two-lever. Single gear. Belt transmission. Height of saddle 28jin. Wheelbase 53in. head valves.

Other model: Similar to above, 8 h.p., twin (60°), oh.v., gear-driven M.L. magneto, price 595, PORTABLE TGOL AND ENGINEERING, CO., codar Road Works, Enrield Highway, Middlessex. clearance 41in. Petrol 21 gallons. Oil 1 gallon. Weight 185 lb. Price £75.

Edmund.

^{2‡} h.p. J.A.P., single-ryl, 70×76 mm., 292 C.C., side-by-side valves. Best and Lloyd drip feed lubrication. M.L. magneto, chain driven. Ground Amac carburetter, two-lever. Enfeld 2-speed gear (top 61 to 1). Height of saddle 28in. Wheelbase 53in.

Other models: Same machine, with 2th.p. Union, Other models: 78 17s.: 2th.p. J.A.P., 2-speed Burnan geat, Note Starter, 15th 5th. 2th. C. EDWUND AND CO. (1920), LTD., Cane Bank, Chester. clearance 5½in. Petrol 1½ gallon. Oil 1 quart. Price £84. Weight 180 lb.



Endurance.

Albion 2-speed gear. Other models: Single-speed; 2-speed, ldc, tart. SENDURANCE CYCLE CO., LTD., Endurance Works, Shespcote Street, Birmingham. 21 h.p. Arden, 2-stroke, 70×70 mm, 269 c.c. Drip-teed lubrication. C.A.V. magneto. Amac carburetter, two-lever.

6 h.p. J.A.P., 2-cyl. (50°), 76×85 mm., 770 c.c.. side-by-side valves. Enfield.

Drip-feed lubrication and auxiliary pump.

Thomson-Bennett magneto, chain driven.

Anna carburetter, ordel-byer.

Aspeed countershaft gear.

Height of saddle 31in. Wheebbase 553in. Ground Petrol 2 gallons. Jun 3 pints.
Price 4:70c. Weight 4:48 lb. (with sidecarl). **
Price 4:70c. Weight 4:48 lb. (with 8 b p. engine Other models: Same machine, with 8 b p. engine Other models: Same machine, with 8 b p. engine Other models: Same machine, with 8 p. engine Other models: Same machine, with 8 p. engine Other models and price of the clearance 5in.

Redditch.

Excelsior British.

8 h.p. 1.A.P. 2 cyl. (59), 85.5 x 85 mm, 976 c.c., gich-yeide with freed harvation.

Bit of Thomson-Beautiful and the Amaron M.J. or Thomson-Beautiful and Stummer-Archard generation.

Stummer-Archard generation of the Amaron Beautiful and Beautiful and Stummer-Archard generation.

Find 8, gallora, with sidecar and detachable Frice (272, 282, 282, 283). Other models: 24 hp. J.A.P., 292 c.c., 2-speed, other models: 24 hp. J.A.P., 202 c.c., 2-speed, weight 180 lb., £0 astroke, weight 179 lb., 595 c.c., 2-speed, 2-stroke, weight 179 lb., £63 15s, extra for flutch and kick starter £6 e (172 ros., with sic interchangeable wheels,

BAYLISS, THOMAS, AND CO., King's Road, Tyseley, Birmingham











Excelsior American.

MELCHIOR, ARMSTRONG, AND DESSAU (LONDON), LTD., 14, Gt. Marlborough Street, Oxford Greus, W.1. 7-9 h.p., V twin, 84.5 × 88.9 mm., 1,000 c.c., over-Gear-driven magneto. Schebler carburetter. 3-speed gear. Chain transmission. Mechanical oil pump lubrication. head inlet valves.

Ground 3-speed gear. Height of saddle 3-in. Wheelbase 6rin. 7 h.p., 4-cyl., 52 × 88 mm., 748 c.c. Mechanical pump force feed lubrication. Amac carburetter. H.T. magneto.

Other model: 24 h.p., 2-speed, shaft driven. F.N. (ENGLAND), LTD., F.N. (ENGLAND), LTD., Rimberley Road, Willesden Lane, London, N.W.6. clearance 5 in.
Petrol 2 gallons. Oil 3 pints.
Weight 283 lb. rice £135.



2ł h.p. J.A.P., 70×76 mm., 392 c.c., side-by-side stales, Hard pump lindreaton. C.A.V. magneto, chain driven. B. and B. criburetter, two-lever. Sturmer-Archier 2-speed gear, kiek start. Height of saddje 39in. Wheelbase 53in. Ground Other model: 2, h.p. 2-stroke Villiers. FRANCIS AND BARNETT, LTD., Lower Ford Street, Covenity. Petrol 2 gallons. Weight 190 lb. (about). clearance 5in. Price £84.

7-9 h.p. Hartey Davidson, 2-Ch., 84.1x 88.9 mm., 958.83 a.c. vortended high valves.
Mechanical and hand pump lubretival services and hand pump lubretival services of Peting maggare, gear driven. Scheber calturetter, automatif (109.49 to 11). Ly speed rounterstaff general pump lubretival staging of saddle 2-3 plm. Wirethuse 59 plm. Ground Height of saddle 2-3 plm. Wirethuse 59 plm. Ground Harley-Davidson.

clearance 6in.
Petrol 24 galons. Oil r gallon. Weight 300 lb.
Price Lot 25, rod, with full electrical equipment
and speedometer. Other model: 4 h.p., flat twin, 4-stroke, 584 c.c., weight 252 lb., priz. 455 25. HARLEY-DAVIDSON MOTOR CO., LID., HARLEY-DAVIDSON MOTOR W.r. Tr, Newman Street, London, W.r.



Hazlewood

5-6 h.p. J.A.P., 2-cyl. (50°), 70×85 mm., 654 c.c., side-by-side valves. Drip-feed lubrication, semi-automatic. M.L. magnetry, chain driven. E. and B. carburetter. 3-speed countershaft gear, Chain and belt transmissioo. Ground clearance Sin.

HAZLEWOOD'S, LID., Albion Mills, Coventry. Petrol 13 gallon. Weight 280 lb.

24 Pp. Blackburn, 124.88 mm, 350 c.c.,
Outside hywhel, side by-side valves.
Hand hump hybrication-by-side valves.
Thompson-Bernett menter.
Ame cachuretter.
Chain and helt transmission.
Refrance 4 gin. Wheelbase 5 gin, Ground Petrance 4 gin.

Walsall Street, Wolverhampton.

Henderson,

8-10 h.p., 4-cyl., 69×76 mm., 1,168 c.c., overhead inlet valves.
Mechanical hubrication. Berling magneto, gear driven, Schebler carburetter, 3-speed unit construction gear, Chain transmission. 28 x 3in. tyres.

MELCHIOR, ARMSTRONG, AND DESSAU (LONDON), LTD.,
14, Gt. Marlborough Street, Oxford Circus, W.L.

Hobart.

Best and Loyd drip tood lubrication.
A.V. magneto. Ame carburetter.
S.A. 2-speed countershalt gea, kiele starter.
Height of saddle 29'n. Wheelbase 51in. Ground 23 b.p. J.A.P., 70×76 mm., 292 c.c., side-by-side valves.

Perfort if gallon. Oil r quart.
Price 25.0 Weight polin.
Price 25.0 Weight polin.
Weight 14.5 h. 26.7 res.; single-speed, 13.2 h.,
45.7 res.; spring frame model, 24 h.p. Villices,
2-speed, licie starter model, 24 h.p. Villices,
2-speed, licie starter.
Coventry.
Coventry.

Hoskison.

Annac carburetter, two-lever, 2-speed countershaft gear (5.1 and 9.25 to 1). Helpit of saddle 31in. Wheelbase 51 lin. Ground lecturaine 5 lin. Whelbase 51 lin. Ground Weight 179 lin. Wight 179 lin. 2† h.p. Union, r-cyl., 2-stroke, 70×76 mm., 292 c.c. Best and Lloyd sight drip feed lubrication. Runbaken magneto.

HOSKISON MOTORS, LTD., 72, Lozells Road, Birmingham, Price £78 15s.

44 h.p., flat twin. 75×68 mm. side-by-side valves, Werkment librication, with drap-feed, Goardrivin magneto, Chandel-Holson (arburetter, automatic, Chain transmission. Height of saddle 3oin. Wheelbase 55in. Ground 3-speed countershaft gear (top 5 to 1). Humber, clearance sm. Petrol 24 gallons, Weight 290 lb.

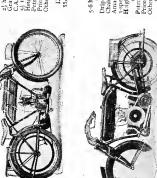
HUMBER, LTD. Price £130.



Indian.



Invicta.



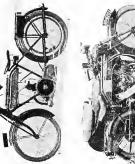


al h.p. Ivy, 2-stroke single-cyl, 2-q. cc.
B. for L. drip-cell ubrashon.
B. for L. drip-cell ubrashon.
Starter Archer 2-specific graph retter, two-lever.
Chairey-Archer 2-specific graph retter, two-lever.
Chairey-Archer 2-specific graph retter, two-lever.
Chairey-Archer 2-specific graph retter, two-lever.
Height of sould solid. Wheelbase join. Ground percol 1; and 8; holl 1; quart.
Price 2-3 al. Weight 173; h. Other models: Starter archer, with Albion 2-speed graph, 26: single-conduct, with Albion 2-speed graph, 26: single-conduct, with Albion 2-speed graph, 26: single-conduct, with Albion 2-speed graph 26: Starter archer 27.
As A. NEWRAN, LITP,
As A. Other Gross, Brainingham.

2) hp., Villiers, 2-strote, 70-70 mm, 269 cc.
Cavity drip leed Indication.
Cavity drip leed Indication.
A magnet.
Height of saddle 36in. Wherehase 32in.
Perof. & Edillion Off I repart.
Perof. (25, with 2-speed gent. (56; 3-S.A.
IXRON MOTOR IMAS, 3-speed, 25 or os.
IXRON MOTOR IMAS, 3-speed, 25 or os.
35, Gt. Tardla Street, Ladywood, Birmingham. Ixion.

5-6 h.p., twin, 2-cyl. (50°), 70×76 mm, 662 c.c., side-by-side valves.
Drip-feed lubrication. Amac carburetter, 3-speed countershatt gear, Haight of saddie 33in. Wheelbase 58§in. Ground James, Chain driven magneto.

Clearance 6in...
Petro 2 galdons, Ol 1 quart,
Petro 43.5. Weight 2061b.
Other models: 4.1 bp., revil. 600 cc.; 31 hp.,
twin, 500 cc.; 24 hp., 2-stroke, 225 cc.
| JAMES CYÇLE, CO, LTD., Greet, Birmingham.





I b.p. J.E.S., 56.6 × 60.3 mm, 146.4 c.c., overbead it.let valves.

Height of saddle 321n. Wheelbuse 47in. Runbaken or Lion magneto. J.E.S. carburetter, single-lever. Mechanical pump lubrication. Petrol 1 gallon. Weight 75 lb. ived gear,

J.E.S. MOTOR WORKS. Glouvester. Price £39 185

Kingsbury.

Senspray or Amae earburetter. 2-speed geat and clutch. Height of saddle 300. Wheelbase 52m. Ground 21 h.p. Kingsbury, Single-cyl., 2-stroke, 68×70 mm., 254 c.c. Best and LI vyd drip-teed lubrication. High-tension magneto, chain driven. clearance 4 in. Petrol 1! gallon. Oil 1 quart. Weight 180 lb.

LÖNDÖN AND MIDLAND MOTORS, LTD., 445, Oxford Street. London, W.r. 62



Lower Ford Street, Coventry.

Price £55.

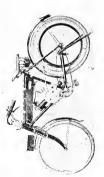
Ground

6 h.p., 2-cyl. (502), 76×85 mm., 770 c.c., side-by: Lincoln Elk.

Ground B. and B. carburetter. 3-speed countershaft gear. Chain and belt transmission. Height of saddle 32in. Wheelbase 56in. models: 44 h.p., single-cyl., Weight 265 lb. Drip-feed Inbrication. Chain-driven magneto. clearance 6in. Petrol 2 gallons. Price £126 ros. side valves.

JAMES KIRBY,

23 h.p., 349 C.



Lea-Francis.

3! h.p. M.A.G., 2-cýl., 496 c.c., overhead inlet. Sight drip-feed and hand pump lubrication. Petrol 1, gallon. Oil gallon. Thomson-Bennett magneto. Amac carburetter. Chain transmission. Price (125

Other model: Same machine, with 3; h.p. J.A.P. 2-cyl, engine. LEA AND FRANCIS, LTD.,

2⅓ h.p. Levis, single-cy!., 2-stroke, 62×70 mm, Amac carburetter, two-lever. Fixed gear. Belt transmission. Height of saddle 28in. Wheelbase 50in. Levis. Levis patent lubrication. E.I.C. magneto, chain driven.

Levis Motor Works, Stechford, Birmingham Petrol 11 gallon. Oil 1 quart. Weight 115 lb. clearance 4in.



6-7 hp. L.M.C., 2-cyl. (50²), 79 ×86 mm, 84 o.C., selecty-poid of white-hierarcon. Best and bloyd drip lunication. A large and a loyd drip lunication. A mac calmutative, single-testing east (100 y to 1). Height of saudie gole, white-hierarcon single-testing test (100 y to 1). Height of saudie gole, wheelbase goin. Ground

Petrol 2 gallons. Ol 1 duart.
Price 12.0. Weight 250 b. (approx.)
Other model: Overeas model, with larger tank,
alo start tyres, and patent suspension, weight
alo be (approx.) price f.140.
LLOND MOTOR ENGINEERING CO. LTD. clearance 5in.

132, Monument Road, Pirmingham,

Martinsyde-Newman.

Ground 6 h.p., V. 2-cyl., 70×88 mm., 680 c.c., overbead exhanst valves. Drip-feed lubrication.
Lungaleo, châin driven.
Amac carburetter, single-lever.
A. J.S. 3-speed countershaft gear.
Chain transmission.
Height of saddie, join. Wheelbase 59in. clearance of in

Petrol 2 gallons. On 4 pints.
Weight 400 lb.
Price £170 (with sidecar).
MARTINSYDE, LTD.,
Maybury Hill, Woking.

8 h.p. J.A.P., 2-cyl (50°), 85.5 \times 85 mm., 976 c.c., side-by-side valves. Sight-feed lubrication, semi-automatic. Ground British magneto. Amac carburetter. Marchless, s-speed countershaft gear. Chain transmission. Hoight of saddle 33in. Wheelbase 62in. Matchless.

Petrol : gallons. Olf 6 parts.
Price £786 (with siderar screen, spars wheel, tyre).
Other model : NLp, M.A. G. 2 cdt. [30]. 81×94Other model : NLp, M.A. G. 2 cdt. [40].
H. COLLIER AND SONS. LTD., 44, Plumstead Road, Plumstead, S.E.18. clearance 6in.

Metro-Tyler.

Matro-Tyler 2-speed grar (top 5.85 to 1). Height of saddle 294in. Wheelbase 54in. Ground 24 h.p. Metro-Tyler, 2-stroke, 70×70 mm., 269 c.c. Automatic Inbrication. C.A.V. magneto, chain driven. Petrol 13 gallon, Oil 1 quart. Weight 190 lb. (approx.) Amac carburetter, two-lever. clearance 45in.

ice 485. TYLER APPARATUS CO., LTD., Banister Road, Kilburn Lane, London, W.ro

Unit construction gear, 3-speed and reverse. Height of saddle 32in. Wheelbase 68in. Ground ro n.p., 4-cvk, 64 × 89 mm., r.145 v.c., o.h. valves. Force feed lubrication. Combined lighting and ignition. Petrol 34 gallonis. Oil it gallonis LID, LONDON AND MIDLAND MOTORS, LTD, 415, Oxford Street, London, W.r. Spring frame. Militor. Antomatic carburetter. clearance bin



c6

Wheelbase 51th. Ground B. and B. carburetter, Mountaineer, 2-stroke. Oil 2 pints. 24 h.p. Mountainer, 2-th Petroli lubrication.
Runhaken magneto.
Albico 2-speed gear.
Height of saddle 30in. Occarance 54in.
Petrol 14 gallons. Oil 2 Weight 128 lb.
Price £68 58.

The Garage, Marsden, near Huddersheld.

New Comet.

Amae carburetter, Petroil lubrication. Albion gear.
Petrol 1½ gallon. Oil 1 quart.
Weight 154 lb. Climax engine, C.A.V. magneto,

Other model: Same machine, kick starter, £68 5s.

New Comet Works, Princip Street, Birmingham.

New Hudson.

24 bp. New Hudson, 2-stroke, 62 x 70 mm., 211 G.C. G.A.V. magarto. B. and B. carburetter. C.A.V. magarto. B. and B. carburetter. Chart and belt transmission. Order and belt transmission. Wheelbase 5sin, Ground clearance 4in.

Petrol I gallon. Oil I quart, Weight 148 lb. Price £65.

St. George's Works, Icknield Street, Birmingham

New Imperial.

8 b.p. New Imperial, 2-cvl., 85×85 mm., 964 c.c., side by side valves. Splash linitection.
B.L.C. magneto, brain driven.
B.L.C. magneto, brain driven.
B. and B. carbnetter, two-ker.
Heel linperial 8 speed gear.
Heelight of saddle 30in.
Retol 2 sallons. Oil 2 quarts.
Price 2 sallons. Oil 2 quarts.
Price 5,23 1%.
Price 5,23 1%.
Price 5,23 1%.
Price 5,23 1%.

"model: 23 h.p. J.A.P., 292 c.c., weight 150 lb., price £67 48. NEW IMPERIAL CYCLES, LTD., Princip Street, Birmingham.

New Scale,

a Inmison-Femett magnito. Amac carburetter. Burman 2-speed gear, clutch and kick starter. Chain and bott transmission. Height of stadle 29in. Wheelbase 5tin. Ground electrons et al. 3. b.p. Precision, 2-strobe, 74×81 mm, 350 c.c. Mechanical and automatic lubrication. Thomson-Pennett magneto. Amac carburette Petrol 2 gallons. Oil 1 pint, Weight 190 lb, clearance sin,

ROBERTS AND' HIBBS' Droylesden, Mauchester. Price 485.





Pero'z galors. Oi 3 pants.
Pero'z galors. Oi 3 pants.
Other glood weight a53 lb,;
T.T. machine weight a52 lb;;
T.T. machine weight a52 lb;
Bracchridge Street, Birmingham.

3½ h.p. N.U.T., 2-cyl., 64.5×76 mm., 500 c.c., side-by-side valves,

Best and Lloyd Inbrication, semi-automatic. C.A.V. magneto. B. and B. carburetter. Sidecar. S.A. 3-speed countershaft gear, solo, (top 44 and 54. Height of saddle 30in. Wheelbase 571ia. Ground clearance 6in.

1-cvl., 82×120 mm., 633 c.c.,

Norton.







Petrol 2 gallons, Oil 3 pints.
Price £70. Weight 180 lb.
Other model: Same machine, with single gear Burman 2-speed gear and bick start, Height of saddle 27in. Wheelbase 52in. Ground OLYMPIC CYCLE AND MOTOR CO., LTD., Granville Street, Wolverbampton. 2) h.p., 2-stroke, 70 x 70 mm., 269 c.c. Best and Lloyd drip-feed lubrication. B.J.C. magneto, chain driven. Amac carburetter, double-lever. clearance sin.



Burman 2-speed gear (top 6 to 1).
Height of saddle 29in. Wheelbase 52in. Ground clearance 4in. Petrol 14 gallon, Oil 1 quart.
PProc 150 Ss. Weight 130 lb.
Other model: Same ranchine, with clutch and
Edik starter, footboards, Brooks saddle, 154 lb.
W. J. GREEN, LTD., 24 b.p. J.A.P., r-cyl., 70×75 mm, 292 c.c. Hard pump lubrication.
M-L or C.A.V. magneto, chain driven.
B. and B. carburetter.





Overseas.

8-9 h.p. Overseas, 2-cyl. (50°), 79 × 88 mm., 960 c.c., side-by-side valves. Special automatic lubrication.

M-L magneto, chain driven.

B. and B. cabburetter, pilot jet.
Sturmey-Archer 3-speed, countershaft gear.
Height of saddle 29in. Wheelbase 58in. Ground clearance 6½in. Petrol 2½ gallons. Oil 1 quart.

Pice (155. THE OVERSEAS MOTOR CO., LTD., 13, Johnstone Street, Ladywood, Birmingban.

Paragon.,

C.A.V. magneto. Amac carburetter. Paragon 2-speed counter-baft grar (top 4) to 1). Height of saddle 28in. Ground clearance 5in. Paragon 2-stroke, single-cyl., 76×79 mm., 348 c.c. Petrol 14 gallon. Oil 3 pints. Weight 2no lb Sight drip-feed lubrication.

PARAĞON MOTOR MANUFACTURING CO., Paragon Works, Manningtree, Essex.

P. and M.

3½ h.p., single-cyl., 84.5×88.9 mm., 498 c.c., side-by-side valves. Mechanical lubrication.

Petrol 14 gallon. Oil 3 pints. 260 lb.



P. and S.

C.A.V. magneto. Amac carburetter, two-lever. 2-speed countershaft gear (top s. to 1), kick stort. Height to saddle pin 26 in. Wheelbase 50. 3 h.p., r-cyl., 2-stroke, 70×76 mm., 292 c.c. Best and Lloyd drip feed lubrication. C.A.V. magneto. Amac carburetter. two-l Petrol 2 gallons. Oil 2 quarts. Weight 170 lb Price £74. Ground clearance 41in.

Automatic lubrication.
Magneto in flywheel. No carburettor.
Epicychic 2-speed gear. Chain transmission.
Height of saddle 28½in. Wheelbase 5r½in. Ground 2} n.p. Pullin, 2-stroke, 63.5 × 63.5 mm., 216 c.c.



E.I.C. magneto. Amac carbiretter. P. and M. 2-speed gear (5.4 and 9.3 to 1). Chain transmission.

Price £95.

PHELON AND MOORE, LTD.,

4, Berners Street, W., and Cleckheaton, Yorkshire.



Other model: z³ h.p. J.A.P., r-cyl., 4-stroke, z9z c.c., weight 160 h., price [31. PEARSON AND SOPWITH, LTD. 8-9, Long Acre, W.C.t.

Pullin,

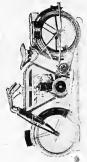
Price f.51 93. PULLIN, GROOM MOTOR CO., LTD., 24, Buckingham Gate, London, S.W. clearance 4in. Spring frame. Petrol 14 gallon. Oil 2 quarts. Weight 130 lb.



Onadrant.

Amac carburetter. 4½ b.p. Quadrant, 1-cyl., 87×95 mm., 565 c.c. Splash lubrication. Alt. magneto, gear driven. A Sturmey-Archer 3-speed gear. Height of saddle 29in. Petrol 24 gallons. Oil 2 quarts.

QUADRANT MOTORS, 45, Lawley Street, Birmingbam. 240 lb. Weight 240 Price £95.



Radoo 2-stribe, 6.5 × 70 mm., 211 C.C. Loa or C.A.V. Tragentica. After our carburetter. Loa or C.A.V. Tragentica. After our carburetter. Loa or C.A.V. Tragentica. After our carburetter. Sepech Alticop gent. Chain and belt transmission. Height or stadfe 281m. Ground clearance din. Weight 128 lib. Old 27 phuts. Petro 118 galloo. 12 phuts. Petro 455. Other models: Same machine, single-speed, 4,48°, petro 455. E. A. Red NONALL, AND O., E. A. Red NONALL, AND O., Dermonth Street, Bernnighton.



5 h.p. Raleigh, flat twin, 77×75 mm., 700 c.c. Automatic sight feed with additional hand pump Amac carburelter, automatic or two-lever. S.A. 3-speed gear. Chain transmission. Height of saddle 2gin. Wheelbase 57in. clearance ofin. Spring frame. Gear-driven magneto. ubrication.

Ground

Weight 280 lb.
Price fize for, RALEIGH CYCLE CO., LTD., clearance 6in. Spring fra Petrol 24 gallons. Oil 2 quarts. Nottingham.



3 h.p., estroke, 28 × 75 mm, 33 r.c., Drip-ted Individiou, semi-advoratic CAV, magneto Anne cachrotter, single-tevr. Burnan asped tear, otto, and likel starter. Height of stadle 27 jin. Wheelbase 5 stin. Ground

Price 48s.
Other model: 21 h.p., 2-stroke, 269 c.c., Rec 2-sp.
49, Brick Street, Piccadilly, London, W.r. clearance 5in.
Petrol 2 gallons. Oil 3 pints,
Weight 140 lb.



to h.p., V twin, 85.7×101.6 mm, 1.170 c.o., side-by-side valves. Mechanical and attailing hand pump lubrication. Bosch or Berling magneto. Schobler carburetter, see Chain transmission. Reading Standard. 28 x 3in. tyres. where you're. Petrof 34 gallons. Oll 3 quarts. STANLEY J. WATSON, 37, Sheen Road, Richmond, S.

3-speed gear (top 3.9 to r).

c8

. Kegent.

Royal Ruby.

5-7 hp. Coventry Victor, flat twin, 73×78 mm, Sight eed drip hidration.
Thomson-Bonett magnets, gaze driven.
Thomson-Bonett magnets, gaze driven.
Thomson-bonett magnets, gaze driven.
Surmay-Arder Speed countrabalt gear.
Purply 1921b.

Price firs 10s.
REGENT MOTOR CYCLES., LTD,
116, Victoria Street, Westminster, London, S.W.1.

Revere.

at h.p. Villiers, a stroke, 70×70 mm, 269 c.e.
Best and Lloyd drip inbrication, semi-automatic.
Chain-driven magnete.
B. and B. carburetter.
Sparkbrook a speed countershaft gear.
Other model: Same machine, single geared. W. H. WHITEHOUSE AND CO., LTD., Coventry.

Rex.

4 b.p. Rex., single-cyl., 84.5×98 mm., 550 cc., sincle-by-side valves.

Sincle-by-side valves.

McI-maired and hand pump lubrication.
M.I. magreto. A mac carburetter.

Sturmey-Archer 3-speed c lshaft gear (top 6 to 1).

Helight of saddle 31m. Wheelbase 64 jin. Ground Petrol 24 galls. Oil in tank 5 pts., in sump 2 qu. Weight 390 lb. Se h.p. Rex. twin (50°), 80×98 Other model: 90 cc., weight 330 lb. min., 910 cc., verient 300 lb. REX MOTOR MANUFACTURING CO., LTD. Earlsdon, Coventry. clearance 5m.



elearance 4in. Petrol 1½ gallon. Oil 2 pints.

3! b.p., r-cyl., 85×88 mm., 499 c.c., side-by-side valves. Hand pump inbrication. B.L.C. magneto, chain silent-driven. B. and B. carburetter. Ground 3-speed countershaft gear (top 53 to 1). Height of saddle 28in. Wheelbase 54in. Oil 2 quarts. clearance 4Jin. Petrol 2 gallons. C Weight 270 lb.
Price £127 ros.
Other model: 5

T model: 5-6 h.p., twin, 654 c.c., 286 lb., price £155. NEW NOVER CYCLE CO., LTD.,



31 bp. Redge, single-oyl. 55 x 88 mm, overhead Annet volve. Pedal pump hibrication. Annet volve. Pedal pump hibrication. Excl. Numguero. Sengara endurated: Rudge multi-gen, vatable (34 to 7 to 1). Relt transmission. Relt (ansursion.). High of saddle 31m. Wheelbase 53in. Ground elegano, 4jin.

Rudge.

Petra a galons. Oil 3 pints.
Petra a galons. Oil 3 pints.
Petra fro. Weight 3.1, 188 lb., fro. 5-6 lb., 184., 736 cc., 241 lb., pinte f.10.
7-9 hb., 184., 195., 186., 196. cr., 264., 196. cr., 264., 196. cr., 264., 196.

Crow Lane, Coventry.



Romper.

Runbaken magneto. Amac carburetter. Single-speed. Belt transmission. Height of saddle 30in. Wheelbase 53in. Ground 2⅓ h.p. Union, 2-stroke, 70 × 76 mm., 292 e.c. Drip-feed lubrication.

Rover.

weight





Sheffield-Henderson.

Fitzwilliam Street, Sheffield.

HENDERSON MOTORS

Price (73 10s

2. b.p. Villiers, 2-stroke, 70×70 mm, 269 cc.
Sight drip freed hubrication.
CA.V. magure. B. and B. carburetter.
Sparkbrook 2-speed countersbaft gear (top 5 to 1).
Petrol 1 gallon. Ol 1 quart. Sparkbrook

Price £65. SPARKBROOK MANUFACTURING CO., LTD., Coventry.







73×63.5 mm, 53±5 c.c. Mechanical and automatic sight feed lubrication. Thomson-Remett magneto, chain driven. Binks earburetter. Societ 2-speed countershaft gear (top 4.56 to 1). Height of saddle 29in. Wheelbase 53;in. Ground

3 h.p. Scott, twin-cyl., 2-stroke, water-cooled

Scott,







Sunbeam.

Sunbeam 3-speed countershaft gear, Chain transmission. Height of saddle 29in Drip feed lubrication E.I.C. magneto. Inac or B. and B. carburetter. Petrol 13 gallon. Oil 2 quarts. Weight 270 lb.

Price £136 10s. Other model: 8 h.p., twin, \$5.5×85 mm., 976 c.c., weight 350 lb., price (157 108. JOHN MARSTON, LTD.,

Sun Vitesse.

Aston Brook Street, Birmingham.

M-L magneto. Triumpi carburetter, semi-auto. Summy-Arbert speed countershaft gear. Chain-oun-belt transmission. Wheelbase 53in Ground Height of saddle 3oin. Wheelbase 53in Ground 4 b.p. Triumph, 1-cyl., 85×97 mm., 550 c.c., side by-side valves. , Hand pump lubrication. M-L magneto. Triumph carburetter, semi-auto.

Price, frog (solo), fro 10s. (with sidecar).
Other models: As above, Trumph 3-5p., all-chain, wheelbase 5,43m, 225 lb., f175, 10s.; 1-ch., -3-stroke, 235, cc., 175, 10s.; 64, hp., TRUMPH CYCLE CO., LTD.,

Velocette.

Priory Street, Coventry.

clearance 5in.

VELOCE, LTD., Victoria Road, Six Ways, Aston Birmingham.

Price £70.

Verus,

Price £99 15s. Weight 200 lb.
Other models: 2\(\frac{1}{2}\) b.p., 1-cyl., 2-stroke, single-sp.;
2\(\frac{1}{2}\) h.p., 1-cyl., 2-stroke, 2-speed; 4 b.p.. ALFRED, WISEMAN, LTD., I-cyl.

31 b.p. Sunheam, single-cyl., 85 x 83 nim., 499 c.c.

11, Sunbeamland, Wolverhampton.

B. and B. carburetter, automatic.
Surmove-Yrcher sepsed near (top 5 to 1).
Height of saddle 2sin. Wheelbase 53in. Ground
Clearance 5, iii.
Petro I gallon. Oil I quart 23 b.p. Vitesse, 2-stroke, 70×70 mm, 269 c.c. Automatic sight feed lubrication. T.B. or C.A.V. magneto, chain driven.

SS 19S. CYCLE AND FITTINGS CO., LTD., Price f68 3 SUN CY

Triumph.

clearance 4m.
Petrol 14 gallon. Oil 2 pints.
Weight 220 lb.

Veloce 2-stroke, 65 x 73 mm., 220 c.c. Mechanical pump Indirection. E. and B. or Amor cabinetter. Veloce 2-speed grar (ttp: 7, patent control. Infeght of saidile 29in. Wheelbase 49in. Ground

Petrol (only) 13 gallon. Weight 160 lb. (approx.

24 h.p. Blackburne, ektroke, einfleeyn, 71x88 Mechanicki pump blurherdkon pressur feed. Minklein magen prosesur feed. Burman z-spect counterstrang gear (top 5 to 11) Helgin of saddle 31m. Weedbars 54m. Ground felgin of saddle 31m. Weedbars 54m. Ground felgin of saddle 31m. Weedbars 54m. Ground clearance 54m. Petrol 12 gailon. Oil 1 quart. Price £99 158. Weight 200 lb.



Other models: 2 speed Albion grar, £55; 2-speed chitch and kick starter, £60.
VICTORIA MOTOR AND CYCLE CO., LTD.,

Victoria Works, Dennistoun, Glasgow.

Vindec.

Ground

Height of saddle 3oin. Wheelbase 53in.

clearance 5½in.
Petrol 1½ gallon. Oil r quart.
Price f47. Weight 116 lb.

21 h.p. Villiers, 2-stroke, 70×70 inm., 269 c.c

betroil lubrication. C.A.V. magneto. Fixed gear. Price £47.

Victoria.

Amac carburetter.



weight

24 h.p. J.A.P., r-cyl., 70×76 mm., 292 c.c., side-by-side valves. Amac carburetter. Viper. Semi-automatic lubrication. C.A.V. magneto. Amac

LTD Albin 2-speed gear.
Height of saddle 29in.
Petrol 1½ gallon. Oil 1 quart.
Price £75. VIPER HOTOR CO., Kidderminster

Ground 24 h.p. Villiers, 2-stroke, 70×70 mm., 269 c.c. Best and Lloyd drip teed lubrication.

M.L or E.I.C. magneto. Amac carburetter. Albion 2-speed condershaft gear. *
Height of saddle 29in. Wheelbase 52io. Wolf. clearance 5in.

Peter [1 agalon, Oli triguat.
Peter [6 sp. 6d] Weight foo lb.
Peter [6 sp. 6d] Weight foo lb.
Other models: Same machine with S.A.-2-peed.
Mick states, 168 lb. [65 15s ed.; 2] lbs.
[AAF, 42 cc. Abloon s-speed, 174 lbs.
App. 145 cd.; co. S.A. 2-speed, lick states.
App. 165 cd.; co. S.A. 2-sp



Ground 24 b.p. Wooker, flat twin, 60.5 ×60 mm., 347 c.c.
Automatic mechanical sump lubrication.
C.A.V magneto.
B. and B. activatedter, Wooler pattern pilot jet.
B. dropover variable gant (41 to 87 to 7).
Height of saddle 37m. Wheelbese 64m. Ground Petrol 2 gallons. Oil in sump 3 pints. Weight 180 lb. nett, 192 .b. gross. clearance 7in.





C:4

6 har, J.A.P. scylliamson.
Senichryside, singlety, 76×85 mm, 70 c.c..
Senichryside, singlety, 76×85 mm, 70 c.c..
B.L.G. magneto, Amao carbureter,
S.A.; a-greed countershaft geat (top 5 to 1).
Chain transmission in grains on the grains. Only grains. Only grains.
Weight 774 lb. (sports.)

WILLIAMSON MOTOR CO., LID., Coventry.



TOO LATE FOR CLASSIFICATION.

Monopole,

28 h.p. J.A.P., 70×76 mm, 392 c.c.
CAA, magende, B. and B. carburetter.
CAA, rapped countersing gar, kick start.
Percol. 75 plane 011 2 plais.
Other Draces as Weight 150 lb.
Spreed, kf6 7 sepred, ladds start, 173 tos. MONOPOLE CYCLE AND MOTOR CO., LTD., Folcsbill, Coventry.

2] b.p. Arden, 2-stroke, 70×70 mm., 269 c.c. C.A.V. magneto. Amac carburetter.

Albion 2-speed gear, Chain and belt transmission,

Gaby.

JOHN BURNS AND CO., . 103, Holloway Road, London, N.7.

Hampton Court, London.

8 hp. 1.4h. 2-eq. (26)* 85.3×85 mm., 976 cc.
11.8 mearch of mind five.
11.8 mearch of mind five.
12.8 mearch of mind five.
13.8 mearch of minds of



Sight feed drip lubrication.

C.A.V. magneto.

Saltley.

Abion 2-speed gear, Chain and belt transmission, Otber model: Same machine, single-speed, SALTLEY CYCLE CO., 86, Snow Hill, Birmingbam.

An Blackurus - r.cl., 85.88 mm, 499 cc., Slumay-Archer 3-speed gar. Price from Profest Part of Parthau Carlos Carlos Profest frainteen of Part of gallands. Other models: 21 hr. Blackburne, 330 cc., S.A. Barwal Gard, 641 vol. 19, P. Blackburne, Burman or Albora 2-speed gear, f.63 zs. WILKIN MOTORS, LTD. Onslow Road, Sheffield

Unconventional Types. OBSERVATIONS ON THE BUYERS' GUIDE.

addition to the machines The Trend of Design. Increase in Number of Lightweights. doned. In addition to the specification make, brief particulars are also given of other models manufactured, therefore the and illustration of one model of each Guide places before the readers the of 203 different machines choice connection with the prices of the motor cycles described above, it may be well to warn readers who may hereafter use this Guide for reference, that the prices quoted are those ruling at the time of its compilation, but can-

New Makers.

orders early may, of course, do so on the basis of the figures given, but should materials further increase in cost, then,

These readers who propose placing their

be considered

definitely

naturally, it must be assumed that prices regards delivery, several weeks of wait-ing are usually the rule, so that these in

will be advanced in consequence.

a position to place their orders immediately would be well advised to do se.

offered for sale in this country.

binding.

non

some of the smaller firms who have There are many new comers since the publication of the last Motor Cycle Buyers' Guide. Most of these replace dropped out of the industry, but others are the produce of larger firms, such as the A.B.C., Acme, Beardmore Precision, Cedos, and Martinsyde. Since the Buyers' Guide was last pub-

lished, in 1915, there has been an increase in the number of makers, largely due to the increased number of smaller greatest increase is in the but in comparing the given below, it must not be overlooked that most of the larger makers also market models other than those illustrated. The Triumph, James, Excelsior, Hebart, Diamond, among others, catemachines fitted with twoalso market twe-stroke machines, in firms, who are in the assemblers' gory. The greatest increase is in stroke engines, number of hgures

that certain factories have sold their entire output for this year. This does

No doubt many readers have heard

Delivery.

not necessarily mean that such outputs

are sold to the public.

sell to their agents, who may not, in turn, have disposed of their prospective looked by the potential purchaser is that

Manufacturers

singles on the market is also similarly affected. In fact, this applies to all types. For example, the B.S.A. and Bradbury also market a single, and the Ariel and Royal Ruby a twin. But, while the number of actual four-stroke taken all round, it is safe to conclude that there is an increase in lightweights of all types. Flat twins have increased, illustrated, as have the four-cylinder machines.

New Types.

Probably, the outstanding departures from general practice in 1915 are the new Pullin, Beardmore Precision, and increased. Tyre sizes have been enlarged all round, and chain drive for twin A.B.C., while the number of spring frame machines now available is greatly

sidecar machines is general practice.
A study of the Buyers' Guide reveals a disappointment to those who during the war urged that British makers conceninstead of offering a large number of models all differing sufficiently to restrict trated on one, or, at most, two models production. Incidentally, in this connection, the newcomers to the industry apto appreciate the advantages 'mass" production of one model only, near

model only may be mentationed the A.B.C.,
Y. A.J.S., Allon, Beautione-Erecision, Codes,
Il Humber, Levis, Martinsyles-Newman, New T.,
Humber, Levis, Martinsyles-Newman, New A.
Hudson, N. U.T., Pullin, P. and M.
N. Walle and Wooler,
while included in those who still produce
ever at types of machines there are the
A. Mingdon, Ariel, Bradbury, Clyno, CoulB. Worlson, Indian, James, New Imperial,
Rovers, Rudge, Sunbann, Triumph, and
V. W. Among the larger makers producing one Verus.

Owing to the large number of motor pressure upon our space, we are unable particulars of cycles in the Buyers' Guide and These will be published next week. three-wheel to include in this issue scooters and three-wher

we give a comparison of the of machines shown in the 1915 Below we give a comparison of numbers of machines she and 1920 Buyers' Guide,

1920.	43	Ħ	2	95	00	m	ľ
	:	:	:	:	:	:	
1915.	33		0	50	+	H] 3
Trees oftends of the	LWO-SUTOKE SIBRIES	Fourstroke singles	V funite	dos Amina	Four-ordingless	The state of the s	TOTAL

1920.	43	H	23	95	00	m	1	000
	;	:	:	:	:	:		
1915.	33	н	50	50	+	н	j	×
Turner of party 1915	A WO SHIPPING STUBBLES	Fourstroke single	V turing	de territoria	Four outledges	A WALL DINGERS	T	TOTAL

because a machine is not illustrated in the Guide it may be thought to be aban-

Another point which may be

deliveries.



Describing a Spring-time Joy Ride, Aimless in Objective despite a Definite Purpose.

HEN the weary and jaded motor cycle scribbler hears that the Editor has another commission for him he braces himself up for the worst, guessing that he is expected to prepare himself at once for a journey to the uttermost ends of the country, despite hour of day, weather, and inclination, in order to report a trial or review a new design.

It was with misgivings of this nature that I received the announcement of a special stunt for

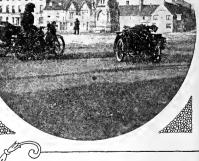
the Spring Number.

"Tell me the worst," I moaned to J—, who burst upon me with the news. (J— occupies that position in editorial offices known as "whipper-in." He it is who worries artists,

scribes, and photographers for drawings, copy, and pictures—the initiation and propagation of "winds" is his destiny.)

"You and I," he responded, "are commissioned to go out on the Ides of March and to return with story and pictures descriptive of the joys of Spring."





(Left) A pretty scene en route. (Right) A halt in Stratford-on-Avon. An early morning scene.

"Easy; we have merely to hie us to Stoneleigh and watch the buds budding, the flowers flowering, and the birds birding, and collaborate on the words and music, what?"

"Don't rot," responded J—, "the buds don't bud in this month; besides, it's Spring,

A Spring Run .--

true British Spring, we're to describe, so get your gumboots and oilies out, and meet me at seven in the

"Make it eight, and I'll be there; or say a quarter

past-or, if that's too early, say-"

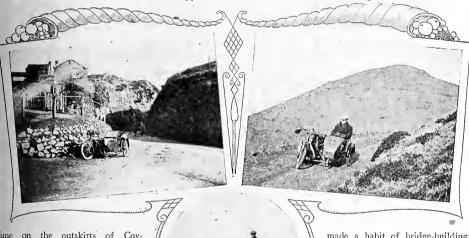
"Eight o'clock, and one mark deducted for every minute after schedule," replied the whipper-in.

Whither Away?

The morning came, grey and chilly, but fine, and we met not more than ten minutes behind the appointed

My haversack, which is noted for its well-stocked interior, yielded the necessary spare, and away we

The sun was beginning to gain some heat as Stratford was reached, and while J- was exposing films and reviewing local associations, onwards from the time of Shakespeare and the youth who went penniless to London and returned a wealthy merchant, I ran over a few nuts and looked to the adjustments. The said merchant, my companion informed me, perpetuated his memory by building a bridge, whereat I remarked that it seemed strange that most famous men



time on the outskirts of Cov-

"What's the programme?" I asked of J-, to whom all the arrangements had been relegated.

"To the Worcestershire Beacon, fifty miles," was the reply, "and the best route is via Warwick, Stratford, Alcester, and Worcester. Are you right? Then start up.'

"Right-oh. Shall I lead—otherwise, you will leave me; your 'bus is faster than mine?"

Only a minimum of traffic was encountered on the byelanes, and Warwick was soon reached; but ooking back, J— and his Norton 'Big Four' sidecar was not to e seen. After a ten-minute wait, is arrival was heralded by a olossal banging.

Trouble was pictured in the rider's grieved exression, but no apparent reason for the "noisy" misring being noticed, it was decided to run along the oad and stop beyond the town for diagnosis. The Vorton's emission of a series of ear-splitting reports ade it possible to suspect ignition trouble even beore we stopped. On examination this was proved be correct—the insulator of the plug having split in alf. The remaining portion, however, was the outside art, so that ostensibly the plug looked whole.

(Left) The cutting at the Wyche. The road to the Beacon is on the left.

(Right) On the track that leads to the Worcestershire Beacon, the hill shown in the background.

(Bottom) This picture conveys a good idea of the nature of the road near the summit. There is an almost precipitous drop of several hundred feet on the left.

made a habit of bridge-building. "He builded a bridge" occurs in "All great men many histories. are remembered by bridges," I "Take Euclid, for insaid. stance; he erected that stupendous pons asinorum by which he will ever be known; take also-", but my discourse was terminated by J— viciously standing on his kick starter.

Most glorious sunshine now made our extra winter clothing almost a burden, and it was possible to make quite good time through Alcester and Worcester, despite the tramways congestion and vile road surfaces at and near the latter place.

We found Malvern in gay attire, thanks to the warmth and sunshine,

and climbing the Wyche by the easy road decided that the Scott should essay the climb of the Beacon, as the Norton sidecar tyre exhibited an ominous swelling. Consequently, J- placed himself at my mercy, and we chewed our way up the winding grass track which appears to hang precariously on the edge of space.

Glorious views extending as far as the Welsh mountains on the one hand, and Oxfordshire and Warwickshire on the other, were obtained when the summit was reached.



A Spring Run .-

Descending cautiously with low gear and brake in operation, we had lunch in Malvern, sparing many a thought for our colleagues cooped up indoors. Of course, we could not pass Malvern Link without looking into the new works where the Morgan Runabouts are made, and then, setting out again, full throttle was the rule, and we retraced our path.

Effect of Capacity.

As both machines were pulling empty sidecars, it was interesting to compare performances. While the Scott could just hold the big 600 c.c. single on the level, the Norton certainly had it all its own way on hills, up which it thundered with undiminished speed.

It is just the extra c.c.'s that count under these circumstances, but given ordinary touring conditions, the smooth and soothing purr of the twin two-stroke compensates for its slightly lower maximum speed. In many ways the comparison between the two machines was interesting; for example, the disparity in fuel consumption which might have been expected showed only slightly in favour of the four-stroke.

We arrived at the end of our journey thoroughly exhilarated with the speed of our run through the keen, fresh countryside, and, although we started out in search of adventures, we experienced nothing more than the ordinary roadside incidents which constitute one of the charms of every motor cycle run.

WHARFEDALE.

THE MOTOR CYCLE IN THE FRENCH ALPS.

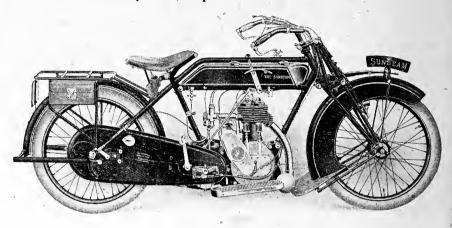


After the Paris-Nice Trial and Argenteuil Nice-La Turbie Hill-climb, several of the competitors took the opportunity of visiting the magnificent scenery of the Alps. The photograph conveys a good idea of the country visited, and cannot help but create the longing to visit this fine touring ground.





Read this specification The Single Cylinder Sunbeam Motor Bicycle with perfect power transmission



ENGINE.— $3\frac{1}{2}$ h.p. single-cylinder Sunbeam, 85×88 , 499 c.c.

KICK STARTER.

1GNITION.—Ball bearing waterproof magneto.

SILENCER .- Large, with long pipe to rear.

CARBURETTER .- A.M.A.C. or B. and B.

FRONT FORK.—Sunbeam patent with Leaf Spring.

WHEELS.—Qnick detachable and interchangeable. The spoke holes are depressed to allow the nipple heads to sink into the rim, so that they are not liable to puncture the air tube.

The hubs are fitted with large ball bearings, and the wheels are built with heavy gauge spokes.

TYRES.-Dunlop or Bates. 650×65.

MUDGUARDS.-Extra wide front and back.

CARRIER.-Light and strong.

STANDS.—Front and rear.

FOOTBOARDS.—Rubber covered, aluminium rims,

BRAKES.—Internal expanding brake on rear wheel operating inside back hub sprocket, and enclosed in the chain case. The brake shoes are lined with Ferodo, and the brake is smooth and powerful in action. The front brake is operated by a Bowden cable from the handle-bar, and like the back brake, is of our own manufacture.

TANK.—Large, nearly two gallons of petrol and $1\frac{1}{2}$ quarts of oil. Drip feed lubricator.

TRANSMISSION.—Sunbeam Perfect Power Transmission. Chains enclosed in Sunbeam Oil Bath Chain Cases.

GEAR BOX.—Sunbeam Three-speed, countershaft, Ball bearing Gear Box, gears always in mcsh, no sliding pinions. Gate change.

GEARS.—Solo use only, 4.9, 7.8, 13.4; Sidecar and solo (double purpose use), 5.25, 8.3, 14.25; Sidecar used always, 5.6, 8.8, 15.2.

CLUTCH.—Special Sunbeam. Hand operated. ALL-BLACK WEATHERPROOF FINISH.

Price 136 Guineas net cash.

THE TRANSMISSION GEAR AND STARTING MECHANISM ARE ENTIRELY ENCLOSED

The Makers reserve the right to make such improvements or alterations in the specification as they may from time to time deem necessary and advisable without notice.

JOHN MARSTON, LTD., 11, SUNBEAMLAND, WOLVERHAMPTON

57, Holborn Viaduct, E.C.1, and 157, Sloane Street. London, S.W.1.





Times to Light Lamps.

	GRE	ENWICE	н Ти	HE.	
Mar.	25th			6.49	p.n
,,	27th			6.52	٠,,
	Su	MMER	Тімі	.3	
22	29th			7.55	,,
12	31st			7.58	,,

203 Designs.

A feature of this annual spring number The Motor Cycle is an illustrated Buyers' Guide of all models on the British market.

Fuel Experiments.

In order to find a remedy for the present fuel difficulties, experiments have recently been made in running the London omnibuses on a mixture of benzole and alcohol. The proportions used were half and balf, and after raising the compression it was found that eleven gallons of the mixture gave the same results as ten gallons of petrol. Further research in this direction will undoubtedly prove of considerable value and interest to all owners of machines fitted with internal combustion engines.

Westmorland M.C.C. Open Hill-climb.

Entries for this event, which will be held at Orton Scar, near Kendal, on Easter Monday, close first post on Saturday next. Completed forms, to-Saturday next. Completed forms, together with fees at the rate of 15s. for trade entrants, 10s. for non-members, and 5s. for members, should be sent to Mr. A. I. Moffat, Glen Villa, Oxenholme, Kendal. In 'addition to the usual classes for motor cycles, ranging from 275 to 750 c.c., there are classes for scooters, cycle cars, and sidecar outfor scooters, cycle cars, and sidecar outfits. The last two classes will be run on formula.

Imports and Exports.

There was a decided decline in the value and number of motor cycles imported during February, as against the previous month. The Board of Trade returns show that there were 481 fewer motor cycles brought in, and the value £15,383 less.

February. Motor cycles. 1913. *Value ... £5,474 £104 £

*Exclusive of parts and accessories. £18.743

Exports for February also show a decline, the extent of which is greater than one would have imagined. The figures show that the Overseas market was poorer by 234 machines than was the case in January.

1913. 1920. Motor cycles and parts. Number . 1,249 628 889 Motor cycles, including parts. Value. £68,555 £58,317 £106,730

Summer Time,

Summer Time commences this year on the last Sunday in March, and continues for six months.

hat

Police Activity.

The police are very keen on taking proceedings against motor cyclists who ride through Tonbridge without adequate rear

The Leeds police are stopping motor cyclists with noisy machines on Reservoir Hill, Headingley Lane.

A trap is being worked at Sutton (Metropolitan area), on the slight rise towned by a being worked at Sutton (Metropolitan area). topped by a bridge approaching the

Between Knightsbridge Barracks and Hyde Park Corner there is a trap in operation over a measured distance of 125 yards.

We understand that a trap is being worked in the Bexley Heath district, the

exact location being on the Broadway, from Welling to the top of Crayford Hill. We learn from the Royal Automobile Club that the police are particularly active, as far as motorists are concerned, in Winchester. The warning applies specially to week-ends.

Special Features. ANNUAL SPRING NUMBER.

BUYER'S GUIDE OF 1920 MODELS. TOURS IN BRIEF.

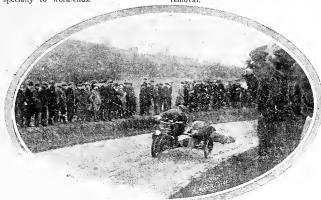
A REMARKABLE NEW MACHINE. ON TOUR WITH TENT AND SIDECAR.

A Dangerous Scottish Hill.

Touring cars and family sidecars are strongly urged not to attempt the descent of Douglas Glen, which is among the most perilous hills ever included in a trial. One of the official cars in the recent Glasgow Club's trial eafely climbed the hill, but the driver vowed that nothing would induce him to attempt it again.

Abolition of Speed Limits.

During the war, speed limits were im-During the war, speed limits were imposed in the neighbourhood of certain camps, notably at Shoreham, Sussex; Whitchurch, Salop; Ripon, Yorks; and possibly at other places. In response to enquiries by the Royal Automobile Club, the Director-General of Roads states that in those cases where the regulations have ceased to operate the local authorities are being asked whether the speed limit notices have been removed, and in cases where this has not been done instructions are being issued for their immediate



A SIDECAR HILL-CLIMB IN FRANCE

The extraordinary attitude of the sidecar passenger was effected to aid the winning Rover outfit on one of the hairpin bends of the test hill at Argenteuil. The length of the climb was two kilometres, and was covered in 2 min. 34 sec. by L. Psalty.

A Reunion Dinner.

The A.C.U. Motor Messenger Detachment, which did such good service during the war, held a reunion dinner on Thursday of last week. Mr. T. W. Loughborough was in the chair.

R.N.D. Signals D.R.'s.

It is suggested to hold a reunion dinner of D.R.'s who served with the Royal Naval Division, and Mr. H. E. Ellis, St. Abbs, Buttershaw, Bradford, will be glad if those who are interested will communicate with him.

Reunion of the 37th Divisional Signal Company.

It is proposed to hold a reunion at Stafford for all ex-members of the above Signal Company who served under Major Sir Alexander Bannerman, Bt. Those who are interested are invited to communicate with Mr. B. G. Anderson, Swiss Cottage, Queensville, Stafford.

The Arbuthnot Trophy Trial.

Again the naval event for the Arbuthnot trophy, organised by the A.C.U., will occupy two days. The course will be in the Home Counties, and will include a speed trial on Brooklands track. event is open to any officer or midship-man of His Majesty's Navy, Naval Reserve, or Naval Volunteer Reserve on the active list on the date on which entries close (Monday, June 21st). Sidecars and runabouts are excluded. Courses of between 100 and 150 miles in length will be arranged.

The Six Days and Brooklands.

The A.C.U. Six Days this year will include a speed test on Brooklands, and probably a set of speed tests will be run for each class. This will serve in lieu of the final examination of the machines, and should eliminate some of the survivors. The incorporation of a test of this description has been advocated many times in the past by The Motor Cycle. Brooklands will be the scene of many interesting events this year, for, in addition to the B.M.C.B.C. monthly meetings, the M.C.C. will also hold a race event on the track, and the Arbuthnot Trophy-Trial, on July 8th, Arbutanot Prophy-Trial, on July 8th, will include a Brooklands test. Racing will begin on Easter Monday with a B.M.C.R.C. meeting, while the Autonobile Bacing Club will hold a meeting on Whit Monday (May 24th), which will be followed by others.

"HIS week a number of displayed and other advertisements have been unavoidably crowded out due to production difficulties, accentuated by the temporary paper shortage. "The Motor Cycle" circulation still constitutes a world's record, amounting to considerably over 120,000 copies each week.

Proposed Aggregate Prize to Determine a Champion.

Proposals for the institution of a championship in the world of motor cycling sport have recently been made, and the idea would seem to have appealed to a very large number of riders throughout the country. The Auto-Cycle Union has been asked to formuthe General and Competitions Committees of the Union the basis of the idea was approved, and the suggestion was thoroughly gone into. It has been decided that the best system of making such an award as is proposed would

be by allotting marks, to all competitors taking part in any or all of the eighteen open competitions yet to take place, and in the events to be organised by the Union itself, such as the A.C.U. Six Days Trial. The competitor earning the highest number of marks throughout the season would then be declared the motor cycling champion of the year. In short, the old system of an "aggregate" prize is resorted to.

The London-Land's End Trial.

Nearly 200 entries have been received for the popular M.C.C. Easter run to Land's End. These include 91 solo machines, 66 sidecars and runabouts, and machines, to succars and runabouts, and 32 four-wheelers. Many new models will make their début, including the Metro-Tyler, O.K.-Union, 7-9 h.p. Rudge, New Scale, Castle-Three, and T.B. cycle car, while among the four-wheelers there will be the new 8 h.p. Rover, the Blériot Whippet, Aerocar, and the A.B.C. A new course will be covered this year, taking in Porlock and Linton Hills. The premier award is the Jarrott Cup. Next week we shall give a full list of entrants and further details of the competition.



The Pullin lightweight on the road. Although over seventy years old, the rider manages the machine with the greatest ease.

The A.A. One Hundred Thousandth Member.

Interesting Speeches at Celebration Dinner.

O celebrate the attainment membership of one hundred thousand (actually 106,401), a dinner was held by the A.A. and M.U. at Oddenino's Restaurant on Tuesday last week. The chair was occupied by Lt.-Col. Charles Jarrott, O.B.E.

In proposing the toast "The First Hundred Thousand," the Chairman went into the early history of the A,A. told of how the Association had been the first to institute cyclist patrols, village signs, free legal defence, sentry boxes, roadside telephones, the first mechanical first-aid motor cycle, and the first roadside

fuel supply system. He coupled with the toast the names of Lt. Col. Walter Gibbons and the Rev. A. Hassard Short. Mr. Hassard Short has always repre-

sented motor cyclists on the committee of the A.A. and M.U., and made a real motor cyclist's speech. He was, he said, a very early motor cyclist, and was one still, and a solo motor cyclist at that.

The motor cycle was now used throughout society, had become a real utility vehicle, one which would teach the value of the motor to all and sundry, and answering for the motor cycle members of the Association he hoped that very

soon the motor cycle membership alone would number a full one hundred thou sand.

The Chairman then rose to propose the Press, the S.M.M.T. and other hodies to which Mr. Fred Lanchester replied i

an amusing speech.
Mr. Massac Buist and Mr. Walte
Groves replied for the Press.

The Secretary and Staff was propose by Mr. McWhirter, to which Mr. Stenso Cooke replied, paying a handsome tribut to practically every prominent member of his numerous staff who had rendered in valuable help.



The A.C.U. Annual General Meeting.

Important Business Quickly Settled.

WHETHER it was the ideal spring weather which rendered the enjoyment of the balmy air and brilliant sunshine preferable to the atmosphere of a stuffy room, or the businesslike way in which the chairman, the Hon. Sir Arthur Stanley, G.B.E., C.B., M.V.O., conducted Stanley, G.B.E., C.B., M.V.O., conducted the proceedings, the fact remains that the annual general meeting of the A.C.U. at the First Avenue Hotel, Holhorn, was held in record time. In opening the meeting, the Chairman referred to the loss the Auto Cycle Union had sustained loss the Auto Cycle Union had sustained in the death of the former chairman, Mr. J. R. Nishet. All were aware of the splendid work he had done, not only for the A.C.U., but for the R.A.C., the Royal Scottish A.C., and for every branch of motoring, work which had been invaluable to the movement.

It was then proposed by Mr. A. W. Torkington, present chairman of the A.C.U., and seconded by the Rev. E. P. Greenhill, that the Hon. Sir Arthur Stanley should be re-elected president, a proposal which was carried manimously.

a proposal which was carried manimously. Sir Arthur Stanley, in tendering thanks for his re-election, stated that his most useful work was that of acting as a link between the Auto Cycle Union and the Royal Automobile Club; the close cooperation of the two bodies was most desirable. (Hear, hear.)

Election of Officers.

The Chairman then invited twelve nominations for election as vice-presidents. Mr. E. S. Shrapnell-Smith, C.B.E., nominated the following gentlemen: Brig. Gen. Sir Capel Holden, F.R.S., Lt.-Col. A. E. Davidson, D.S.O., Lt.-Col. D. F. Nicholls, D.S.O., Col. F. Lindsay Lloyd, C.M.G., 'Col. M. O'Gorman, Sir Julian Orde, the Rev. E. P. Greenhill,

and Messrs. A. W. Torkington and G. F. Sharp. Three of the vice-presidents whose names were on the annual report whose names were on the annual report were omitted, and it was proposed to elect these gentlemen hon life members of the Union. The Chairman then put it to the meeting whether the names should be voted upon separately or en bloc, and it was agreed to adopt the latter course. The proposal was seconded by Col. F. S. Brereton and carried unanimously.

The Balance Sheet.

The annual report of the Union, as it had been printed and circulated, was taken as read, and proposed by Mr. A. W. Torkington. The secretary was then asked to refer briefly to the principal items in the report, a summary of which appeared in The Motor Cycle for March 18th. It was interesting to learn, in view of the trade attitude toward the race, that Mr. Loughborough said that he considered the T.T. this year would be a most successful event.

In proposing the adoption of the balance sheet, the hon. treasurer, Mr. E. S. Shrapnell-Smith, made some interesting remarks. The credit balance was not a large one, he pointed out, because the Union spent all its money on its members, but the financial position of the Union was much better this year. In pre-war days the income was £5,000 per annum, in the last year of the war £1,600, and now up to £17,000. He hoped that there would be a large balance at the end of the year, and that a reserve fund would be built up. The report was seconded by Mr. E. M.

P. Boileau.

Messrs. B. Marians, G. Smith, and G.
Reynolds asked questions on the balance sheet, which were duly answered by the hon, treasurer, and the balance sheet was then adopted.

The meeting was next declared by the Chairman to be at an end.

The Meeting of A.C.U. Individual Members

The meeting of the individual members immediately followed. The election of immediately followed. The election of the following to represent the individual members on the General Committee was then proposed by Mr. If. P. E. Harding, and seconded by Mr. George Reynolds: Messrs. S. L. Bailey, W. Cooper, A. Ross, G. Smith, E. B. Ware, and W. H. Wells. The proposal was duly carried. In the ensuing informal discussion Mr. B. Marians suggested that the Auto Cycle Union should organise a trial for stock

Union should organise a trial for stock machines.

Mr. Greenhill, chairman of the Competitions Committee, suggested that this might be done if the A.C.U. appointed officials to visit the various manufacturers and agencies in order to select and seal

certain machines.

Mr. Loughborough then made a few remarks regarding the election of affiliated club members to sit on the General Committee. There were eighty-nine nominations for six vacancies. Some of these included persons who were on the committee as individual members, and some clubs had nominated existing committee-

The Chairman suggested that these facts should be circulated to the clubs. In terminating the meeting, Sir Arthur Stanley congratulated the A.C.U. on its progress.

A vote of thanks to the Chairman was proposed by Mr. Torkington, and received with acclamation.

The members present were then enter-tained to tea by the Auto Cycle Union,

THE RICHMOND MEET AT EASTER.

THE arrangements for Good Fri-day's annual gathering of Northern clubs in the Market Place, Richmond, are now complete, and an extensive prize list is announced. The meet will take place at 12.45, and all drivers of motor cycles and cycle cars (up to of motor cycles and cycle cars (up to 1,500 c.c.), who are members of competing clubs, will be counted. The number of miles from club headquarters to Richmond, by nearest route, will be multiplied by the percentage number of paid up members present, and a trophy is being presented by the A.C.U. In the event of two clubs tiemg or running very close, a second prize will be

awarded. Prizes will be awarded to the most novel or ingenious idea fitted to a motor cycle, and to the lady who has driven farthest to the Meet. Two prizes will be awarded by The Motor Cycle, one to the owner of the smartest machine and one to the lady with the best kept machine.

Lunch will be taken at 1.15 p.m., and at 2.15 a group photograph will be arranged in the Castle Yard. At 2.30 the Mayor of Richmond, supported by Aldermen and Councillors, will officially welcome the motor cyclists to the town, and Messrs. A. W. Torkington (chairman A.C.U.), T. W. Loughborough (secretary A.C.U.), and others, will address the

A.C. U.), and others, will address the meeting.
Lient.-Commr. Pierce, R.N.R. (A.C. U.), will act as marshal, and he will be assisted by R.A.C. guides.
The committee of judges will consist of Messrs. Liddle (president), Torkington, Loughborough, Longfield, Fortune, Sellors, Tranmer, Straker, Lancaster, and a representative of The Motor Cycle. The assistant hon. secretary of the meeting is Mr. A. K. Procter, 28, Gillygate, York.

It is hoped that, in addition to the clubs participating, the ex-D.R.'s in the North will also meet at the same time.

THE STAXTON HILL-CLIMB.

THE popular Staxton hill-climb will be held on Easter Monday, April 5th, beginning shortly after noon. It will be organised by the Scarborough and M.C.C. The hon. secretary is Mr. J. D. Fell, 57, Gladstone Street, Scarborough. Entries close March 30th. There will be classes for scooters, 275 c.c. and 350 c.c. lightweights, T.T.

motor cycles up to 500 c.c., and up to 1,100 c.c. standard touring machines, 650 c.c. and up to 1,100 c.c. sidecar outfits up to 600 c.c. and up to 1,100 c.c., cycle cars and runabouts, including three-wheelers up to 1,100 c.c., and two classes for light cars, making twelve classes in all, which include all machines of standard capacities.

The prizes are the Tranmer Cup, to be won outright by the competitor in any class who makes the fastest time of the day; gold, silver and bronze medals will be given in each event if seven or more entries are received, silver and bronze medals if four or more entries are re-ceived, and a bronze medal if less than





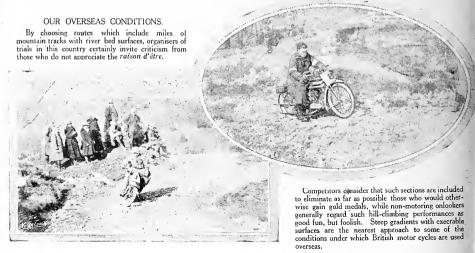
A Commentary based upon Practical Experience and a Study of Overseas Opinions.

The Trade. Existing conditions render production more and more difficult; the moulders' strike has been the cause of many shops being entirely closed down, while of the rest almost all have been forced to work short time. Deliveries will be delayed, and existing promises cannot be kept—a circumstance which will undoubtedly be the cause of much lost trade. In spite of this, some of the new British models are worth waiting for, and will compare favourably with anything that has yet been produced for rough and heavy work.

British manufacturers have been slow to appreciate the requirements of Overseas riders, but have been characteristically thorough once these needs were absorbed. There are probably more makes of good spring frames at the present moment than makes of motor cycles, sprung or otherwise, in the U.S.A., and these spring frames are often combined with good ground clearance, 28in. x sin. tyres, heavy spokes, enclosed fransmission and a quality for which British machines are famous. It remains to organise "service," and it is doubtful if this will be radically improved before manufacturers are once more in a position to export in quantity, though efforts in this direction are already on foot.

Design. WHETHER a design is good, medium, or even bad is so largely a matter of opinion that it is not wise to attempt to put one's ideas on this subject on paper. There are, however, certain outstanding features on which all motor cyclists agree. A general clean up is urgently required. There are too many corners and "twiddly bits" on modern machines, many of which could be eliminated by a little serious drawing office work.

At the same time it should be remembered that simplicity in outline does not always constitute the ideal of the hard riding motor cyclist. For instance, enclosed controls are extremely neat and excellent when all is well, but, when trouble occurs far from home, repairs are difficult and often impossible. This is but an example of a principle which holds good in many other ways, and is capable of much argument from both sides. Undoubtedly, controls should be neatly arranged, and, if possible hidden from sight, but they should be easily accessible in case of trouble. [The space usually devoted to Overseas letters has in this issue been absorbed by the inclusion of a comprehensive Buyers' Guide—a special feature which may be useful to both home and Overseas readers to keep for reference.—E.D.]



A NEW FLYWHEEL MAGNETO.

The Mark IV. Villiers Engine is to be Equipped with a Self-contained Magneto.

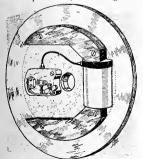
IT has been apparent for many years, as has been frequently pointed out in The Motor Upcle, that a considerable saving in parts and elimination of transmission details could be effected, especially in the case of two-stroke engines, by the adoption of a special type of generator for ignition purposes in place of the conventional magneto.

As long ago as 1904, a motor cycle engine was placed on the market, in which an ignition apparatus was contained in the flywheel, and there were certainly no theoretical disadvantages in such a form of construction. In practice, nevertheless, the idea did not gain many adherents. Latterly, however, several devices on the same lines have been manufactured in the United States. British motor cycle engineers have, until quite recently, exclusively devoted themselves to the ordinary type of chain or gear driven high-tension ignition machine, but we are now able to give our readers fall details of a flywheel magneto which is to be fitted to one of the most popular two-stroke engine units at present on the market.

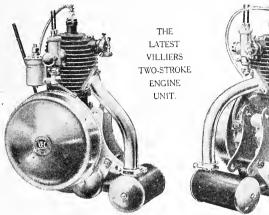
High-tension Magneto in the Flywheel.

The device under review is the product of the Villiers Engineering Co., Ltd., of Wolverhampton, and it is some considerable time since it passed out of the experimental stage. Tests have been carried out for a number of years, using the new pattern magneto, under most stremous conditions, on both single and variably geared two-stroke machines equipped with the well-known Villiers engine, and the makers appear to have anticipated and solved every possible difficulty.

Essentially, the apparatus consists of two main portions, the inner one being an aluminium plate, which is frictionally beld on an extension of the main shaft bush, while the outer one is a bronz: flywheel, mounted on the engineshaft itself. The flywheel carries the two semi-circular permanent magnets, and is these are held in place by the laminated pole shoes, no drilling of the



All the electrical parts are secured on an aluminium back plate. It will be noticed that the magnetic circuit consists of laminations throughout.



The Villiers Mark IV. two-stroke engine with flywheel magneto. The latter is completely enclosed and no rotating parts are visible. The timing lever will be noticed projecting from the back of the magneto.

magnets themselves is necessary. The flywheel is mounted on an adapter, which has a taper bore corresponding to the taper of the engine-shaft, and this adapter has a milled cam on its periphery. In outside dimensions the flywheel corresponds to the usual type of flywheel fitted to these engines.

The inner aluminium plate serves as a mounting for the armature and its coil, the condenser, and contact breaker. The armature core is completely laminated, and the pole shoes also consist of a large number of laminations. It will thus be seen that the construction follows an ideal which is not always attained in conventional magneto design, for in the ordinary horseshoe type it is not always convenient completely to laminate the magnetic circuit.

The Product of One Works.

Having experienced considerable difficulty in obtaining parts which would withstand the severe electrical tests to which they were submitted, the Villiers Engineering Co. decided to carry out the entire construction of the flywheel magneto in their own works, and consequently they now wind their own coils and assemble their own condensers. The coil is beautifully made, being wound on a core of specially moulded insulating material, and so arranged that the outside connections can be detachably screwed in place, instead of being soldered as in conventional magneto practice. The same principle is also employed in the case of the condenser connections, and the condenser itself is readily detachable; it will be seen, therefore, that in the remote possibility of the coil or condenser failing, either one or both may be removed and replaced by the rider himself

The coil, condenser, and contact breaker being secured to the stationary back plate, favourable conditions are secured for the electrical parts, as they are not subjected to any centrifugal action; the magnets themselves and the contact breaker can are the only parts rotating with the flywheel. The contact breaker is of very simple construction, and only light springs are required in order to effect the closing of the platinum points. The accompanying illustration shows quite clearly the manner in which the contact breaker is operated. The cam on the flywheel boss lifts one end of the fibre rocker, which is loosely pivoted on the condenser box, and the other end of the rocker presses on the spring carrying one of the platinum points, thus causing the latter to move the required distance away from the other one.

Easy Starting Demonstrated.

After examining various parts in process of manufacture, and observing the particular care which is bestowed upon the securing of complete interchangeability, and also the severe electrical tests to which the insulating materials were subjected, we saw several completed engines being tested in their ordinary course as they left the assembling shop. It was noticeable that these engines invariably started at about the third revolutions.



The bronze flywheel, which incorporates the cam and contains the magnets, which are clamped in position by the laminated pole shoes.

A New Flywheel Magneto .-

tion, and, owing to the fact that the detegn permits an equally effective spark, whether the ignition is advanced or retarded, movement of the control lever had no effect on the ease of starting.

A remarkable feature of the flywheel magneto is the excellent spark given at very low speeds. Turning the shaft by band at about 60 r.p.m., a regular spark across an in gap was obtained; this, of course, is due to the comparatively high peripheral speed of the flywheel, even at low shaft speed.

Other Advantages.

Both mechanically and electrically, the Villiers flywheel magneto possesses great advantages over the separate horseshoe type of magneto. Being fitted on the timing side of the engine, the driving aide is left clear for the attachment of

Loughborough and District M.C.C. A run to Leamington Spa will be held on Sunday, starting at 10.30 a.m.

Isle of Wight M.M.C.

On Easter Monday, April 5th, the opening run will be held, starting from Shide Crossing at 10.30 a.m.

North Cheshire M.C.C.

All motor cyclists are invited to attend the opening run, to be held on April 4th, starting from the King's Arms Hotel, Fulsham Cross, at 2 p.m.

New Huddersfield Club.

The Huddersfield Motor Cycle Club has recently been formed, and already has a membership of over thirty. The opening run was held on the 14th inst. Included in the programme for the year is an open hill-climb and an eighty miles reliability trial.

N.M.C.F.U. (Sheffield).

A concert, for which a specially interest-A concert, for which a specially interest-ing programme has been arranged, will be held in St. James's Hall, Bailey Street, on Saturday next. The opening run, to Matlock, takes place on Sunday next, starting from Owler Bar at 11 a.m.

Sutton Coldfield and North Birmingham A.C.

Prizes won in the recent Colmore Cnp Frizes won in the recent Colmore Cup Trial will be presented at the annual dinner, to be held on April 16th, in the Assembly Room of the Royal Hotel, Sutton Coldfield. Dinner tickets 15s. each, obtainable from Mr. H. R. Lane, "Kingsley," Lichfield Road, Four Oaks.

Burnley and District M.C.C.

The proposed amalgamation of this club with the East Lancashire Motor Cycling Club was fully discussed at a special meeting held on the 17th inst. It was decided to drop the proposal owing to the difficulty experienced in arranging suitable terms. New officials were appointed, and the title was changed to the Burnley and District M.C.C. A Reliability Trial is arranged for next neuronny Iriai is arranged for next Sunday, over a distance of about 90 miles. The secretary is Mr. A. Taylor, 18, Hattersley Street, Burnley, and the sports secretary, Mr. J. H. Place, 8, Dugdale Road, Burnley. sprocket or pulley, and where chains are fitted the enclosing of the primary drive from sparking across the points.

is considerably simplified. A further advantage peculiar to this device is that the three-spoked flywheel allows the action of the contact breaker to be action of the contact break? The action of the conserved at whatever speed the engine is running; incidentally, it may be remarked that we have never seen a contact breaker on any type of magneto so free actually in use, however, the flywheel is completely enclosed by a pressed alu-minium cover, which is retained in position by three springs fixed to the back plate. A considerable range of advance and retard is obtained by swinging the back plate by means of a lever, which itself forms the clamping screw controlling the amount of frictional grip of the plate on the extension of the crank-shaft bush.

CLUB NEWS.

North Derbyshire M.C.C.

The meeting of East Midland Club representatives, which was arranged for Saturday next, has been postponed until after Easter.

Nottingham and District M.C.C.

An important speed trial has been arranged for August 7th, to be run in conjunction with the Sheffield, Derby, Lincoln, Chesterfield, Ilkeston, and Loughborough Clubs.

Bournemouth and District M.C.C.

Weather permitting, the inaugural run to Shaftesbury will be held on Saturday next, starting from the pier approach at 2.30 p.m. This run is open to all motor cyclists.

Westmorland M.C.C.

The closing date for entries in the open hill-climb, at Horton Scar, is March 27th. Entry forms are obtainable from the hon. sec., Mr. W. D. Stewart, Beechwood Cottage, Kendal.

Dunheved (Launceston) and District M.C.C.

Over sixty members are now on the roll of this club. The first competitive run will he held on Easter Monday, the destination being Truro. Absolute non-stop conditions are to be observed. The control on the outward journey will be at Bodmin, and on the return at Wadebridge level crossing. Members are requested to support this event in order to make it a great success.

Warrington M.C.

At the general meeting held on the 12th inst., the fixture list for the year was made up. A run to Buxton will be held on April 4th, starting from the Royal Oak at 1.30 p.m. A run to Horton Scar, Kendal, has been arranged for April 25th is the date selected for a hundred mile reliability trial, particulars The other of which will be given later. events will appear in the "Fu Events" column from time to time.

Interested motor cyclists should communicate with Mr. H. Aldred, 58, Church Street, Warrington. The annual subscription is 10s.

On actual road tests, machines to which the flywheel magneto is fitted have proved themselves to be considerably easier to start and infinitely more controllable than those equipped with the ordinary type of magneto, and when it is possible to manufacture the new patis possible to manufacture the new par-tern in sufficient quantities, it may saiely be predicted that most of those who favour the Villiers engine will desire that it shall be so fitted. Although 'production is now well in hand, it is not anticipated that the new type will be placed upon the market in very large quantities until towards the end of the present year.

Observant readers will notice from the illustrations that there are several detail improvements in the engine itself, noticeably in the cylinder casting, and these will be dealt with separately in

the near future.

Peebles and Tweed Valley M.C.C.

To-night, at 7.30 p.m., the first general meeting will be held at the Green Man Hotel. All motor cyslists are invited.

Dublin and District M.C.C.

Twenty competitors took part in the reliability trial held on St. Patrick's Day, and of these sixteen finished. This event was organised with a view to encouraging the newer members.

Bromsgrove M.C.C.

The opening run, to the British Camp t Malvern, will be beld on Sunday, at Malvern, will be held on Sunday, April 11th. All participants should meet at the Swan Hotel, Upton Warren, at 2.30 p.m. A large attendance anticipated.

North London M.C.C.

Much anusing confusion was caused in the paperchase held recently, by the many false trails which were laid. The winner of the club prize in this event was A. R. Osborne (5½ h.p. Rover). Competitors partook of lunch at Essenden, after which an impromptu hill climb was held. The next event is a runt to Steppage on Sunday part to be run to Stevenage on Sunday next, -to be followed hy a slow hill-climb on April 3rd, a surprise run on April 5th, and a run to Harlow on April 17th.

Eastern Valley M.C.C.

An enjoyable smoking concert was held at headquarters, the Clarence Hotel, Pontypool, on the 13th inst., Mr. W. H. Oliver presiding. The opening run will take place on Saturday next, starting from headquarters at 3.30 p.m. A run to Monmonth, starting from headquarters at 4 p.m., has also been arranged. The secretary is Mr. W. Gist, 169, Manor Road, Abersychan.

Bury and District M.C.

Over twenty members took part in the recent opening run, and enjoyed a most interesting afternoon. The next event is a reliability trial, to be held on Sunday next. In order to make this a great success, all members are desired to give their support to this trial. Interested local motorists of both sexes should communicate with the secretary, Mr. John Knowles, 457, Rochdale Old Road, Bury.



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Greater resiliency by 30%, lighter frame construction, with 100% greater strength.

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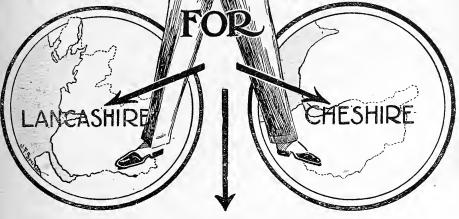
LONDON-EDINBURGH RUN, 1919----

both A.B.C. Solo Mount and A.B.C. Combination gained GOLD MEDAL AWARDS,

MOTOR CYCLE

PROVISIONA PRICE





Greatest engine efficiency and power for all purposes by air-cooled flat twin power unit.



Send for particulars and early delivery dates, and secure your mount for early spring.

The Reliable Quadrant-1920 Model.



4½ h.p. Chain Drive, Sturmey Archer Gear.

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The SOLDERING OUTFIT il strated above contains a specially designed TELESCOPIC SOLDERING IRON, a pocket BLOW-LAMF having supports on which to rest the iron while heating and giving a clean fiame 3t to 4 neves in length a large coil of BRITINOL SELF-FLUXING BLOWPIE WIRE, and a supply of

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BRITINOL is solder in paste form. The most difficult work is made easy by its labour saving quality, and a clean job, with no uneven lumps of solder, and without waste and drooping, can be mar'e with the minimum of skill. Our interest up booklet "SOLDERS" with pre-kill of blow lamps, soldering irons, etc.) will be sent on receipt of 3d.

BI-METALS Ltd., 57, Lant Street, LONDON, S.E.1.

QUALITY.

HOLMES

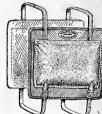
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Post free.



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Post free:



Every motor cyclist requires goggles. Here is a splendid design, English manufacture, light and comfortable in use. Sent securely packed in cardboard box, post free for 3/6. Please ask for Number M C. 596

Write your address distinctly.

HOLMES & SON, 38, Albert St., MANCHESTER.

Club News -

N.M.C.F.U. (Coventry).

On Sunday next the opening run will be held, starting from Swan Lane, Gosford Green, at 2 p.m.

Stafford and District M.C.C.

Twenty-two members attended the opening run held on the 14th inst. Tea was served at Trentham, and the whole event was most enjoyable. Local motor cyclists are invited to give their support by becoming members of the club.

Suggested Lytham Club.

A meeting was held last Monday with a view to forming a motor cycle club for Lytham and district. Local motor cyclists are invited to join, and should communicate with the hon. sec., Mr. G. H. Bailey, 7. Bath Street, Lytham, who will give full particulars.

Mansfield and District M.C.C.

At a meeting held recently it was decided to form a club for Mansfield and district. A temporary committee has been elected, with Mr. G. Mills, 16, Hall Street, Mansfield, as hon. sec. A11 interested motor cyclists are requested to write to the above address for the necessary particulars.

Harley-Davidson M.C.C.

A club for Harley-Davidson riders is about to be formed, which will cater generally for riders of these machines. The idea is to commemorate the services rendered by H.D. riders to wounded soldiers and sailors during the war. Club runs, competitions, and social functions will be organised. Particulars may be obtained from Mr. N. Mitchell, Harleyson House, 74, Newman Street, London, W.1.

Widnes M.C.C.

Seven new members, in addition to the original members, were elected at the anunal general meeting held recently, and Mr. E. Schofield was elected president. It was decided to allow members to choose and captain their own runs in turn, as during last year. On alternate Sundays a competition will be held to cover the whole of the runs. Members will be credited with a pre-determined number of marks for attendance, and these will be deducted for various transgressions.

MOTOR (YCLE

Week-end Club Events.

Mar. 35.—Perbles and Treed Valley M.C.C. First General Meeting.
Mar. 45.—Pehlor dan District M.C. and L.C.C. Run.
Mar. 25.—Pehlord and District M.C. and L.C.C. Run.
Mar. 26.—N.M.C.F.U. (Rotherham). Meeting.
Mar. 27.—Eastern Valley M.C.C. Opening Run.
MAR. 27.—EASSEX M.C. OPEN III L.C.L.M.B.
Mar. 27.—Eastern District M.C. Winter
Mar. 28.—Barnley and District M.C. V. Runter
Mar. 28.—Barnley and District M.C.C.* Reliability

Mar. 82-Burnley and District M.C.C. Reliability
Mar. 82-Burnley and District M.C.C. Opening Run.
Mar. 52-Burnley and District M.C. Opening Run.
Mar. 58-Borly and District M.C. Reliability Trial.
Mar. 88-Borly and District M.C. Reliability Trial.
Mar. 88-More Mar. Mar. Mar. Mar. Mar.
Run. Tunbridge Wells.
Mar. 88-North London M.C.C. Run to Stevening
Mar, 88-North London M.C.C. Run C.C. Break
Mar. 88-Run and District M.C. Opening Run.
Mar. 88-Run and District M.C. Opening Run.
Mar. 82-Run Mar. 82-Run Mar. 82-Run Mar. 82-Run Mar. 82-Run Mar. 82-Run Mar. 83-Run Mar. 83-Run Mar. 84-Run Mar.

High Wycombe and District M.C.C.

The annual general meeting of the above club will be 'hèld at the Swan Hotel, Paul's Row, High Wycombe, on Monday next, at 7.30 p.m.

Hull M.C.C.

An informal but well-attended and enjoyable run to Garrowby was held on the 14th inst., over thirty members participating. An excellent lunch was served at the Feathers Hotel, Pocklington.

Derby and District M.C.

Next Sunday is the date selected for the opening run, and the destination will be Cramford. In order to make a good start, all members are earnestly requested to give this event their support.

Bridgwater and District M.C. and L.C.C.

At a meeting of motorists, held on the 15th inst., at the Golden Ball Hotel, it was unanimously decided that the above club be formed and affiliated to the A.C.U. Representatives from surrounding districts, including Burnham and Highbridge, were present. Over forty members were enrolled, and the necessary officers were elected. Intending members should communicate with the hon. sec., Mr. J. W. Hooper, The Oaks, Wembdon, Bridgwater.

A Halifax Club?

We are asked to publish the fact that no motor cycle club exists in Halifax. Our correspondent states that there are a large number of motor cyclists who would no doubt give their support to any movement organised for the purpose of forming a club in this district.

Luton and South Beds. A.C.

On Saturday next the opening run will take place, starting from the ruins of the Town Hall, Luton, at 2 p.m. sharp. A hearty invitation to all motor cyclists is extended. Tea will be served about 4.30 p.m. at the Rose and Crown Hotel, Tring.

Marlow M.C.C.

A new club has recently been formed for Marlow, and a considerable number of members have already been enrolled. The opening run was held on the 14th inst., and, although somewhat marred by the inclement weather, proved most enjoyable. Interested motor cyclists may obtain all particulars from the hon. sec., Mr A. F. H. Baldry, Marlow Common, Bucks.

Jersey M.C.C.

Great progress is being made by this newly-formed club, the membership total being over seventy.

For Easter Monday a reliability trial has been arranged, while club runs will be held frequently. Visitors to the island are assured of a hearty welome, and the hon, sec., Mr. H. N. Rannsley Gurd, Sea View, Mont Cachan, Jersey, wiil be pleased to answer any enquiries.

Birmingham M.C.C.

Members are reminded that all communications regarding, and entries for, the Easter Reliability Trial to Barmouth (outward journey only), on April 3rd, should be sent to the hon. sec., Mr. W. H. Egginton, 76, Earlsbury Gardens, Birchfields, Birmingham. Entries close on March 26th; fee 12s. 6d. This sport-ing event for the Sangster Cup is open to motor cycles and passenger machines, and promises to be a great success. Gold, silver and bronze medals, a special lightweight prize (value £5 5s.), and a gold medal for the best amateur performance will be awarded. Competitors are asked to make their own arrangements for accommodation at Barmouth.



AN ENGINE TESTING FLEET.

A selection of motor vehicles used by the J.A.P. works for testing J.A.P. engines. Reading from left to right: A 1920 Peace Model Matchless, a War Model Matchless, a four-seater Morgan with an air-cooled J.A.P. engine, an A.V. J.A.P. engined monocar, an up-to-date Zenith with a J.A.P. engine, a J.A.P. engined Diamond, and an experimental model light car, in which a four-cylinder water-cooled engine is being tested.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

THE SPEED OF A HARE.

Sir .- I wonder if the following curious little experience would be of interest to any of your numerous readers?

On coming round a corner on my Baby Triumph, I came across a hare in the middle of the road. Away went the hare, and away I went after it. When my Cowey registered 40 m.p.h. I at last began to gain. After about 200 yards we were running "neck to number plate" at exactly 35 m.p.h., and then the hare began to slow down.

All these details are quite accurate; but I should not have thought a hare could go 40 m.p.h. TORTOISE. Edgbaston.

OBSTRUCTION ON THE ROAD.

Sir,-I am moved by the article and sketches on p. 256 of your issue of March 4th to create and offer to you a further set of sketches to keep alive the interest in the campaign against road obstruction.

GERALD B. BROWN (formerly Tank Corps).

A TEST QUESTION.

Sir,—The only answer possible to T. F. Smith's question is to get going by the aid of shank's pony, "walk." This is to get going by the aid of snanks pony, walk. Inis brings to my mind another eatch question, put to me by the officer when I joined the R.A.F., who, however, got bitten by the writer. The question was: Which valve lifts during the compression stroke? I answered: "The exhaust sometimes on machines such as the P. and M. and Ariel when the decompressor is in action."

collapse of officer and no further questions.

F. G. WATSON.

Sir,—I am somewhat surprised at Mr. T. F. Smith's test question; to me it is simplicity itself.

No respectable despatch rider would be without his pipe lighter. By gearing this off the pulley with a length of string and holding it down the sparking plug port, the job is done.

Putting all jokes on one side, if the plug were properly out of action and no replacement available, there is no answer to the question, in my opinion.

ARTHUR E. WINN.

Sir,-Intending motor drivers used to be asked the following questions, amongst others, at the test at Rouen

1. In an engine that fires in the order 1, 2, 4, 3, if No. 1 piston is on the compression stroke, what is No. 3 cylinder doing?

Their correct answer was: "Remaining bolted to the crank case.'

2. What is the most important nut on

a car? Correct answer : "The driver's."

How many nuts are there in a gear box? Answer: "There should not be any in the Answer : gear box."

If you failed to answer these correctly, even after a year or two's driving up the line, you were sent to St. Omer to be taught how to.

M 338.

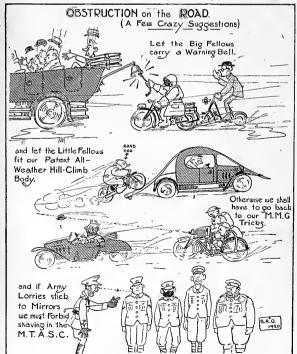
VARIABLE JET CARBURETTERS.

Sir,-With reference to Mr. J. T. Bradford's letter in your issue of the 11th inst., is not your correspondent under a misapprehension? Surely, the Patent Laws merely prevent a person making and selling an article protected by a

They could in no way prevent a person fitting a jet control for his own personal use, nor could they penalise a purchaser of such a device. The person, if any, liable to be proceeded against would be the manufacturer who sold it, and not the private motorist who used it.

S. VATCHER.

[Our correspondent is quite wrong, and Mr. J. T. Bradford is right. Any person making, selling, or using an article which infringes a patent is liable to prosecution. But whether the jet control illustrated would be held to But whether infringe any patent we are not in a position to say.—ED.]



A correspondent's solution of the traffic problem. See letter from Gerald B. Brown.

THE T.T. AND TRADE.

Sir,-We fully endorse Mr. Wells's views on the Isle of

Man T.T. race, and, as a firm, have decided to enter for it.

The Manufacturers' Union, some time ago, morally gave
its support to the race, and although manufacturers have heen badly hit since that date by subsequent events, we think that, if the race is run, it is the duty of manufacturers to enter for the event, as so much time and labour have already been spont, both by the A.C.U. and Isle of Man authorities, in preparing for the race

We believe, also, that the general public look forward to the event, and do not think that it would be in our interest to disappoint those riders and firms who interest themselves in Blackburne products. In order that it may be a representative meeting and a thorough success, we trust that those manufacturers who have intimated that they will not run will reconsider their decisions.

BURNEY AND BLACKBURNE, LTD.
S. WILDING COLE, Managing Director.

Sir,—In spite of the published policy of certain manufacturers in regard to this year's T.T. Races, I believe that motor cyclists, on the whole, would like to see this event well patronised. Several new firms have started production of very promising machines, and these, perhaps more than machines which have already established a reputation, are the machines in which motor cyclists will be interested.

I believe several young firms have decided to enter machines for the T.T. Races, and it is surprising that they

can spare the time to devote to the preparations, more so than old-established firms. The latter, too, have a reputa-tion to keep up, and it is surprising that they have under-estimated the effect of their keeping out of the classic event.

If young firms can spare the time to get their machines ready, it says something for their organisation, and, personally, I wish them luck, W.R.M. ally, I wi Maldon.

TRANSFER OF DEFOSITS

Sir,-It has occurred to us that the following method of dealing with a man who has ordered a car or motor cycle, and who, before delivery has come through, sells his delivery to someone else at a premium, can be overcome to a great extent, as follows, and the result should be that the genuine user will be able to purchase at the maker's price instead of paying a premium

A places an order for a certain make, and pays a deposit of, say, £10. Before the machine is ready, he informs the agent with whom he has placed the order that be has sold his delivery to B, and wishes the order transferred. Before this is done we suggest that the agent writes to A asking. for the name and address of B, and stating that he is willing to cancel the order with A, and return the deposit, provided

B places the order direct with the agent for the for the particular delivery allotted to A, and conditionally on B paying a deposit of £10 and £1 for expenses of transfer, the machine, when ready, to be supplied at the makers' list price. If A is not prepared to do this, then he must either for feit his deposit in full or carry out the con-tract; but if he agrees, then B would have the benefit of purchasing the machine without paying a premium.

A does not benefit in any way from the transaction.

We feel that a good many been placed by private persons by paying deposits to several several agents, without any intention of taking delivery, but solely with the idea of selling their delivery at a premium to someone else. It would be interesting to have your readers'

views on this matter.

H. TAYLOR AND CO., LTD.
H. TAYLOR, Managing Director.

COOD SERVICE.

Sir,-I should be glad if you will publish the following appreciation.

Motor Manufacturing Co., Ltd., supplied me The B.A.T. in August, 1919, with one of their combinations, of which I have the highest opinion. Since, I have required two small replacements, together with a little advice. Almost by return of post these requirements were received. This certainly speaks well for the service these manufacturers have for dealing with riders of their machines, and it is splendid for dealing with riders of their maximums, and it is shierance to know that a firm is ready with spares, so that one does not have a machine laid up for an uncertain period. May I add that your paper, which I have taken regularly for several years, is a great help to old and new riders, and most valuable advice is obtained by reading it regularly.

ARTHUR LAUD.

LACK OF DRIVING CAPABILITY.

Sir.-I recently witnessed a bad smash on the Reading Road, which, as far as I could ascertain, was caused entirely by a sudden fit of "wind up" on the part of an

entirety by a sunden in of "wind up" on the part of an inexperienced driver of a heavy sidecar outlit.

Fate is no respecter of persons, and, alas, the most experienced rider is always liable to accidents. It seems to me, however, that at present the safety of the road is menaced by a large number of riders of all classes who venture out before they have properly mastered the handling of their mounts. Can nothing be done to prevent totally incapable drivers using the main roads?

RONALD S. WHITING.

TYRE MILEAGE.

Sir .- Referring to the letter from E. S. Bovell, in your issue of March 11th, it is possible that the following record of the running of a 1914 A.J.S. may be of interest.

My mileage is not so great as that of your other correspondents, but my figures may be of use. The outfit was bought second-hand after doing about 2,500 miles, and the following

second-nand after doing about 2.500 miles, in the record of my own running:
MILEAGE SINCE PURCHASING.—Solo, 1,726 miles; with side-car 5,316. Total, 5,042 miles.
CONSUMPTION.—Petrol, 6½ gallons; benzole, 70. Total, 764 gallons = 65.9 m.p.g.

of gallons = 65.9 m.p.g. Oh. -44 gallons Vacuum B.B. = 1,186 m.p.g. Oh. -650 x 65 mm. light car tyre: Tyres.—One Palmer cord 650 x 65 mm. light car tyre; ran 2.653 miles on the back wheel, transferred to the front wheel and ran 2,389 miles (5,042 in all), and then sent for retreading. One Dunlop grooved 650 × 65 mm.; ran 2.655 miles on the front

miles on the front wheel, and ran 295 when it was miles, when it was badly burst and replaced by one Bates, which, on the back wbeel, 2,095 · ran miles, and is now not nearly worn out. The sidecar has been shod only with the worn tyres removed from the motor cycle on purchasing.

DECARBONISING AND VALVE GRINDING.-(1.) On taking de-livery. (2.) After livery. (2.) 377 miles (unnecessary). (3.) After a further 1,467 miles. After a further (4.) 1,830 miles. (5.) After a further 1,368 miles. REBUSHING ENGINE.

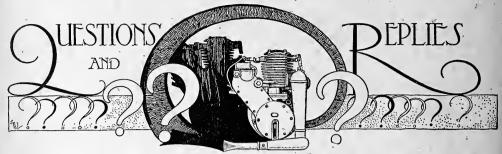
-Nil. And no need for it now after a total of 7,500 miles.

R. S. BOWMAN.



OVERHEARD ON A MAIN ROAD (Possibly Your Favourite Stretch of Highway).

"Oh, Egbert! is this one of those Europ machines you told me about?"



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Piston Clearance.

It is my intention to fit new pistons to my 6 h.p. J.A.P. engine, and I should be most grateful if you would inform me the clearance to allow between them (cast iron) and cylinder wall?— F.J.P.

The clearance should not exceed 4-1000ths at the top and 3-1000ths at the

Fork Motion and Speedometer Readings.

I understand that the radial motion of certain spring forks renders a speedometer unsatis-factory on the front wheel. I have one which I used on the front wheel of my previous mount, and which gave excellent results. Can I in any way make use of this speedometer on my present machine? What arrangement do you recommend?—

Speedometers are usually fitted to the front wheel, despite the radial motion of the fork, which has only a slight effect on the accuracy of the reading. You might arrange your speedometer to be driven from the back wheel, and the makers will probably supply the special fittings necessary.

Timing, Gear Ratios, etc.

Will you kindly tell me: (1.) Best all-round ignition timing for a 3½ h.p. single. (2.) Is the top gear normal for 3½ h.p. three-speed with teeth as follows: Rear wheel sprocket 34, small gear sprocket 13, clutch sprocket 25, and engine-shaft 14? (3.) Cause of not being able to open B.B. carburetter air lever right out. B.B. carburetter air lever right out.
(4.) What horse-power would an 80 × 80 mm. engine give? (5.) What results if it were possible to reduce the compression space or increase it of my engine?—M.G.T.

(1.) The spark should occur when the piston is 10 mm. from the top of the com-pression stroke with the control in the fully advanced position. (2.) The gear ratio is 4.93 to 1, and this should be quite satisfactory for ordinary solo running. A slightly lower gear would be prefcrable if the machine is used with sidecar. (3.) If you wish the carburetter to take full air, it will be necessary to fit a larger jet, or

if yours is the type having a variable jet needle attached to the throttle, you will no doubt find an improvement if you raise the needle from \(\frac{1}{2}\) in. (d.) The engine is of \(402\) c.c. capacity, and at normal revolutions would give approximately \(4\) h.p. It would be nominally rated at \(3\) h.p. (5). You can easily reduce the compression by fitting a thick washer between \(\frac{1}{2}\) in the property of the compression of \(\frac{1}{2}\) fitting a thick washer between the cylinder base and the crank case. Compressed fibre or aluminium is the best material, and the former is preferable. The effect of so doing would' be to render the engine very slightly less powerful, but at the same time it would be considerably more controllable and smooth running, and would probably climb hills a little better, but at a lower speed. It is usually not possible to raise the compression without making structural alterations to the engine, such as fitting a slighty longer connecting rod or a special pistou. In this case, the running would be less smooth, and the engine might be prone to overheating and knocking. would probably be more efficient, however.

Re-registering a Machine.

I have a 23 h.p. motor cycle,

of which I am the third owner. However, having forwarded the 1s. for transfer of the number to myself, I was informed by the county authorities that the cycle had not been registered by the previous owner, and asked my assistance in tracing him. I replied to their query, giving the name and address of the person who previously owned the cycle. The authorities replied, saying that they were unable to trace the pre-vious owner, and requested me to forward another 4s. for a new number, as the old number was of no use. Not hearing immediately from me theythe authorities-wrote me saying that they had declared the old number void, and that I was not to ride the cycle on any account. What I want to know is: Am I responsible for the paying of the extra 4s., due to the inability of the authorities to trace the previous owner?-T.W.D.

If the previous registration numbers have been cancelled, you will be compelled to re-register the machine, and the full fee of 5s. will be chargeable. We should advise you to pay this.

READER'S REPLY.

Four-stroking.

In a reply to a correspondent in your issue of March 11th you say that fourstroking is a common failing of all two-stroke engines; may I, therefore, in fairness to a two-stroke engine which does not possess this failing, be permitted to say a few words on its behalf? The machine I refer to is the 21 h.p. New. machine I refer to is the 2½ h.p. New. Hudson. I ride a 1914 single-gear model fitted with a variable jet B. and B. car-buretter. I use a K.L.G. plug, and usually run on benzole. It never four-strokes, and I can run it as slowly as 6 m.p.h. and two-stroke perfectly. Whether it is due to the design of the engine or the carburetter or both -I cannot say. In concluding with the usual disclaimer, may I ask whether any of your readers have found that beuzole is injurious to solder?—Eric A. Stan-

RECOMMENDED ROUTES.

BECCLES TO EAST DULWICH .- F.B.S. Beccles, Blythburgh, Saxmundham, Woodbridge, Ipswich, Chelmsford, Tilbury, ferry to Gravesend, Dartford, Crayford, Bexley, New Eltham, Mottingham, Catford, Forest Hill, Dulwich.

Tavistock, Two Bridges, Moretonhamp-stead, Exeter, Honiton, Chard, Ilminster, Ilchester, Bruton, Frome, Beckington, Trowbridge, Semington. Approximately 136 miles.

EASTBOURNE TO EXETER .- J.J.C.

Eastbourne, Lewes, Brighton, by the old road to Shoreham, Broadwater, Arundel, Chichester, Havant, Fareham, Southampton, Totton, Cadnam, Ring-wood, Wimborne, Bere Regis, Dor-chester, Bridport, Lyme Regis, Colyford, Clyst St. Mary, Exeter.

Margate To Sheffield.—G.S.
Margate, Sarre, Canterbury, Faversham, Sittingbourne, Chatham, Rochester, Gravesend, Ierry to Tilbury, East Horndon, Brentwood, Chipping Ongar, Harlow, Bishop's, Stortford, Little Hadham, Puckeridge, Royston, Huntingdon, Norman Cross, Grantham, Newark, Markham Moor, Worksop, Sheffield.



NEW EASTER MODELS

MAJOR, 6" lens, 1,200ft. beam, 98'-BIG. 5" ... 1,000ft. ... 90/-1,000ft. JUNIOR, 4" 600ft. 65/-

Handle-bar fittings of highest type-all ebonized black finish (not enamel).

EVERY FIRST-CLASS GARAGE HAS NOW RECEIVED STOCK.



Latest 1920 Models ELECTRIC

7" SIDECAR 4-volt Outfit £8- 8-0 7" " £9-10-0 6-voit "VICTORY" 4-volt ,, £9- 9-0 " £10-10-0

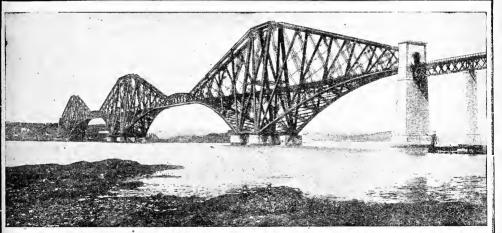
NOTHING ON THE MARKET TO COMPARE WITH THESE SETS FOR LIGHTING POWER.



We have acquired the business and premises of Messrs. GISBORNE, the world-wide musical instrument makers, and now are able to offer the public the finest sonorous bulb horns in the world.

> No. 00 Single Twist 22/6 No. 0 Double Twist 35/-Highest type of ebony black finish.

Best class adjustable handle-bar clips.



TWO OF THE WONDERS

The F.R.S. Lamp was designed, tested, and originally made in sight of the marvellous structure known as the FORTH BRIDGE. This connecting link between South Queen's Ferry and North Queen's Ferry or Dalmeny is 8,295 feet long and 342 feet high and took 10 years to build. The largest liner looks like a toy while passing underneath. The influence of such a structure made itself felt on the designer of the F.R.S. Iamp, and our lamps have led the world in design and beam power ever since.

F.R.S. LAMPS, "Beam" Works, Pershore Street, BIRMINGHAM.



"Biggest Dealers in the South"

A Personal Word by JULIANS

Easter will be upon us in another eight days, and if you have not secured a machine for the holiday it will be very unwise to delay any further

¶ We have the following machines in stork for immediate delivery:—

CLYNO 2-stroke, 2-speed O.K. JUNIOR 2-speed NEW HUDSON 2-stroke, 2-speed

These will be sold at List Prices as usual.

¶ If you wish to make sure of one, we would advise you to telephone us, then wire a deposit, and we will hold machine pending your instructions.

H.JULIAN READING

Phone 1024



7 out of 9

In reviewing the

COLMORE CUP TRIAL

"Motoring Cycling" says the performances on the whole were poor.

But were they? Certainly not as regards those riders whose machines were JOHN

BULL BELTED, for in spite of slimy roads and severe conditions generally

7 awards (out of 9 starters)

were gained by riders who used the

JOHN BULL DEEP DRIVE BELT

and, mark you, these included

4 GOLD MEDALS

"7 out of 9"—not a bad showing, you'll admit. And if the JOHN BULL Belt reveals such worth under those severe conditions, would it not prove its exceptional merit to the ordinary rider—to you, who may never dream of putting it to so severe a test? It would So see your dealer about it.

LEICESTER RUBBER CO., LTD.,
LEICESTER.



Ariel.

NEW Ariel 31th.p. 1920 Combination, just delivered; £155, complete; owner buying car.—Box 2,478, clo The Motor Cycle. [9198

ARIEL, all models, carly deliveries; all parts stacked,—F. Speakman, Ariel Expert, 7, Rochfalle Rd., Harpurhey, Manchester. [7414]

Rd., Harpurhey, Manchester, 1998, 1998, 1998, 1999, Ard Combination, 5-6h.p., Henderen sidear, spair wheat and electric hamps; what offers?—J. Warr and Son, 111, Warrack St., Learnington Spir. July 1998, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999, 1999,

A RIEL 3), h.p., 5 speed, clutch, kick starter, 1919
A (October), guaranteed new, same as 1920 model, immediate delivery London, insurance, ctc.; £110.—Gibbons, 101, Jesmond Rd., Newastle-on-Tyne. [1004]

A RIEL 1914 35-h.p. C.B. Combination, Bosch mag., 5-speed, kirk start, speedometer, horn, hamps, accessories, scat on pillion; £80; perfect condition; seen Sunday or after 2 o'clock Wednesday, Nickels Harsley, The Avenne, Egham, Surrey. (9293

F.O.C.H. have a 1919 A riel Combination, 3½h.p., 35-peed, clutch, K.S. fully equipped, excellent order-Fred Tiller Car House, 5, Heath St., Hamp-sted drr. Hampstead Tube Station). Thone: Hamp-sted 372: Hours 9-7, including Saturdays. (8505

19¹⁴ 4h.p. Arno, 2-speed, just overhauled; offers.— Apply, Pritchard, 43, Belsize Park Gardens, Hampstead.

A RNO 3!:h.p. Coachbuilt Combination, 3-speed, and accessories, very fast and powerful; £75.—337
Crystal Palace Rd., East Dulwich. [9788]

Auto-Wheels.

Auto-Wheels.

A UTO-WHEEL nearly new; £12.-118, Harlesden Rd., Willesden Green, N.W. [9014]

A UTO-WHEEL B.S.A., fitted gent's 3-speed cycle, all new, ridden 50 miles, — Hucclecote Lodge, [1012]

A UTO-WHEEL, 1920 model de luxe; £25; in stock, brand new.—Wilkins, Simpson and Co., opposite of the property of the prope

Gloucester. 1920 model de luxe; £25; in stock, braad new.-Wilkins, Simpson and Co., opposite Olympia, London.

WALL Auto-wheel, excellent condition, new tyre: f12.-Gunniver, No. 6, Seventh Avenue, Forest Town, Mansfield.

B.S.A. Auto-Wheel, in splendid running order, little used, complete with attachment for cycle; g10/10.—Cowlishaw, Methwold.

WALL Auto-Wheel and combination cycle, Sturmer-Archer 3-speed, good order; £20.—Blunden, 81, Westwick Gardens, West Kessigaton Park, W.14, [997]

A UTO-WHEELS, Modele de Luxe; cash £25, or £5 deposit and 37/6 mouthly.—M.V. Deut, The Metropolitan Machinats Co., Ltd., 248, Bishopscute, Ec.C.2.

E.C.2.

A UTO-WHEELS, the latest pattern: immediate delivery. Easily affixed to any cycle, very cheap to mu, £25. The Johnson motor wheel converts your push cycle into a lightweight metor cycle. New hack wheel with the start of the start o

BATS for early delivery, apply, Bedford Garage, [5305]

6 h.p. Bat-Jap Motor Cycle and New C.B. Sidecar:
80.—537, Holloway Rd., N. [9315]

BAT-J.A.P. 6hp. Solo, completely overhauled; £55.
—St. Michael's, Epsom Rd., Leatherhead, [1280]

PAT, 1920, early deliveries.—Place orders with Clapham (Motors), King George St., Greenwich, 3E 10. [5095] BAT.—For earliest delivery, book now with agents.—
Goding and Co., 9, Grosvenor Rd., Tunbridge
Walls. Tel.: 449

WAUGHOPE'S, 9, Shoe Lane, Fleet St., London.—6h.p. Bat combination, spring frame models; lelivery from stock. [1417]

4 h.p. Bat-Jap, semi-T.T., 2 speeds, drip leed, recently overhauled and re-enamelled; £40, offers.

Plumstead Vicarage, Woolwich.

1 h.p. Bat-Jap Combination, spring frame, 2-speed gear, new, day's trial given; £75.-13, Westcott it, Tabard St., Borough, S.E. [9608

hp. BAT-J.A.P. and coachhuilt sidecar, n. Clincher, wind screen, electric lighting; £75 mith, 10, North Rd, Surbitoa. [99]

BAT-J.A.P. 6h.p., N.S.U. 2-speed, Whittle belt, B.B., less mag.; £25; seen after 6.—Strutt, 90, Vadhurst Rd., New Rd., Battersea, London. [9358] 5-6h.p. Bat-Jap, 1913, pearly new Gloria C.B. sidecar, 2 lamps, hoto, tools, good running order; £80, ao flers.—Barton, 5, Station Parade, Palmer's Green, 7.13.

BAT 1912 Combination, 1914 coach sidecar, 3-speed, thoroughly overhauled, plated, painted adian red; £110.—Central Garage, Swanage. Phone: [8999



Now is the time for machines for Easter: we have the finest selection of Solo machines and Combinations in London. We can offer you only first-class machines. It will be well worth your while giving us a call, and you will not be disappointed.

Combinations.

1920 A.J.S. Combination, spare wheel, lamps. 1920 MATCHLESS Combination, dynamo lighting,

1920 MATCHLESS Combination, standard model, fitted with lamps, bood, and windscreen.

1919 6 h.p. ROYAL ENFIELD Combination, Lucas dynamo lighting set, hood, windscreen, almost

1920 B.S.A. Combination, mag. dynamo lighting,

1920 B.S.A. Combination, standard model, very good condition.

1920 6 h.p. JAMES Combination, brand new. 1910 (November) 8 h.p. SUNBEAM Combination, fitted with spare wheel, hood, windscreen, side curtains, Lucas lamps, speedometer, Lucas horn, almost new.

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1917 33 h.p. NORTON, countershaft model, Norton Sidecar, lamps, good condition,

1917 31 h.p. ROVER Combination, Lucas dynamo lighting set, exceptional condition,

Solo Machines.

1919 31 h.p. SUNBEAM Motor Cycle, tamps, speedometer, as new.

1020 4 b.p. BLACKBURNE Motor Cycle.

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Cars.

1914 10 h.p. MORRIS-OXFORD, de Luxe Model, exceptionally good condition £340 1916 11.9 h.p. PERRY, 2-seater, dickey back, Lucas dynamo lighting £410

1914 BUGATTI, 2-seater touring body, exceptionally splendid condition £47

We are London Agents for the Henderson Elite Sidecar. All models in stock.

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MOTOR CYCLES FOR SALE.

Rat.

BATJAP. Combination, 6h p., 2-speed, kick start, Lamps, korn, cane sudcent; any trial: ±65 att r 5, or weeksends, -2, Kentworth Villas, Bedonwell Lit Belevelere, Kent.

BATJAP, 8h.p., 3-speed, chitch, C.B. sblear, lamps, Cowey speedometer, Birks, horn, ename plating, mechanical condition perfect; £105.—Randall 83, Church Rd., Barnes, S.W.

83. Church Rel, Barries, S.W.
19 is Butley S.Shy Combination, guaranteed procedure of the procedur

N7237
Sh.p. 1916 3-speed Countershaft Bat Combinating
Spring frame, T.T. and touring bara, splendid
tyres, repainted Bat grey, black discs, very smart, just
finished, 230 overhaul; £140; trial.-G. King Smith,
Bitton, Briston,

BAT, late 1919 (Oct.), T.T., 6h.p. J.A.P., and cancelet sporting sidecar, with disc wheels, siring frame, 5-speed, kick start, small mileage, exceptionally fast, condition perfect; price £170,—81. Lakeside Rd, Palmer's Green, Tel. 223. [9439]

Beardmore.

BEARDMORE-PRECISION.—£10 deposit paid. Dalvery promised early April; first cheque secures option; owaer buying car.—Box 2,508, c/o The Motor Cycle. (I)

L ANCASHIRE (West) and Cheshire,—Beardmora Precision, the most advanced and practical motor cycle yet designed,—Enquiries invited by J. Blake and Co., 110, Bold St., Liverpool. (6575

Blackburne.

BLACKBURNES.-All models.-A. J. Young and Co., Ltd., Newmarket.

C BOW Bros., High St., Guildford, are old Black burne agents, and invite enquiries. [X7915]
WAUCHOPE'S, 9, Shoe Lane, Fleet St. London.—
Early delivery of 4h.p. and 8h.p. twin Black

nurnes. [1448]

920, 4h.p. Blackburne, 28×3 Palmers, all chain,
lust delivered; £115.—Mascn, Commerce Av.,
Letchworth, Herts

PLACKBURNE, 1919, 4h.p., 3-speed, good tyres,
and spares, mileage 4,000; £100.—Box 2,575,
c/o The Molor, Cycle.

A 1920 Blackburne 4h.p., delivered this month, elec-tric lighting and horn, 3-speed clutch, all acces-sories; lowest price £135.—Box 378, c/o The Motor Cycle.

NEW 1920 4h.p. 3-speed Chain-driven Blackburne, Sturmey-Archer gear, not ridden, engme not started bought big twin; £120, or best over; can rail lummediately.—Hosking, Lavadra, Okehampton. [1143

BOWN-VILLIERS New 1920 214h.p., 2-speed, kick starter and clutch, in stock.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X7495]

BRADBURY Combination, 4h.p., rery good, 2-speed; 1903
£70.—Shrublands, Kempsey. 1903
4 h.p. Bridburr, 1912, 2-speed N.S.U. gear, good, new tyres.—Miland, Shepton Mallet. 1907
BRADBURY 4h.p., in excellent running order; 1907
BRADBURY 4h.p., in excellent running order; 1907
BRADBURY 4h.p., bear to swold disconsistent of the control of t

BRADBURY.-Order now to avoid disappointment.-The Walsall Garage, Wolverhampton St., Walsall.

BRADBURY 414h.p., 1915, 3-speed, all chain, K.S., h.c. clutch; £70.—Greenway, 421, Foleshill Rd., Coventry. (D)

RATAGE RADBURY 3h.p., mag., B. and B., good tyres, helt, punp, spares, tools; ride away; £22.—Harwood, Reigate Rd., Ewell. 4 h.p. Bradbury C.B. Combination, 3-speed clutch (hub), new Dunlops, speedometer, lamps; £60.—Parker, 136, Merton Rd., Wimbledon. [1304]

1914 Bradbury 31/h.p., single speed, lamps and horo.
Chutteris, Cambs. 'Phone: 34. 1920 T.T. Bradbury and sporting Canoelet sidecar,

19 2-speed, free engine, kick start; offers.—H. Deering, Forrestfield, by Airdrie. [X7469 Deening, Forrestneid, by Airone.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Loodon.—

Ah.D. Bradhnrys, single-cyl., 2-speed models; delivery in about: 3 weeks. Book now.

BRADBURY 4h.p., Grado gear, Miller lamps, TT.

handle-bars, powerful; seen by appointment;

45.—Hutton, Eastevet, Leatherhead.

BRADBURY 4hp. Bosch, B.B., clutch, free engine, eanmeld red, very fost, T.T., long exhaust, good stoke, Honts.

10 35-14 4h.p. Bradburr, Bosch mag., 3-sneed, clutch, coachbuilt sidecar, recently overhauled, new tyres, helt; £80; including lumps and spares.—22, Stendon Park, Forest Hill, S.E.

Phone No.: Museum 3419.

Brandburry dh.p., Combination, Besch mag., NS.U., 10-conamelled, just overhauled, accessories, good tyres, ride away; £50.—Routledge, Waverley, Percy Rd., Hackbridge.

Bradbory.

BRADBURY Combination, 4h.n., in excellent condition throughout, just been thoroughly overhauled; 63 gps. for immediate sale.—Letters to Bailey, 10, Ferndale Rd., Banstead, Surrey. [1154]

19 14 4(3h.p. Bradbbury, 2-speed countershaft, clutch, free engine, kick start, Bosch, B. and B., new condition throughout, stored 3 years, any trial; £65, or nearest—47, Old Winton Rd., Andover. [9948]

Brough.

19 20 Model G Brough, 5-6h.p., mileage 200; £125, or nearest offer.—Crouch, Ilminster. [X7443 SOUTH Statiordshire Agents for Broughs, early de-livery guaranteed, Bedford Garage, Walsall. 'Phone: 270.

31h.p. Brough, 3-speed, S.A. countershaft, K.S., 22 perfect condition; any trial; £50.-Willson, 5 winegate, Grantham. [1077]
SOUTH Lancashire, North Cheshire, and Isle of Man only-Brough enquiries.—J. Blake and Co., official Dealers, Liverpool and Manchester. [6588] 1916 5/4.p. Brough Flat Twin, open frame, counter-sharft 3-speed gear, kick starter, handle-bar clutch, tyres and machine in perfect condition, large overcoat can be worn with safety and comfort; £85.—Seen 37, Cornwall Mex. Gloucester Rd., Kensington. [9754

Brown.

3h.p. Brown, low built, U.H. mag., new back tyre, stand and carrier, ride away; £22.—Mac, 15, Victoria Rd., Upper Norwood, S.E. [9507

BROWN 31/h.p., splendid condition, fast, reliable, excellent climber, ready Easter tour, stored 3 years; 40 gos.-50, Montagu Rd., Hendon, N.W. [9930

4 h.p. B.S.A., chain and helt drive, and sidecar.-J. C. Pickering, Shrewsbury. [X7568

B.S.A.—The Walsall Garage, Walsall, Booking orders for all models; rotation deliveries. [7216

B.S.A. Combination, late model, little used, as new; £145.-34, Bingham Rd., Bournemonth. [X7529] B.S.A. 1920 Combination, as new; £165-Clifford Wilson Mig. Co., 70, Royal Hospital Rd., S.W.J.

B.S.A., 3-speed, K.S., with new coachbuilt sidecar; £110.-40, Replingham Rd., Sonthfields, S.W.

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10 16 41/4h.p. B.S.A., all-chain, 3-speed countershaft, K.S., as new; £80.—82, Church Rd., Mitcham, [9478]

19¹⁶ B.S.A., chain-cum-belt, accessories, 3 speeds, Dover. [9289

19 20 B.S.A. Combination, Model H, brand new, un-registered; what offers?—Bright, 18, Bridge St. Exeter.

B.S.A., 1914, free engine, 414h.p., ready to ride away; £45.—Major Maitland, Brooklands, Birch Grove, Acton. [9660

19 19 B.S.A. Combination, not done 200 miles, lamps, horn, as new; £128.-50, Crystal Palace Park Rd., Sydenham. [9831

19 15 4/4h.p. B.S.A., 1920 sidecar, 5-speed, Perfect condition; £100.—Tully, 6, Bedford Crouch End, N.

B.S.A. Combination, 1916, tyres and condition good, belt, countershart, nice sidecar; £95.-1, Bollo [9975]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— Book now for B.S.A. motor cycles. Early de-livery anticipated. [1420

 $4^{\frac{1}{4}\rm{h.p.}}$ 1913-14 B.S.A. Coachbuilt Combination, 3-speed hub, Bosch, and accessories; £68.-10. Cubnersbury Lane, Acton. [9862

19¹⁶ B.S.A., 4¹/₄h.p., all chain, 3-speed, clutch, and B.S.A. sidecar, as new; any trial; £110.-G., Park View, Oatlands Drive, Weybridge. [9947]

B.S.A., 1914, 3-speed, chain drive, with Cancelet coachbult sidecar, overhanled by maker Nov., 1918, perfect condition; £80.-3, Hampton Rd., Oswestry.

B.S.A. Motor Cycle, complete with sidecar, just de-livered, ready for immediate delivery.—Fryer, Toominster. [9124

B.S.A. 44h.p., 1919, Model K, coachbuilt sidecar, Only ridden few times; £140.—29, Montford [X7351]

Place, Kennington, S.E.;1.

S.A. Model H, just delivered, bulbons back sidecar, lamps, horn, screen; accept list prace; seen London-Witle, Box 2,359, lot The Motor Cycle. [8869]

B.S.A. 4'[h.p., 1917, Model K, with sidecar; £110. Newnham Motor Co., 223, Hammersmith Rd., W.S. Phone: Hammersmith Schain numbel.

19 B.S.A., countershaft, chain-cum-belt, new Dunlops perfect condition; £95.—M.C., 8, Priory Place, Well St., Hackney, E.9. [X7506]

19¹⁴ 3-speed B.S.A., chain drive, coachbuilt Canoelet sidecar, perfect condition, very fast.— 5a, Gt. George St., Park St., Bristol. [1264]



Sole London and District Agents for A.J.S. and British Excelsion Motor Cycles, also Watsonian Sidecars. Contracting Agents for Triumphs, B.S.A., Clynos, Enfields, Calthorpes, Allons, A.B.C.'s, Matchless, Rudge, Harley-Davidson, etc.

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CLYNO, 2-stroke, 2-speed. List price. BRITISH EXCELSIOR, 1920, 2½ b.p., 2-stroke, 2-speed gear, clutch, and kick-starter. List price. starter. List price. HARLEY-DAVIDSON, 1920, 4 h.p. model

W., acetylene lamp set, speedometer, horn. W., acciviene lamp set, speedometer, norn. List price. CALTHORPE, 1920, 2½ h.p., 2-stroke. 2-speed gear. List price.

DIAMOND, 1920, 2½ h.p. 2-str. List price NEW IMPERIAL 1920 2½ h.p. Jap engine 2-speed gear clutch and kick starter. List All the above machines are brand new, and are offered at current list price plus

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1923 SWAN Sporting Model. £29 10 & 8

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" "Model N" £20 15 10

" "Model N" £20 16 & 8

" B.S.A.complete with aproa£24 0 0

" MILEORD "SKIFF". £22 16 6

" OANOELET "Model D 4"

" for 20 or 26 wheel, less tyre £29 & 0

" "MILEORD "MONITOR"

black funish £8 × 3" wheel £38 15 0

All above sidecars are offered at makers' list prices plus carriage from works.

Taylor's coach-built sidecar body £11 11 0 A.J.S. sidecar body, second-hand, fitted with hood, screen and luggage carrier, £15 15 0.

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MOTOR CYCLES FOR SALE.

B.S.A. All-chain Combination, No. 2 sidecar in crafe from makers, not unpacked; what offers?—Stewart Dunn, High St., Deal.*

B.S.A. 1915 4klp., and sidecar, 3-specd, Aristander, all accessories, excellent conditions 288—111 Ridley Rid, Forest Gate, E.T. [935] 10 C.B.S.A. 1945, K.S., 3-specd, chain-chain 288—115, Ridley Rid, Forest Gate, E.T. [935] dittor, specific properties of the condition of

B.S.A., 1914, all chain, 3-speed, K.S., Cowey, Luca lamps, hore, standard throughout, stored; 78 gns.—Tintern, Norman Rd., Sutton, Surrey. [9432 19²⁰ B.S.A., 4½h.p. Model H, Watsonian R34 side car, smertest outfit on road, ridden 50 miles £155.-294, Kennington Park Rd., S.E.11. [X7348

B.S.A., Model K, late 1919, P. and H. lamps and generator, Lucas Minor, Brocks carrier box, College undershields; £110.—Wills, Haych, Darley Dale, Matlock. [X7047]

10 16 41/4h.p. B.S.A., 3-speed countershaft, complete with lamps and hora, and in good mechanical condition: £75.—F. Wilderspin, Chatteris, Cambs. Phone: 34.

B.S.A. 3½h.p. 1912 Combination, helt drive, Mill ford sidecar, Cap carburetter, Bosch mag, speeds, pedal start; £68.—Maudes', 100, Gt. Portlands, London.

19 17 B.S.A. 414h.p. Coachbuilt Combination, 3 speed, kick starter, excellent order throughout; £125.—Kington, 2, King Edward Parade, Norbury, S.W.

B.S.A. Combination, 1917, appearance as new tyres, lamps, 3 generators, horo, per order; £115.—40, Upper St. Mary's Rd., Bearwo Birminglam. (X7)

10 19 B.S.A. 44/4h.p., Model K, solo, with speedometer, lamps, watch, and knee grips, carefully used; 105 gns.—Helyer, Toddington Farm, Littlehampton, Sussex.

19 20 B.S.A., Model H., with Grindley sidecar, only ridden 111 miles, Watford speedometer, all lamps Elaxon, tools; £140, no offers.—H. Smith, Fronkam Farnham, Surrey.

B.S.A., 1916, C.B. sidecar, all ic good condition, perfect running order, nearly new tyres, Lucas and horo, Wadord speedometer; £98.—Liscey, Florist, Ashtead.

19 18 (September) B.S.A. 41/4h.p. Conntershaft Combination, 3 speeds, clutch, kick starter, condition throughout as new; £128.—72, Longridge Bd. Earl's Court, London. [1134]

19 15 444, h.p. B.S.A., clutch model, nearly new over-condition and running order; £65, or nearest.—18, Sof-fron Rd., Biggleswade.

19 17 B.S.A., 4½h.p., Model K, coachbuilt combination, 5-speed countershaft, clutch, Luczellamps, splendid condition; 110 gps.—24a, Woburthill, Stogeycroft, Liverpool.

B.S.A., 3½h.p., T.T., 2 new inner tubes, 1 cover, mechanical horn, lamps, generator, st meter, Brooks saddle, very good condition; £50.394, c/o The Motor Cycle.

B. S.A. 1920 Combination, chain drive, mileage 181, speedometer, 3 lamps, Cowey hore, Tan-Sad, spar Duclop cover and tule, valve; no premium; £165/15.—Shinton, Bull St., West Bromwich.

1913 3/5, p. 2-speel B.S.A., Royal Enfeld sidest, excellent condition, engineer owned, thoroughly overhauled, complete; 95 gas; ride away.—Morley, 65, Southern Rd., Basingstoke, Haots.

B.S.A., Nov., 1919, Model H combination, engine guaranteed in perfect order; any tall given by appointment; best offer over £155.—25, West. Decastable.

D'anstable.

B. S.A. 1914, 3½hp., 5-speed, countershoft, chaine.

B. Carrier, 2 in the condition, coachbuilt Millford sidecar, 2 new tyres, lamps; nearest 55 garFoden, Farsholme, Mossley Hill Rd., Grassendie.

F.O.C.H. have a 1915 B.S.A. 414h.p. Model H. huly equipped, in excellent order.—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tobs Station). Phone: Hampstead 3752. Hours 9-7, bb cluding Saturdays.

cluding Saturdays.

1917 4¼h.p. B.S.A., 3-speed countershalt, bick from new, stored 2 years; any trial or examination; 257,10, close offer; perfect condition.—Keot, 21, Noviet Countershalt, but the high properties of the condition.—Keot, 21, Noviet Countershalt (1951).

Douglas.

19¹⁸ Douglas 4h., Combination, complete with lamps and hore, fine condition, and first-class running order, £115 gus.—Taplin, 159, Hernsey Rd., London, N.7.

DOUGLAS 2',h.p., 2-speed, T.T. bars, new tyre, ex-cellent condition, lamps, tools, spares, recently overhadded, ride away; £50.—Terry, Vine House, Appledore, Kent. [1445]

19 16 Doughs 2 h.p., just completely overhauled combined practically as new; 63 gns.—Taplin, 199, Herrsch

DOUGLAS 1919 4h.p. Combination, Inlly equipped, wind screen, Tan Sad, speedometer, etc.; 2150; seen by appointment.—11, Ambrose Av., Golders Green, N.W.4.

DOUGLAS Combination, 1919, electric lighting, speedometer, spares, mechanical condition gnaranteed; 130 gns.—Douglas, 2, Queen's Av., Woodford Green, Essex. [9415]

DOUGLAS 4h.p. 1916 Combination, 3-speed, clutch, kick start, lamps, generators, horn, speedometer, excellent condition throughout; £115.—7, Recreation Rd., Sydenham.

10 19 Douglas Combination (Nov.), done 200, un-scratched, any evening, or Saturday and Sun-day; £150. Coryu, The Nook, Walden Estate, Horn-church, Essex. [961]

19611
1916 4h.p. Douglas Combination, 3-speed, K. start, just thoroughly overhauled, sidecar repainted and upholstered, Cowey 3 gn. horn; £90.-Wadlow, Orplaton, Kent.

DOUGLAS 2³(h.p., 1915, new condition, very fact, kaue grips, mechanical horn, pillion seat, very smart, adminimum chain cover; £72.—92, Beulah Rd. Thornton Heath.

DOUGLAS 1920 25 h.p., clutch, 3-speed, 2 lamp sets, mechanical horn, registered, perfect, not done 100 miles; £103.—Griffiths, Sandbach Rd., Alsager, Cheshire.

19 Douglas 4h.p. Combination, complete with wind screen, apron, lamps, and accessories, beautiful condition; £160.—Mattock Motor Co., Mattock Lane, Ealing.

DOUGLASES 23A.p. always in stock at competitive prices, open till 7 p.n. week days, 5 p.m. Satur-days.—Smith's, 10-16, Haverstock Hill (opposite Chalk Parm Tube Station).

DOUGLAS Combination, 1914, completely to bauled, cylinders ground, new pistons, Bosch, tools, and spares, comfortable, economical; £85.—9, Abbey Rd., Enfield.

19423 19 17 Douglas 4h.p., 3-speed, clutch; kick start, in perfect condition, complete lamp set, horn, tyres, nastly new; £95, or near offer.—Dyer, 11, Rosenthal Rd., Catlord, S.E.6.

DOUGLAS 25th p., 2-speed, uncrated December, 1919, absolutely perfect, well equipped, exceptionally smart; 62 gns.-60, Wallingiord Av., North [1353]

23h.p. 2-speed Douglas, kick starter. Complete with Jamps, horn, speedometer; £60. — Taylor's Carage, Wednesbury.

93h.p. Douglas, 1916, in perfect running order, 65 → 4 gns.; also 1913 Clyno, recently overhauled, 75 gns.; also A.C. Sociable, any trial, £80.—Dunham, 44, Chapel St., Luton. [3967]

DOUGLAS, 1919 (late), 254h.p., W.D., done 1,000, lamps, horn, knee grips, Cowey trip; £85; no offers; send on "Motor Cycle" terms.—George, 33, Stanley St., Gloucester,

Douglas 2'4b.p., 1914, Bosch, Amac, T.T. bars, grey disc wheels, long brass exhaust, smart, excelent condition: £60-11, Frankfurt Rd., Herne, Hill. Alter 6, or 2 Saturday.

3 h.p. Douglas, 1916, 2-speed, overhauled and re-d novated throughout, re-enamelled and guaran-teed perfect order; 70 gos, or better offer.—Box 2.561, c/o The Motor Cycle.

4 b.p. 1916-17 Solo Douglas, T.T. bars, discs, lamps, thorn, copper exhaust, undershield, splendinachine, solo or sidecar, sprockets; nearest £95,-24, lossington Rd., Westeliff. [1403]

4 h.p. Douglas Combination, 1916, 3-speed, clutch, kick start, perfect condition in every respect, 3 Amps, horn, any trial; £110.-33, Hoveden Rd., Keyes td., Cricklewood, N.W.2.

1 h.p. Douglas 1916 Combination, 3 speeds, kick starter, clutch, heavy Dunlop tyres, electric ghting, splendid coedition; any trial; £86.—Tandy, 89. Nantwich Rd., Crewe. [9538]

DOUGLAS 1915 28th.p., perfect order, good looker; \$25\$, or near gets good machine; or part exbange sound V twin, no junk needed; Epsem.—Bax. 1538, c/o The Motor Cycle.

DOUGLAS 25(h.p., 2-speed, W.D., fully equipped, recently norrated, new, electric and acetylene lighting, heavy Dunlops; 72 gos.—Hynard, Dunjer, 116. skew Rd., Shepherd's Bush.

OUGLAS 25/hp., 1916, 3-speed, adjustable pulley, A.K. keee grups, Brooks saddle, lamps and gene-tor, perfect running order; £80.—George, 4, Home III Buildings, Trowbridge

NEW AND USED MACHINE TOOLS.

POLLOCK & MACNAB 65in. Friction Geared Capstan Lathes for 1 lin. bar.

ARCHDALE Plain Miller. table 25in. × 10 lin.

6in. x 14in. P. & W. Thread Miller.

New 10×24in, CHURCHILL type Universal Grinders.

No. 2 LA POINTE Broaching.

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HERBERT No. 9 Combination Turret Lathes.

18in. Swing 8ft, bed AMERI-CAN Tool Works Lathe.

23in. CLEVELAND Autos.

HERBERT No. 12 Horizontal Plain Miller.

Nos. 2 & 3 KELLER Die Sinking Machines.

6in. ×32in. NORTON Plain Grinding Machines.

7½in. Centre PARKINSON "Twink" Lathes.

15in. Stroke HENDEY Shapers,

JOHN MACNAB (MACHINERY), LTD., Mary St., HYDE.

Telegrams: "LATHES, HYDE." Telephone: 78, HYDE.

EIRMINGHAM OFFICE: 40, BENNETTS HILL.

LONDON OFFICE. 7, KING ST., CHEAPSIDE, E.C.2.

MOTOR CYCLES FOR SALE,

Douglas,

DOUGLAS 2) (h.p., 2-speed, 1916, buffer head, aluminum discs, lamps and mechanical horn, machine almost new, and very stmart, £67/10; also one at £60.—38, Parklands Rd., Streatham. [1038]

138, Parkhands Rd., Streatham.
 1038
 DOUGLAS Combination, late 1919, only run 600
 1130 gns.; owner taken delivery new machine. Firth, Hildrest, Scholes, Clescheuton.
 139 gns.; owner taken delivery new machine. Firth, Hildrest, Scholes, Clescheuton.
 130 gns.; owner taken delivery new machine. Firth, Hildrest, Scholes, Clescheuton.
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Davinner, Vietoria Rd., Wishech. [7880]
3 h.p. Douglas, 1918, in top-hole condition, tyres
4 und belt perfect, semi-T.T. bars; £65. Triumph, 1918, countershait; £99.—4, Denman Pl., Piccadilly, London, W.A. Phono; Regent 986. [9190]

2 31.D Douglas, 1914, everhanded and well tuned for 2 4 fast running, leg shields, new lamps, good tyres, any trial; £60, or near offer.—Apply by letter, Wersley, 25, St. Cuthbert's St., Bedford. [9643]

DOUGLAS 25, be. and 4h.p. Military Models, completely stripped and orchauled by W.U., carefully selected and tuned up; 25, h.p., £60; 4h.p., £72, -Watson, 181, Clapham Rd., S.W.

23hp. Douglas, 1916, practically new, footboards, 24 extra smart, makers' colours, specially plated; any examination, any trial; £65. Waated, heavier machine.—591, Foleshill Rd., Coverry. [X7426]

2 3h.p. Douglas, 1914, lamps, tools, horns, spares, 2 4 stored during war, just been thoroughly overhauled, excellent condition, fast, and reliable; 55 gas, -30, Daleham Gardens, Hampstead. (D) [9940

DOUGLAS 27/h.p., uncrated September, 1919, fully transfers, buffer forks, Brooks saddle; £72/10.-55, Ridgeway, Chingtord, E.4. Phone: 61. 19 19 Douglas 2½h.p., extra large P. and H. head lamp horr, tools, small mileage, original tyres unpunctured, excellent condition, just overhauled.—Cook, Bailey's Hotel, Kensington, S.W. [9949]

DOUGLAS, 25(hp., 1916, WD., uccrated late 1919, maker's colours, eagine, tyres, belt perfect, P. and H., horn, mudshields; offers over £75.—Apply, atter 5 p.m., 55, Friory Rd. Kilbura.

after 5 p.m., 55, Priory KG. Kiddler, 2007.

DOUGLAS, 1919, W.D., 2%hpp, 2-speed, new condition, £78, or nearest; also Bouglas, 1915.

2%hpp, 2-speed, just overhauled, £60, or nearest—
Goodwin and Cragg, Stafford St., Derby. [X7435]

DOUGLAS.—Overhauled and guaranteed, 2%h.p., Douglas's exceptional finish and guaranteed as new, complete with new lamps, Cowey speedometer, and Klaxon horn; £80; all on.—Maude's (below).

and Kiaxon horn; £80; all on.—Maude's (below).

D'UGLAS 1914 3/54b., 2 speeds, kick-starter, Empire sidecar, Boschi; £105.—Maudes', 100, 6t.

D'UGLAS 27(h.p., 1915, 2-speed, cnamelled French grey, good eggies, thoroughly overhauled, footboards, new tyres, all accessories, insurance, any test; £65; ride away-L., 11, South Hcl., Wimbledon, 1989 1505; He away----, It, South Rd, Windowson, 1525.

16 4 hp. Douglas Combination, fitted with 1919 re-enamelled and fittings plated, new lamps and horn; £112.-F., 21, Holly St., Dalston, E.S. [1230]

DOUGLAS Zýhp., 1914 TT. model, eggine Nicolated and fittings plated, model, eggine Nicolated and horn; £112.-F., 21, Holly St., Dalston, E.S. [1230]

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Douglas Zýhp., 1914 TT. model, eggine Nicolated and St. [1300]

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Blistol. (OH bave a 1919 Douglas 2%hp., excellent order, small mileage.—Fair Offer Car House, 5, Heath St., Hampstead fur. Hampstead Tube Station), Phone: Hampstead 3752. Hours 9-7, including Saturdays.

[8509]
DOUGLAS 1920 2¹/₄h.p., latest model, just ancrated, lorely machine, complete tool kits, etc., eave tube and new belt spares, Klaxon, lamps, etc., oweer buying car; what offers over £100.—Savage, King St., Peterhorough

Petertorough.

DOUGLAS.—We have a number of W.D. models ready for delivery. 2½,b.p., 2-speed, black finish, thoroughly overhauded and guaranteed in good running order: £68 each.—Elce and Co., 15-16, Bishopsate Av., Camomile St., E.C.3.

atte A., Camonule St. E.C.3.

10 18 4hs, Douglas Combination, in excellent condition, been stored 12 months, almost unstratched, Royal blue sidecar, splendidly upholstered, an exceptionally smart outfit; any trial; £135—Brookes, Long Lane, Wellington, Salop. (X743)

A 1915 25 hp. Douglas, guaranteed perfect running conditions, and tools, semi-Tr. bars, long exhaust, enamel excellent, may be seen and tested, owner burus 4hp. combination; price complete conditionard Newmon, Hulbrook, Shanitey Green, Guide Douglass, price complete conditions, and the conditional price complete conditions. The conditional price complete conditions of the conditional price complete conditions. The conditional price complete conditions of the conditional price conditions of the condition of the conditional price conditions of the conditional price conditions of the conditions of the conditional price conditions of the conditional price conditions of the conditional price conditions of the con

FOUR Denghees, 25th-p., 1915 to 1919, an entired to 250 to 250; Albaya Albaya, 1915 to 1919, an entired Charles to 250; Albaya Albaya, Albaya, Albaya, Charles to 250; Albaya, Albaya, 1915 to 1915 to 1915 to 1915 magneto, two, perfect, 25; complete set central threshold and parts, 22, in box.—House, 79, Springbank Rd. Hither Green, S.E.

MOTOR CYCLES FOR SALE. Douglas.

1930 284hp. Douglass 3-specil mescratched in per-bert conditions. 3-specil missage complete. 2 Lucas lighting sete, Klaxon, special keer grips, etc., guaranteed perfect in every respect; ill-health; reason of selling; price £100.—Pritchard, Eastbourne Lodge, Chester Rd, Kidderminster. (X749)

Chester Rd., Kidderminster.

19 9 (August) 4hp. Denglas Combination, eat ridden 1,000 miles, P. and H. head lamp, alone minium side and rear, 2 generators, Stewart hone, extra Lomax aproa, perfect condition, new spares, ready for Easter tour; e150; bength higher-powered outfit; after 5 p.m.-45, Gosherton Rd., Balham, 19625

DOUGLAS 4h.p. Combination, as new, uncrated 550 miles, eaned unscratched, makers colours task latest Douglas blue sidecar, accessories include £10 electric lighting outfit (unused), mechanical horn, speedometer, wind screen, etc.; price 125 gos.—Ash. Lodge, Junction Rd., Breatwood, Essex. [9771]

Duzmo.

DUZMO 31/h p. Sincle and 8h p. Twin. Orders in strict rotation. Deliveries commence March.—All Lacaeshire and Cheshiro enquiries to Leach and Seed, 16, John Dalton St., Manchester. (X2657

Edmund.

23h.p. Edmund, spring frame, 3 models.—Lists free from Gourlay's, Fallowfield. [2951] 23h.p. Edmund, spring frame, 3 models.—Lists free from Gourlay's, Fallowfield. [8991

19¹⁸ 2⁵(h.p. Edmund-Jap, 2-speed, clutch, spring drive, cush hub, all-chaio, spring frame, Lucas lamps, horn, mervellously comfortable, just overthalled, condition perfect; best over £65.—Walker, Abbey Cateway, Malvern.

Enfield

19 16 Enfield Combination, all accessories, luggage grid; £125.-16, York St., Dover. [9288 19 Enfield, 214h.p., accessories, spare tyre; £62. -55, Balls Pond Rd., Dalston, London. [1225]

6 h.p. Enfield Combination, Bosch mag.: £120.-Funnell, 4, High St., Gillingham, Kent. [9746 ENFIELD, December, 1918, 2-stroke, accessories; £58.-684, Lea Bridge Rd., Leyton, E.10. [1349]

ENFIELD 21/h.p., late 1919, not ran 500, good coodition; £70.—Box 2,480, clo The Motor Cycle, [9200]

ENFIELD Combination, 1918, good condition; £140, or offer.—4, High St., Leatherhead. Phone: 12.

ENFIELD 1919 Special 3h.p. model, lasups, horn, speedometer, tools.—Parker's, Bradshawgate, Bolton. [X7322] ENFIELD Twin, 2-4h.p., 2-speed, splendid condition, tyres nearly new: £45.-87, Truro Rd., Wood [8153

condi-

ENFIELD 6h.p. 1914 Combination, perfect co [8220

E NFIELD 1916 Combination, dynamo; £147/10.-Clifford Wilson Mfg. Co., 76, Royal Hospital Rd S.W.3.

ENFIELD 21th.p., brand new; £70; buyer can ride away on it.-8, Booth Rd., Waterfoot, Nr. Macchester. [9865]

La away on 10—0, 2000 chester. 1900 ENFIELD 1920 Combination, just delivered; £195. —P. Hucker, Hillsborough, Acock's Green, Bir-

mingham. [X7460]
19 20 2½4.p. Eafield 2-stroke, 2-speed, brand new, numsed; 70 gns.—149, Bowes Rd., Palmer's Green, N. [9656]

 $E^{\rm NFIELD}_{\rm chanically}$ perfect; offers.—82, Haldon Rd., Wandsworth. Wandsworth.

ENFIELD 2-stroke, 1919, new tyres, splendid condition: £55.-79, Castleton Mansions, Riverview Gar[1294]

1234 Conbination, 6h.p., fully equipped, Golders Green.

E NFIELD 1915-16 6h.p. Combination, in proceedings of the condition; bargain ,£125.-49, Replingham Southfields, S.W. n Rd., [9706

ENFIELD 1920 Box Carrier Combination, under 50 miles; £200.—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., S.W.3.

E NFIELD Combination, 1919 (June), Lucas lamps, Klaxon, like new; £160.-248, Hithergreen Lane, Iewisham, S.E. [1271]

19 16 Enfield Combination, 6-8h.p., magnificent outfit, fully equipped; £140, or near.-374, Grove Green Rd., Leytonstone. [9988]

LATE 1917 Enfield Combination, fitted cor-lamps, Klaxon, posh lot; what offers?-76, St., Thornton Heath, Surrey. complete 76, High [9114

E^{NFIELD} 3h.p. 1915 Twin, K.S., clutch, lamp, horn, etc., in excellent order; £60.—1, Lautranc St., Westminster. (Before 6 o'clock.)

Entrield Combination, 1913, Lucas lamps, speeddinetor, good condition, stored during war; £105.

-Chapman, All Souls College, Oxford. [9429]

DELIVERY **STOCK** FROM

or at an early date.

DOUGLAS **ENFIELD** CLYNO (2-stroke) INDIAN B.S.A. MATCHLESS LEVIS BAT HENDERSON BRADBURY (4-cylinder).

NEW IMPERIAL ZENITH SPARKBROOK DIAMOND COULSON B. OMEGA **EDMUND COVENTRY EAGLE** VELOCETTE METRO-TYLER REX INVICTA

ALEXANDER & CO..

113-115, Lothian Rd., Edinburgh. 272-274, Gt. Western Rd , Glasgow

INDIAN

Combinations

SCOUT

Models.

THE LAST WORD IN LUXURY.

Very Early Delivery.

SEAL & BALL,

24, Nevill Street, SOUTHPORT.

Telephone: 163.

MOTOR CYCLES FOR SALE. Enfield.

ENFIELD Combination, 6h.p., 1913, lamps, tools and practically new back wheel, good condition £115.—Box 382, c/o The Motor Cycle. [X744

19¹⁶ Enfield Combination, 6h.p., dynamo lighting, fully equipped: £146.—Smith's, 10-16, Haver stock Hill, opposite Chalk Farm Tube Station.

ENFIELD Combination, 1916, 6thp., lamps, horu-gitts, offers; mechanically perfect; seen Saturday afternoon—144, Lowdoc Ad, Herne Hill, S.E. [935] 1916 6thp. Enfield Combination, hood, screen, speedometer, electric light, first-class outfits, £140.—Thomsoo's Garage, Beehive Lane, Illord. [9625]

ENFIELDS.—Place your name on our list without delay, rotational delivery strictly adhered to, in premiums.—Bedford Garage, Walsall. 'Phone: 270.

E NFIELD, late 1915, 8h.p., electric lighting, hood screea, speedometer, first-class running order trial; spares; £125, near offer.—113, Old St., E.C.L.

19 19 21/h.p. Enfield 2-stroke, 2-speed, clutch accessories, as new, not ridden 600 miles; London district; £58.—Box 2,552, c/o The Motor

19 15 3h.p. Eafield, 2-speed, kick starter, complete with lamp, generator, horn, and accessor tyres as new, trial; £60.-48, Western Rd., Tri

NEW Enfield Combination, £185; new Rover combination, 200 gas.; 1919 James combination, wit lamps, etc., £145 -Box 385, c/o The Motor Cycle. [X752]

19 def.p. Royal Enfield, lamps, hora, Cowey, spart tyre, tube, spares, tools, excellent running order £115, or offers.—Warwick, Micklethwaite, Wetherby. 6 b.p. Enfield Coachbuilt Combination, full equipment, periect, ready for summer's touring; and trial; 100 gms., bargain.—Baker, Boot Mauniacture, Fishguard.

19¹⁴ Enfield, 3h.p., 2-speed, Mag engine, Bo mag., all bearing surfaces new, tyres good, lam pump, horn, very fast; ride away; £70.-62, Loud Rd., Worcester.

Gh.p. Enfield Combination, roomy sidecar, child seat, screen, aew heavy tyres, fully equippees spares, just done up; £105 lowest.—5, Grove RocChertsey, Surrey.

6 h.p. Enfield Combination (Dec., 1915), complete overhauled, electric lighting, Klaxon, fully is sured: £135.—Write, Williams, Glenelg, Groscone Rd., St. Alban's.

EM., 5t. Alban s.

ENFIELD Brand New Combination, only driven from works. Lucas magdynamo, lamps, tools, etc acarest \$230.—Coss, 71, South Side, Clapham Compo. 322 Brixton

2) hp. 1916 Twin Enfield, 2-speed, kick starter as clutch, nakers' leceint for £20 overhaul, lam set: £70, or offer.—F. Smith, 10, Redcliff Mew Redcliffe Gardens, Loudoo.

19 15 Royal Enfield, 3h.p., electric lighting se mechanical oiling, in thorough going order price 70 gus.; ride away.—Can be seen at Plomptor Garage, Knaresborough.

1920 Enfield 6h.p. Combination, ridden fro works only, P. and H. lamps; £170; seen Su day, otherwise appointment.—Coryn, The Nook, Wald Estate, Hornchurch, Essex. [96]

19 19 (June) Enfield 6h.p. Combination, screen, lamp speedometer, Kinson, unseratehed; reasonal offer; call or telephone Brixton 266 after 6 p.m. 175, Camberwell Grove, S.E.5.

ENFIELD 5h.p., 1915, new chain, footboards, saddled tank re-enamelled, smart machine, excellent coartion, complete with lamps: £55.—Write, H. Letwie 42, Alwyn Av., Chiswick, W.4.

E NFIELD Combination, 61.7, Bosch, lamps, horetc, excellent running order and condition, recently overhauld; £90, or offer.—Blondell, 30, we render Rd., Tulnell Park, N.19.

ENFIELD 1916 Combination, 6h.p., electric lighting and Lucas horn, Watford speedometer, luggagerid, very little used; any trial; \$140.-Dirug Store 13, Prince of Wales Rd., Kentish Towa. [997]

E NFIELD 3h.p. Two. 2-speed, clutch, kick sta delivered Jan., 1920, absolutely as new, riddea miles only; owner taking delivery another mochin 90 gns.—Purnell, 73, Regent St., Gloncester. [91]

ROYAL ENFIELD 1917 Combination, 6h.p., hood, lamps, wind screen, good tyres, exee ally fine eginc, appearance splendid, any trial; in ing insurance £150.—125, High St., Woodwich.

R NFIELD 6h.p. Combination, Nov., 1916, dynam lighting, speedometer, horn, wind screen by aproon, etc., good condition; £160.—Pulling's Garak London Rd., West Croydon. 'Phone: 1619.

ENFIELD Combination, J.A.P. engine, just or handed and repovated by makers, lamps, screeging, speedometer, all accessories, perfect conditional speedometer, all accessories, perfect conditional speedometers, and speedometers are speedometers. £120.—Any trial at 156, London Law, Allightin P. P. Fill D. 1918 6h.p. Combination, D.A. lightin L. Wind screen, Tan-Sad, spare tyre, tube a chain, very fast and reliable for a good tour; any tria£150.—R.P., 106, Fulbam Palace Rd., Hammersmit.

c58 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE. Enfield.

WAUCHOPE'S, 9, Shee Lane, Fleet St., Lenden,—
Sh.p. Royal Enfletd combination, 1917 model,
offer; also 1916 6hp. Royal Enfletd combination, and
1918 Royal Enfletd combination, ready for the read.
For Cellent order—Fair Offer Car House, 5, Heath
St., Rampstead (nr. Hampstead Tube Station).
Thane: Hampstead 3752. Hours 9-7, including Saturday.

ENFIELD 3h.p. Twin, 1916, 2-speed clutch, kick starter, mechanically perfect, excellent condition and appearance, mechanical Inheration, tyres nearly new; 262/10.—Greaves, 38, Ringerolt St., Holloway,

ENFIELD Combination, 1914, upused from 1915-1919, new tyres, electric lighting, speedometer, Lacas horn, wind serent, full kii tools and spares, ready any journey; £130.—Seen at Chequers, Barking-side, Essex.

ROYAL ENFIELD 25th.p. Twin, new Bosch mag., Amac carburetter and belt, horn, tyres good, perfect order throughout, ride away; hargain, 256, or very near.—Wright, South Normanton, near Alfreton, Derbyshire.

ROYAL ENFIELD 234h.p. twin, 2-speed, all chain drive, shaft driven magneto, lamps, horn, pump, armoured toolbag, etc., oramel, plating, and tyres good, peffect roaning order; £37.—M. Roberts, 55, Fairfield Rd, Bow, E.

2 h.p. 2-stroke Enfield, as new, re-enamelled, plated, etc., £68; molerslung chassis in stock, 4°; patterns, from £9]9 to £10/10; Reynolds chains in stock, all sucs.—Speedwell Motor Works, 136, St. Ann. Rd, Tottenham, N.15.

Dhp, twin Royal Enfield, 1916, M.A.G. engline, not big and small ends, thoroughly overhauled and that repairing Enfield celours, good trees, lamps, trial; £60.—Apply by letter, Worsley, 25, 8t. Contibut's St., Bedford.

1919 Enfield Combination, Dec., Sh.p., with Luces dynamo lighting set, practically new; 200 gns. also 1918 Metchles combination and accessories, good condition; £180.—Owner, 37, Langdon Rd., Upper Holloway, London, N.

ENFIELD Combination, 6h.p., 1916, complete with new P, and H, head, side, tail lamps, horn, laggage grid, hood, streen, and tools, in perfect condition; £140, bargain—Nielsen, 49, Garimoor Gardens, Southheids, S.W.19.

BNFIELD 6h.p. Combination, 1920, Lucas Mag-dynamo lighting, horn, complete with hood, screen, luggage grid, etc. mileage under 50 miles, con-dition better than new; best offer over £230 secures.— Apply, 8bo 2,519, c/o The Motor Cycle. [9533

ENFIELD 2-stroke, Enfield 2-speed gear, clutch, all into and rear, Stewart hern, Jones trip speedomer, cols, etc., late model, and in new condition; first 58 ass.—54, 8t. Charles \$40, Noth Kensungton, W.10. 19828

ENFIELD Combination, 6b.p., 1919*, mileage 275, stored during winter months, large elegant siderar with detachable childs seat, large eart Cape hood, screen, luggage grid, spêcdometer, horn, tools, sidecar mat, electric lighting, really good outfit; £175,-30, Classic Rd., Stoneycroft, Liverpool. [1191]

1919 (delivered November) Enfield for immediate with Watford trip speedometer, largest size P. and H. bead lamp, Luces rear, black discs, indistinguishable from new; price 280, no offers; no dealers—S. bladel, Chase House, Kingswood, Tadworth, Surrey, 1916. Burgh Heath 235.

ENTELL Burgh Heath 253.

[NYFELD 3 hp., 1919] (July), specially selected enterprise and the property of the pr

Excelsior.

EXCELSIOR 5-6h.p. Combination, splendid order; £85.-W. P. Edwards, Taunton. [95:5]

1920 8h.p. American Excelsior Combination, mileage under 150; £165 lowest.—W. D. Stobe, anglands, Wrexham.

Janglands, Wrexham.

ANCASHIRE, Cheshire, North Wales, Isle of Mac
L only—American Excelsior; enquiries.—J. Blake
nd Co., Official Dealers, Liverpool-Manchester. (6386

Q 20 British Exvelsior, Aden 2-stroke engine, 2-speed,
new, done 50 miles; cost 270 with spares, hest
for over £60.—White, Trenarren, Leckhampton, Chelsham.

"HE New 1920 American Excelsior represents the best value for money on the market. Book now for lity delivers, Fitted with Swan de Luxe sidecar, dwards and Parry, 4. Blenheim St., Bond St. Market 2666.

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Gamage.

GAMAGE, 1919, 2 speed, Villiers 25th.p., Amac, C.A.V., Dunlops, under 900; £60.—98, Underhill Rd., E. Dulwich.

Harley-Davidson

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[9572]

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-Kemp, 285, Finchley Rd., Hampstead. [9257]

LATE 1915 Harley-Davidson Combination, electric model, wind screen, recent thorough overhaul; seen evenings or week-end; £125.—Sellicks, Halling, Kent. [9587]

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HARLEY-DAVIDSON 1917 7-9b.p. Combination, mag. model, hood, side curtains, screen, 3 electric lamps, Klaxon, perfect condition; £160.—30, Crystal Palace Park Rd., Sydenbam. — [9855]

HARLEY-DAVIDSON Combination, 7-9h.p., 1915, Bosch umg., in excellent running order, tyres new, 3 speeds, hand chich, stored during war; £130 —Sbrubb, Alma Hotel, Walmer. [1166

HARLEY-DAVIDSON 7b.p., 1916, 3-speed, mag. model, with sidecar, bood, screen, lamps, etc.; £160.—Newnham Motor Co., 223, Hammersmith Rd., W.6.—'Phone: Hammersmith 80.

w.b.,—Phone: Hammersmith 80. [7898]

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1015 Harley-Davidson Combination, returned to-day from re-enamelling, plating, overhauling, n chains, sprockets, tyres, all spares, absolutely as ne £160.—Page, 8a, High St., West Bromwich. [99]

Harley-Davidson, 1920, flat twin sports model, electrically equipped, speedometer, pillion seat, 3 speeds and kick starter, only done 500 miles; £165.—Maude's, 100, Gt. Portland St., London, W. [9879

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19 20 Harley-Davidson Combieto, mag., Mills-Fulford sidecar, complete, speedometer, newly delivered, no milense, magnificent outfit; £225; owner bought car.—Tennant, 26, Weir St., Coatbridge, [X6919]

bought car.—Tenand, 26, Weir St., Commings, (ACL)

19 17 Hater-Davidson 7-91, D. Combination, electric model, complete set of intops, spare outer tyre and inner tube, all tyres practically new; seen any time; what offers?—Waugh, Glower's Farm, Sedgeford, Norfolk, 19168

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HARLEY-DAVIDSON 1916. page 320-251.

Mansform, W.-C., Norman and Markettin Land Allery-Davidson 1916, mag. model, Phoenix double sidecar, new rear sprocket, chains, valves, tappets, Klaxon, acetylene, trial by appointment, photo 3d.; nearest £145 (D),-A.R.C., 63, Shocters [11] Rd., S.E.3. "Phone: Greenwich 677. [9857]



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HäRLEY-DAVIDSON, 1919, electric model, coach built sidecar, Cowey speedometer, electric horn and lamps, aluminium diese to all wheels, Tan-8ad 3½1p. back tyre, Cameo screen, Harley tool roll mechanically perfect; owner taken delivery same model 1920; price 2200.—Richards, 15, Parkway, Wallasey Cheshire.

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speedometer, handle-bar maris, new Goodrae task trespare nunsed Falmer 3-ribbed tyre and tabe, milese
2,000, speelative condition, insured till July, best own
2200—Henry 22, Grosvenor Rd., Chiswick. Phone
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HAZLEWOOD-J.A.P. 5-6h.p., 3-speed Armstrong, K.S., French grev, black lined, new condition, £75.—Magnet Garage, Long Eaton, Notts. [1106] 275. Adapate Garage, Long Favour,

4 h.p. Hazlewood Twin J.A.P., lamps, speedometer,

and horn, condition as new, enamel and plate upscratched; 85 gas. 21, Ritherdon Rd., Balbam, S.W.

1914, 6-8b.p. J.A.P.

HAZLEWOOD Combination, 1914, 6-8b.p. J.A.P. 2-speed, Swan sidecar, sound condition throughout; bargain, 288.—Criffiths, 978, Kilburn Lane, 1963, J.A.P. 3-speed C.S., chutch, K.S., Cancelet sider; list price, £185; accept nearest to £170.—Saunden, Cycle Co., Chatham.

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H.B.—Special Agent, H. W. Boulton, Penn Garage, Penn, Wolverhampton. Call or write. [1365 H.B. 23b.p. Blackburne engine, 2-speed, kick from Joseph Devey and Co., 50, Darlington St., Wol-verhampton. Phone: 606.

verhampton. Phone: 605.

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start, Albion 2-speed, clutch, heavy Dunlops, hom,
pump, toolse, etc., thoroughly tuned by expert; hesoffer over £90.—H. T. Athelstone, Gullane, East Luthian,
[2053]

Henderson.

Henderson.

HENDERSON, 1919, Model Z. 10h.p., 4-cyl, 5-sped, with Rogers sidecar; £160.—Brill, 4, Barleycorn St., Wellhall, Etham, S.E.9. [923]

LANCASHIRE, Cheshire, North Wales, and Isle of Man.—Enquiries for Henderson 4-cyl, wanted, J. Blake and Co., Official Dealers, Liverpool-Manchester.

chester.

19 20 Henderson with Swan sporting sidear, disc wheels. Cowey born, speedometer, lamps (unlit), perfect condition, done 550 miles; price 2255—Marwelton, Lakeside Rd., Palmers Creat Harbands Phone: 528.

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X766

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1915 Headerson Combination, 2-speed, hand common distribution, 2 speed, and common distribution, 2 speed, 2

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H OBART 2%h.p. 4-stroke, mileage 4,700, splendiv running order, tyres, belt good, horn, lemps tools; trial; £35.—Brooklyn, Chadwell Heath, Esset (10 miles London).

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19 16 James 31th.p. Twin, 3-speed, been thoroughly overhauled; £80.—Shutes, 524, Alexandra Park

1 h.p. James and Sidecar, 2 speeds, F.E., accessories, splendid condition; bargain, £45.-1, Vastdule Rd., Forest Hill. [8970]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 1920 5-6h.p. James combination, twin cylinder, acludes necessories; offers. [1427]

JAMES 5-6h.p. Twin Combination, 1918 model, engine and gear box just overhauled by makers; price (140.—Warland, George St., Oxford, [1215]

JAMES 1919 Twin Solo, discs, fast, sporty; for Douglas combination, cash adjustment, or sell; 1100.—Box 2,532 c/o The Motor Cycle. [9546

1 h.p. James, Milford sidecar, all as new, lamps, spares, etc.; £105; owner bought car.—Seen at Vest's Garage, 42 Cranbrook Rd., Ilford. [9419] 1917-18 James 41, h.p. Combination, speedometer, hamps, etc.: £125.—Drever, Hazelerott, The trove, Finchley, N.3. 'Phone: Finchley 1331. [1217]

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14.h.p. James Combination, July, 1919, 3-speed
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110.—57, Kenbury St., Coldharbour Lane, Camber-ell,
18942.

1918 James Combination, 415h.p., 3 speeds, clutch, chain drive, fully equipped, little used, condition s. new: £118.-72, Longridge Rd., Earl's Court, endon.

19 20 T.T. James 31/2h.p. Twin, original Show machine, aluminum dises, lump, 2 generators, exceptionly fast; owner bought car; £120.—Prart, 170, Brompton Rd., S.W.3.

1915 44h.n. James, 3-speed, countershaft, clutch, waterproof Bosch, Senspray, chain-driven, coach idear, horn, lamps, smart appearance; 90 gns.—101t, 2, Kent Rd., Blackpool, [1115]

1918 319h.p. Twin James, discs, 110 m.p.g., lamps, lamps, horn, excellent condition, tyres good, T.T., ery last and sporty; 35 gos.—Soanes, c/o Greenwood ros., 74-5, Arches, Putney Bridge, London. [9713]

AMES 1914 Big Four All-chain Countershaft Cance-ter Combination, stored 3½ years, mileage under .000, very good condition, overhauled: £100 cash, no &rss.-Call after 6 p.na., or write A.J.P., 9, Copleston d., East Dulwich, S.E.I.5

[O19] James S-Sh.p. (Angust) Combination, 3-speed, cetar, foot and hand clutch, Cower hora, Cower speed cetar, foot and hand clutch, Cower hora, Cower speed cetar, foot and hand clutch, Cower hora, Cower speed cetar, foot and clutch combination of the cetar speed cetar file like the cetar speed combination of the cetar speed cetar for the cetar speed cetar for the cetar speed cetar speed

J.A.P. Cycle and Wicker Sidecar, 4h.o., 1919, ball bearing, Grado gear, Bosch, Amac, Palmer tyres, anlop belt, Klaxon, Saxon forks, not done 200 miles; 56.—Elizabeth Cottage, Longley St., Southwark Park d, S.E.I.

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[I428] H. Combination, 1515, guaranteed, twin Mag engine, Jardine 5-speed, and kick start, goar box, I cbain drive, Jancelet coachbuils didecar, nice aparance, last, powerfil, and fully equipped; price 55-136, Dalmally Rd, Croydon.

J.S.
S. 3h.p. Motor Cycle, lamps, horn, overhead valve, perfect; £30.-365, King St., Hammersmith. [9738 Kelecom.

25.—4h.p. Kelecom Combination, free engine, B. and B. carburetter.—Lacock, 26, Alexandra Rd., prosey, London. [9361]

Kerry -6h.p. Kerry, mag., in running order; £15.—Kerry, 60, Castle St., Trowbridge. [X7230

ERRY, 3h.p., acc. ignition, B.B., tools, good order; £15.-19, Almeric Rd., Clapham Junction, [9542

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LEVIS 23/h.p., 1916, Inlly fitted; £42.-54, Caval Rd., Mortlake. [X7186] 19 16 Levis, single speed, little used; £40.—10, Tanza Rd., Hampstead, N.W.3. [9694

LEVIS.-Popular models, in strict rotation.-A. Young and Co., Ltd., Newmarket. 10120 Crric Williams for early delivery of Levis.-Chapel Ash Depot, Wolverhampton. [X8626

LEVIS, 214h.p., new cylinder, piston, rebushed, accessories.—47, Ordell Rd., Bow, E.3. [8965 L EVIS, 1915, 2-speed, Amac carburetter, 2 lamps; 254.—Maudes', 100, Gt. Portland St., London

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19 16 Levis, 234h.p., single gear, disc wheels, long exhaust, good condition, all accessories; £40.—
Jones, 3. Market St., Lichfield. [X7231

FOR Sale, Levis, 1916, 2½h.p., perfect condition, lamps, and tools complete; £40, or offers.—Dicks, Dale View, Warminster . [1234]

L EVIS.—We strongly recommend, and can supply early, this famous 2-stroke.—District agents, The Walsall Garage, Wolverhampton St., Walsall. 'Phooe: 444. LEVIS 2½/h.p. 1920 Popular Model. - Viviac Hardie and Lane, Ltd., authorised agents, 24, Woodstock St. (off Oxford St.), Bond St., W.1. Phone Mayfair 6559.

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Phone: Briston 1964.

[1181]

M.C. 31/sh.p. 4-stroke Bosch mar., new belt, horn, pump, etc., perfect throughout; nearest £35-Daries, 46, Pool Rd., Newtown, Montgomeryshire. [1220] 31h.p. L.M.C., B.B.. Bosch, just overhauled. 22 enamelled, new Miller's head lamp, new belt; £35.—Richards, Kellauds, Hemyock, Devon. [8935

Marloe.

MARLOE Motor Bicycle.—Sole agents United Kingdom for the above. 3½h.p. 2-stroke motor bicycle, atted with clutch, 2-speed gear, and Precision engine; price 80 gms.

SUB-AGENTS Interested please apply, H. A. Saunders, Ltd., 230, Momment Rd., Edgbaston, Birmingham. Machines in stock. [6556

Marloe.

MARLOE 3/4h.p. Precision C.B. Combination; £108; ready for road; delivery now from the Eccles agents.—Barlow and Son, Monton Green, Man-chester. Tel.: 160 Decles. [9310

Martinsyde.

MARTINSVDE.NEWMAN.—Barnes Motor Garage
having been appointed special authorised serebts
can promise earliest possible deliveries commencing
next month.—Secretan and Mallet, Ltd., 149, Lowther
Parade, Barnes, S.W.13. "Phone: Hammersmith 1743.
[0140]

MARTINSYDE.NEWMAN Combination, the sea station of Olympia.—Book you order now for strict with J. Blake and Co., the motor cycle experts; 10-112, Blot St., Lirerpool, Britains Premier motor cycle saloon; also at Blackfriars St., Wetchtetter. (5536)

Matchless.

MATCHLESS 1920 Model H Combination, dynamo, ridden 1,000 miles; offers.—29, St. Leonard's St.,

CROW Bros., Guildford, West Surrey agents for this first-class outfit.—Matchless in name and nality. [3173

MATCHLESS 1920 Combinations: early deliveries.

—Pattison Bros., 29, Montford Place, Kennington, S.E.11.

1920 Model H Matchless Combination, as n 2200—Apply by letter, Waverley, Old Sh

19260
1920 Matchless, Model H.—To ensure delivery, send
enquiries, Clapham (Motors), King George St.,
Greenwich, S.E.10. [5094 detachable

Sh.p. Matchless and Sidecar, 5-speed, detachable wheels; £145.—1, Norwood Rd., Herne Hill. Phone: Brixton 1964.

Prone: Brixton 1964

MATCHLESS 8B, new 8h.p. J.A.P. eugine Swnn
Wandsdeen, screen excellent condition: £140.-28,

Sh.p. Matchless CB. Combination, 2 speeds, K.S.
perfect order throughout; £85.—Liodfield, Post
Office Rd., Crawley, Sussex.

19 19 Matchless Combination, 4 lamps, hood, screen, Tan Sad, about 3,500: £178/10.—Fraser, 4, Howletts, Herne Hill, London.

MATCHLESS.J.A.P., Gradua, 8h.p., 1913, accessories, excellent condition; offers.—Glengarry, Portsmonth Av., Thames Ditton. [1401]

rousmonn Av. Thames Ditton.

MATCHLESS, 8h.p., handsome sidecar, lamps, screen, tools, etc., first-class condition; 120 grs.—Ower, 90, Kilmoric Rd, S.E.23. [9495]

MATCHLESS 1919 Victory Model, Auster screen, spare wheel, lamps, good condition; 2165; htter, 7.—P. Towers, 192, Kew Rd, Richmond, S.W. [8892]

MATCHLESS.J.A.P. 1915 6h.p. Twin Conclubillt Combination, lamps, accessories; £100.—Arnold, 227, Midmoor Rd., Wimbledon. Tel.: 1300 Wimble-don. [9514

MATCHLESS 8h.p. Combination, J.A.P., Bosch, speedometer, lamps, spare helt and tubes, in perject order; £95.—Dimond, Bootmaker, Sutton at Hone.

Rent.

19 19 Matchless Combination, as new, Victory model, spring frame, spare wheel, hood, screen, all accessories, mileage 500; 185 gns. — 1, North St., (XY488

19²⁰ Matchless Model H Combination, Lucas and lighting set, legshields, waterproof a scarcely used; price £220.—Carter, 72, Northgate Gloncester.

MATCHLESS Combination, 1919, Victory model, Lucas lamp, horn, screen, hood, spare wheel, tyre, full kit tools, guaranteed P.M.O.; £165,-44, South Dock St., Duhlhr.

MATCHLESS-J.A.P. Combination, practically new, luggage and petrol carrier, with spare wheel, in perfect condition throughout; £180.—Hopwood, East Laithgate, Doncaster.

MATCHLESS 8h.p. J.A.P. Combination, almost new, 4 detachable wheels, lugage grid, Lucas lamps and hora, wants seeing; sacrifice £170—353. King St., Hammersmith.

MATCHLESS Combination, 1918, 8h.p., spare wheel, luggage carrier, new tyres, 3-speed countershaft, 3 lumps and horn (Lucas), just overhauled and re-enancelled; 4165.—6, Grange Rd., Rhyl. [1298]

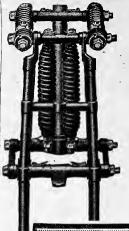
19 14 Matchless 5-6h.p. Twin J.A.P. C.B. Com-hination, 2-speed, kick start, just overhauled, new hack wheel, good tyres, spares; seen Schurday; 95 gns-82, Hermitage Rd., Pinsbury Park, N.4. [9175

MATCHLESS, 8B/2, Lucas electric light, speedo-meter, horn, hood, screen, detachable wheels, Model H forks, sprung sidecar wheel, spares, thorough going order; £185.—112, Herbert Rd., Plumstead, S.E.18.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—

8h.p. 1920 Matchless combination, detachable
wheels, spare wheels, accessories, ridden less than 500
miles, offers; also 1916 7-9h.p. M.A.G. Matchless, 11420

MATCHLESS New Spring-frame Model.—Orders model on view. Replacements for Matchless models of all dates in stock. Tassell, 1p, Bloomfield Rd., Plumathd, S.E.



Repeatedly spoken "the most Spring efficient Fork on the road"

and the continued increasing demand which we receive for it, amply justifies the assertion.

We have recently acquired additional factory accommodation to substantially increase our present large output, and the equipment of the new works for the manufacture of the BRAMPTON BI-FLEX is rapidly nearing completion.

Meanwhile we are unable to replace other makes of forks with the BRAMPTON BI-FLEX on privately-owned machines in view of our commitments to the large number of manufacturers who are using it as a standard fitment to their machines.

We shall be pleased to forward you our illustrated booklet fully descriptive of the features which have made this fork famous, on request.

Sole Makera:

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MOTOR CYCLES FOR SALE.

Matchless. MATCHLESS Combination, 1914-15, 7-9h.p. cagine, och.v., 3-speed, foot clutch, kick, lamps, horn, accessories, condition perfect; 130 offer.—15, Acacia Rd., Lordship Lane, Wood Gr.

MATCHLESS Model H Combination, dynamo Log, fully equipped. Book now for early de Authorised London agents; Vivian Hardie and Ltd., 24, Woodstock St. (off Oxford St.), Bond St. Thone: Moxfori (553)

19 Yictory Model Matchless (July), engine 254322, serceen, hood, spare wheel, We speeddmeter, accumulator rear and side lamp. Lucas head lamp, little used, any trial; £195.—Blacd, Wilmington, Darftord, Kent.

19 19 Victory Matchless, spare wheel, large and P. and H. 2 spare tubes, 2 spare Ch., spare chain, very latest type, adjustable spring 1 £160; after 6 p.m. -26, Marquess Rd., N.I.

19 20 Matchless Combination, brand new, dym speedometer, and every improvement, not ridden miles; too powerful for owner; best ofter over 225 Cortley, Hashemere, Bushey Park Gardens, Tedd

19 20 Matchless Combination, dynamo lighting spare wheel, all wheels interchangeable, in side ourtains and adjustable screen, delivered F not done 50 miles, and unscratched; price 2245; offers.—Teh.: 368 Sydenham.—Box 2;555, c/o The M. Cyole.

MATCHLESS Combination.—Book your orders Ross, 86. High Road, Lee, S.B., for 1920 gr frame 3b.D. Matchless combination. A model alon view at above address. Deliveries guarastricity as per order received. Retail prior as rulii time of delivery. A large assortment of accord motor cycles of all makes always in stocks.

METRO-TYLER, 1919, all accessories; £70.—(be seen 45, Clifton Rd., South Norwood. [9] EGERTONS, Northgate St., Ipswich, can give mediate delivery Metro-Tyler. Phone: 96

19 19 Metro-Tyler 2-stroke, 2-speed, hardly used new, sporting model; £65.—36, St. Thomas

METRO-TYLER.—Enquiries from Liverpool district invited by J. Blake and Co., 11 Bold St., Britain's premier motor cycle saloon. METRO 1918 2.stroke, 2-speed, lamps, horn, red, discs, long exhaust, Dunlops, sporty fast; £50, no offers; any trial; London district.

M ETRO-TYLER, Nov., 1919. 2-speed, disc long exhaust pipe, not ridden 300 miles, i fect condition, including lamps and horn; £63. shall, High St., Esher. Tel.: 50.

METRO-TYLER, single-speed model, disc whe Long exhaust, just overhauled by us and as ze new, usual guarantee given with same; £50.—TApparatus Co., Ltd., Banister Rd., North Kensing W.10.

METRO-TYLER 1919 2-speed 2-stroke, new Oct. Julies wheels, long plated exhaust, mileage is enauelling as new, Millers lamps, finished red, a lutely perfect condition; £50 (best offer over).—Pate War Office Despatch Rider, Westbrook, Kingsbur,

Minerva.

MINERVA 31/h.p., running order, good tyres; 2 -144, Esteourt Rd., Fulbom, S.W.6. MINERVA 3½h.p., perfect condition, just hauled; £30; seen week-ends.—12, Southbury Pouders End.

MINERVA 31/h.p., E.I.C., B.B., lamps, born, exclete lent condition, low, last; first £25 securea.—2 City Rd., E.C.1.

23h.p. Minerva for sale, just been enamelled 1 cylinder; £18, or best offer.—Jessup, 47, Ars. Cambridge. FOR Sale, 31/h.p. Minerva; £20, or exchange less than 2%h.p.—Daffern, junr., Hawk Foleshill, Coventry.

MINERVA, 1912, 4h.p., C.A.V., Mahon clut Mamps, low and sporty, good condition; £: Saturday afternoon or Sunday.—The Hut, Sunn Gardens, East Molesey, Surrey.

Monarch.

MONARCH 2Mh.p. Villiers 2-stroke, Albion 2-special gears, not done 100 miles; 265.—Roberts, Bl cathra Garage, Keswick.

Moto-Reve

MOTO-REVE Twin, good condition, overhauled, mudguards, mag., Brown and Barlow, Drui £25.—Smith, Castle Rd., Grantown-on-Spey. [X74]

Motosacoche.

MOTOSACOCHE, 2½h.p., recently enamelled plated, new appearance, excellent rong order, ride away; £30.—424, High Rd., Leyton [9]

c64 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

P. and M.

P. and M.

and M. C.B. Combination, 2 speeds, F.E., clutch, good tyres, satisfactory reasons for disposal; gift, 5; carriage paid.—Write, Sime, 17, Union Place, 2254

9 P. and M. Combination, makers' colours, very comfortable sidecar, lamps, usual accessives, £115.—107, Lydburst Av., Streatham Hill, mdon.

M., all enclosed chain drive, 2-speed, kick start, tools, spure chain, etc., excellent condition, gunries given; £75.—Roberts, 744, Woolwich Rd., Charl., 8,E.7.

i, and M., 1918, being overhauled, ready in a fort-night, perhaps less; £73.—The Minchia Engineer-Co., Ltd., 39. Penrhyn Rd., Kingston-on-Thams, Kingston 97.

aod M. 3½1.p. Coachbuilt Combination, sideor newly painted, all lamps, etc., ready to ride away faster; neurost offer, £130.—53, Garden Av., febam, Surrey.

19 P. and M. Combination, in excellent condition, 3 lamps, B. and B., E.I.C. mag., ready to ride ay; £125, or best offer.—Burgess, 4, St. Ann's Rd., edet Rd., Bow, E.S.

9 19 P. and M. Coachbuilt Combination, 3 lamps, tools, horn, hood, kick start, R.A.F. model, in callent condition; best offer over £100.—32, Brownfild, Manor Park, Essex.

19 314h.p. P. and M. and Mills-Falford C.B. Skiff Sideon, fully equipped, leantiful turnout, untached; £130; owner taking new G.N. car.—Holland, 9, Carholme Rd., Lincoln. [1375]

HELON-MOQRE, ex-military stores, overhauled and sent on approval; £78; Millord and P, and M, cears to suit, ex-stock.—Mandes', 100, Gt. Portland, 1 Loodon, and 100, Paris St., Exeter. [9874

1, and M. and Coachbuilt Canoelet Sideear, 2 speeds, kick start, new Dunlops, speedometer, Lucas aps, 2 spare inners, tools, and waterproof overalls; 0; evenings after 7 o'clock.—Scales, 39, The Drive, rd.

and M. Combination, 1919 model, purchased new Jan, 1920, Lucas lamps, horn, and tool kit, as ; 2120, or near offer; so, the combination of the com

P. and S.

P. and S.

AUCHOPE'S, 9, Shoe Lane, Fleet St., London.—
P. and S. 2-stroke 2-speed Models, Villiers engine, (15; also kick start model, £74; delivery from [1491]

ECO Sporting Combination, 1919, 2-stroke, 2-speed, cancelet minor sidecar, lamps, horn; £70.—
, Ashted Row, Birmingham. [1240]

Peugeot.

EUGEOT 5-6h.p. Twia, 2-speed, good running order; Bath district; £33.—Box 2,507, c/o The Motor [9322]

6h.p. Pengeot Combination, 2-speed; slight attention to gear hub; £35, or offer.—E. Elliott, ton, near Stamford. [X7048]

Precision.

RECISION Enquiries Invited by J. Blake and Co., the leading motor cycle experts, Liverpool and achester. [6582]

h.p. Precision, 3-speed, 1914, and wicker sidecar, water-cooled, in good order; £45.—F. Wilderspin, tteris, Cambs. 'Phone: 34. ttens, Camos. 'rhoue: 54.

RECISION 254h.p., overhauled, enamelled, Bosch,
Grado, drip feed, lamps, Klaxon: £40, or
—Mason, 4a, Tranmere Rd., Earlsfield, [9508]

-Mason, 4a, Tranmere Rd., Farianco.

'IN-PRECISION 35/h.p., chich, new cylinder, new belt, re-commelled, absolutely fine condition, as and horn; lowest £80.—Plowman, Murnhail, 19866

TTLE GIANT-PRECISION, 2-speed, in top-hole condition, 2!\(\frac{1}{2}\), \(\frac{1}{2}\), \(\frac{1}\), \(\frac{1}{2}\), \(\frac{1}{2}\), \(\frac{1}{2}\), \(\frac{1}\), \(\frac{1}{2}\), \(\frac{1}{2}\), \(\frac{1}{2}\), \(\frac

1 Kingston 97.
ECISION 35/h.p., 1915, Bosch, new back tyre and tube, lamps complete, recently overhanled, hancied horn, ride away; 255; Cheshire.—Box 2,479,
The Motor Cycle.

The Motor Cycle,

15 44(b.p. Precision Conchbuilt Combination appearance has new, variable gear, waterproof Booch,
pearance has new, variable gear, waterproof Booch,
Blaks confuretter, tyres practically new, lumps,
pump, tools, many spares, mileage 3,000 any
1255.—1, Ottello St., Liverpool.

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Premier.

EMIER 3½h.p., clutch model; £38.—Roberts, 54, High St., East Grinstead. [9780] h.p. T.T. Premier, 3-speed, new heavy tyres, all accessories; £60, or best offer.—66, Belgrave Watford. [9434]

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Proprietors - Erling L. Newborn Cobbett & Cedric Crosthweite

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The Leading South Western Motor Cycle Agency.

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1920 COULSON B, 4 h.p., Blackburne engine, 2-speed, spring frame. List price.

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1920 BLACKBURNE, 4 h.p., 3-speed, clutch. List price.

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1920 HARLEY - DAVIDSON, nearly new, fully equipped. £230.

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BALLARD'S MOTORS. 92, Gloucester Road. S. Kensington, S.W.7.

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MOTOR CYCLES FOR SALE.

Premier.

19 14 31/2h.p. Premier, 3-speed countershaft gear, complete with necessories; £55.—Barnett, Barnett and Co., Deal. [5702

31h.p. Premier, Bosch, B. and B., new heavy Dun-lops, overhauled; £35, or near offer. -336, Acton Lane, Acton. [1345]

PREMIER 2½h.p., Bosch, B. and B., adjustable pul-ley, just overhauled; £27/10.-91, Trentham St., Sonthfields, S.W.18.

Southfields, S.W.18. [9743]
S.H.p. Piemier and Sidecar, 3-speed, in thorough
2 maning order.—Seen, 17, Eluathan Mews, W.9,
Phone: 3768 Padd. [8927]

PREMIER 2%h.p., sound and efficient, condition and tyres good; price 38 gns.—Barrington, 14, Arandel Rd., Croydon.

PREMIER 1913 3½h.p. Wicker Combination, Armstrong 3-speed, clutch, Bosch, good tyres, lamps; 250.—31, Mayfield Rd., Gravesend.

PREMIER 1913 5-speed, clutch, and coachbuilt side-cur, lamps, hooter, speedometer, perfect order; £75.—Hare, 13, Loates Lame, Watford. [1050]

E75.—Hare, 12, Loutes Lane, various.

PREMIER 3'sh.p., clutch, Miller head and tril langs, hern, spleadid order throughout: £37; combination wanted.—Cambrian Villa, Charlton Kings, Cheltenham.

PREMIER (late 1914) 2½h.p., C.A.V. mag., just been thoroughly overhauled, condition excellent— B. S. Marshall, Ltd., 33-34, Foley St., W. 'Phone: Mayfair 5906.

11h.p. Premier, Dunlop tyres, nearly new, Bosch 22 mag., B. and B. carburetter (needs repair), good mechanical order, lest machine; £33.—Box 2.565, c/o The Motor Cycle.

PREMIER 3½h.p., 3-speed countershalt, with Mil-ford sidecar, excellent condition; £85.—Newn-ham Motor Co., 223, Hammersmith Rd., W.6. Phone: Hammersmith 80. [7900

PREMIER 3(sh.p. Coachbuilt Combination, counter-haft, 3-speed, clutch, K.S., wind screen, hood, lamps, accessories, excellent appearance; £85,-36, King David Lane, Stepney. [9923

10 14 Premier and C.B. Sidecar (reupholstered), 3½, h.p., 3-speed, K.S., good condition, 3 lamps, separate generators, horn, etc.; £80.—Martin, 51, Third Av., Dovercourt, Essex. [1235]

PREMIER 31/h.p., 3-speed countershaft, cbain-cumbelt and coachbuilt sidecar, speedometer, lamps, etc., excellent condition; £70-Longman Bros. 17, Bond St., Ealing. Tel.: Ealing 689. [1208

Bond St., Earing 605.

PREMIER and Sidecar, 1915, 3-speed, countershaft, kick start, new carburetter, piston, Bosch mag. new tyres, rebushed throughout, and in excellent order; £80, or nearest offer.—39, Argyle St., Northampton.—

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C. BERRY'S.-254h.p. Puch, variable speeds, Ruthardt mag., kick star; £26, a bargain.-125, Cacal Rd., Mile End, E. [9411

Quadrant.

QUADRANT 3h.p., coil ignition, good condition; £12.—Roberts, 54, High St., East Grinstead. [9781]

WAUCHOPE'S, 9, Shoe Lane, London.—New Ornstrant combination, 4½h.p., 1920 models; 5122/10, 142 h.p., Quadrant, 1914, 3-speed, re-enamelled and 42 plated, condition and appearance perfect; 565; evenings after 7.—22, Tagela St., Perry Hill, Capera, 19676

41.415h.p. Quadrant Combination, chain-driven, Shatumer-Archer 3 speeds, ridden twice; any trial willingly; what offers?—Searle, c/o Passmore, Okehampton, Devon.

2 1h.p. Quadrant, Bosch, B. and B., spring forks, 2 good tyres, belt, etc., bargain, £20; 2½h.p. J.A.P. engine, £5; atter 6 p.m.—E. H. Wilson, 124, Richmond Rd., Raynes Park. [1032]

10 9 Quadrant 4\(\frac{1}{2}\text{h.p.}\) Combination, B.S.A. 3-speed, kick starter, Bosch, aluminium foot-boards, Lucas lamps, mechanical horn, Service sidecar, splendid condition; any trial; 105 gns.—Williams. 25, Caistor Park Rd. Plastowy, London. [9255]

Radco

RADCO 214h.p., as new; £38; must sell.-Wright, 6, Hesketh Rd., Forest Gate. [9619

24 b.p. Radco, 1914, fair condition, good tyres; £26.
1037, Haydons Rd., Wimhledon. [1188]
10 Radco, 2-speed, C.S., naridden: what offers?—
Tralocke, 7, Corn St., Witney, Oxon. [9115]

RADCO, just overhauled, sporting model; any trial; what offers? After 6.30.—Crump, Taverners Terrace, Bayswater, W. [9459 MMEDIATE Delivery from Stock, new 1920 Radco
2-stroke 2-speed; list price, £60/10. — Walbre
Motor Works, Ely, Cambs. [X6705]

Radco.

RADCO, 1915, footboards, improved mudguards, tyres, belt, and condition good; lowest 30 gns.—
Box 2,583, c/o The Motor Cycle. [1322]

PADCO 2½h.p., Abion 2-speed, new Dunlop heavy back, front good, new bett, horn, lamps, accessories, fine condition, suit learner; £45.—36, Torridon Rd., Catiord, S.E.6.

Reading-Standard.

19 20 Reading-Standard 10b, p., full electrical equipment, not done 1,000 miles, carefully run in, perfect order throughout, condition as new; £180 cash.—Apply, Willis, 28, Priory Rd., Edgbaston, Birmingham.

Regal.

1914 44/h.p. Regal Green with Middleton Sidecar, water-cooled, 2-speed constershaft, clutch, chain drive, fully equipped, legshields, excellent condition, nearest £70.—Walling, Ham House, Upton-on-Severn.

REGAL-GREEN, Water-cooled Combination, 37456, mod 6 doubtershuft, 2 speeds, clutch, all-claim drive, 1919, mod 6 doubtershuft, 2 speeds, clutch, all-claim drive, 1919, mod 10 doubters and trial, 90 m, ps.; censuite berond, 280-6, Raddington Rd., Portobello Rd., Westbourne Park, W.10.

SEND postcard for particulars of Regent 5.7h.p. flat twin to us. We can give earliest deliveries of these machines.—Elliott Bros. and Stevens, Cambuelang Laaraksbire agents.

R ECENT 5-Thp. Flat Twin; deliveries commenc-ing April.—Full particulars from the Lancaster Motor Co., 158, Norwood Rd., West Norwood, S.E. Distributing agents for South-east London. [9223

kex. 19¹⁴ 8h.p. T.T. Rex. clutch, handle starter, fast: 470.-Woodgers, 507, Goldhawk Rd., W.12. [9809]

5 -6h.p. Twin Rex. adjustable pulley, Bosch E32/10.—25, Hawarden Rd., Wolthamstow, E17.

REX 31/26.p., B., and B carburetter, new tyres;

4 h.p. Rex. Dixie, Amac, recently overhauled; \$30.5 Bradnam, 76, Grauge Walk, Tower Bridge Rd., S.E. [959] WAUCHOPE'S, 9, Shoe Lane, London.-8b.p. twin combinations, 1920 models, early deli Rex

REX 5h.p., Bosch, B.B. pilot jet, spring forks, lamps, horn, tyres, good running order; £35.—Stanford. Shripney Rd., Bognov. [9085]

H.D. Rex., pood condition, Bosch, Druids, fast, pull sidecar; bargain, £29/10, must sell, no offers.—16, Gascoigne Rd., Barking.

6 8h.D. Rex., 1113, 2-speed, disc wheels, Bosch, rebushed, new valves, good goer; £70.—Lyndhurst, Westhill Rd., Cowes, L.W.

Westhill Rd., Cowes, I.W.

P. EX., 1914, 5 Sh.p., sporting sidecar, disc wheels,
Roc sears, good condition; £88.—Write, E. Noad,
7, Mount Aden, Pl., Dulwich, S.E.22.

1.D. Rex. Combination, Bosch mag, Senspray carburster, 2 speeds, handle start, lumps, etc., good
running order; £40, no offers.—50, Dudley Rd., Southall,

1. A. A. Dez Sh. Combination, Started community, 19804

1914 Rex 5-8h.p. Combination, 5-speed countershaft, in excellent order, with lamps and spares, thoroughly overhauled, a bargain, £85.—W. Haycock, Great Glen, Leicester. [9229

R EX 1913 5-6h.p. Coachbuilt Combination. 2-speed, handle start, electric lighting, speedcmeter, large roomy sidecar, with wind scdeen; very cheap lot, £60. -7, Recreation Rd., Sydenham.

6.8h.p. Rex. 1914, 2-speed, splendid condition, only done 4,000 miles, new Phenix sidecar; price £120, or nearest offer; send stamp for full particulars.—Geo. Weston, 1, Diamond Av., East Kirkby, Notts. [1046] REX 1914 8h.p. Combination, 2-speed, in splendid running order, take 5 up anywhere, 5 lamps, 2 generators, luggage grid, wind screen, spare belt, spare tyre, just been overhauled; £88.-8, Effra Parade, Brixton, S.W.

Rex-Jap REX-J.A.P. Sporting 6h.p. o.h.v. Twin, 2 speeds, free, handle start, dropped frame, enclosed Bosch, Senspray, speedometer, lamps, long exhaust, all in good condition; £65.—Pilot, Welshpool, Mont. [916.

6 h.p. Rex-Jap, 2-speed goar, all accessories, make first-class sidecar machine, splendid order; £68; apply after 6.30,-85. Calleton Rd., Tufnell Park, N.7. [9532]

1914 Rex-Jap Sh.p., 2-speed, all-chain drive combina-tion, 700×80 tries, speedometer, lamps, korn, Watsonian de luxe sideour, drop bulbous back and table, hood with curtains, 5-point attachment; £110.— 2, Hogarth Rd., Earl's Court. S.W.

Roc.

4 h.p. Roc and Sidecar, 2-speed, F.E., adjustable
pulley, handle start, Bosch, new tyres and beit,
stored 4 years; £38.-25, Sandchiff Rd., Erith,
[1086]

THE COVENTRY MOTOR

LONDON ROAD, COVENTRY.

"Selection, Coventry." Telegrams - -

1920 Models in Stock to-day March 11th.

Hazlewood-Jap, 6-8 h.p., combination Alldays Allon, 2-speed, kick-start, hand clutch. (2)

Clyno, 2-speed, hand clutch. (4) Matro-Tyler, 2-sp., discs, long exhaust. Metro-Tyler, 2-speed, long exhaust. Connaught, standard model, single speed.

Connaught, miniature model, 2-speed, kick-start, hand clutch.

Sun-Vitesse, 2-speed, Sturmey gear box, kick start.

Calthorpe, 2-speed, Enfield gear. Calthorpe-Jap, 2 speed, Enfield gear.
Ivy, 2-speed, kick-start, hand clutch.
Hobart, 2-speed.

British Excelsior, 2-speed.

Quickest Deliveries of INDIAN. SCOTT. HUMBER. P. & M. NEW IMPERIAL. ALLDAYS ALLON. CLYNO. HOBART. CALTHORPE. CONNAUGHT. ARIEL. EXCELSIOR. BAT. METRO-TYLER. WOOLER. ZENITH. HAZLEWOOD. ROYAL RUBY. SUN-VITESSE. N.U.T. LEA-FRANCIS.

> "CASTLE THREE" "PREMIER SUPER" Runabouts.

GRINDLAY. MONTGOMERY. FULFORD

CANOELET. MILLS-SIDECARS

in Stock.

COVENTRY MOTOR MART, LTD, London Road, COVENTRY.

"Selection, Coventry." Telegrams:

MOTOR CYCLES FOR SALE.

MARCH 25TH, 192

ROVER.-See H. Woods, Miscellaneous Motor column.

19 19 Rover, 3-speed, and sidecar.-J. C. Pick

31h.p. Clutch Rover and wicker sidecar, good £45.-F. Wilderspin, Chatteris, Cambs. 'I

2 1h.p. Rover, 3-speed, hub gear, clutch, T.T. tip-top condition; £55.—King, Egrove ROVER 31/2h.p., single-speed, Bosch, excellen dition, fast; £34.-66, West Side, Cla

19 W.D. 5h.p. Rover Combination, fully equ. 5135; London district.—Box 2,449, c./

1920 Unused Sports Rover, handle-bar Phill private owner; list price.—Box 2,527, of Motor Cycle.

 $\mathbf{3}_{2}^{\mathbf{1}}$ h.p. Rover, new Bosch mag., Druid forks, running order; £25.—Lindfield, Post Offic Crawley, Susesx. 19 14 31/2h.p. 3-speed Rover Coachbuilt Cor tion accessories; £70,—Write, 15a, F Rd., Kensington, W.14.

R OVER, 31/2h.p., clutch model, lamps, horn, seat, powerful, take 2 anywhere; £48, a 36, St. Thomas Rd., Hackney.

R OVER 6h.p., 1919, 3-speed combination; 2 Newnham Motor Co., 223, Hammersmith W.6. 'Phone: Hammersmith 80.

19¹⁵ Rover Combination, 31/h.p., 3-speed, ch new tyres, in splendid condition; 211 Boffey, 19, Church St., Swadlincote.

R OVER Combination, 1914 31/2h.p., 3-speed free engine, perfect turnont, in sound concerns.—Virgo, 156, High St., Honnslow. 23h.p. Rover, excellent running order, Rudhar and B., new helt, etc., insurance; after Russell, 34, Barrowgate Rd., Chiswick.

Russell, 34, ballowgale lad, dutaster.

R OVER Lote 1919 6hr, Twin, not W.D., 1

R—white, 121; Adelaide Rd, Chalk Form.

1912 3½h.p. Rover Combination, 3-speed, ca

tion; £70.—Middleditch, Marton, Chelford.

R OVER 1914 3/h.p., 3 speeds, B. and B., Brooks 170, Lucas lamp set, fully equippe good condition.—58, Church Rd., Upper Norwood.

19 19 Rover Combination, complete with lamps, and all accessories, in perfect condition; -Chandler, Reyre and Williams, Hitchin. Phone

ROVER 31/h.p., 1913, 3-speed clutch, pedal s Lucas lamps, horn, splendid order; Worcestershire.—Box 373, c/o The Motor Cycl

ROVER 31/2h.p., T.T. bars, C.A.V. mag., B.B. exhaust, good tyres and helt; first M.O secures.—Hollingshead, Pamber, Basingstoke, Ha

ROVER 1913 T.T. Model, Phillipson pulley belt, Bosch waterproof, powerful and starter; £48; Bedfordshire.—Box 9,551, c/o The Cycle.

ROVER Combination, 1917, 31/h.p., 3 speed of shaft, scarcely soiled, hood, spares, etc.; only wants seeing.—P. J. Hucker, Hillsbord,

BRAND New 5-6h.p. Rover-Jap Combin Miller lamps, mechanical horn, tools, valve \$190, or nearest.—Mottram, 85, Allesley Old Coventry. ROYER, 1914, 3-speed, clutch, lamps countries the Lucas horn, tools, stored 2½ years, ver and reliable, trial; £55.—Underhill Farm, lopposite station).

19 20 5-6b.p. Twin Rover Combination, last chain encased drive, complete Lucas lamporn, ready drive away; owner buying car; £22 Mickleton Rd., Coventry.

R OVER 1914 33/h.p., 3-speed hub gear and central engine just overhauled by makers, £50; sonian featherweight sidecar, Rusholme Rd., Putney, S.W.

Rusholme M.G., Fulney, S.W.

ROYER, 5-6hp, Twin 1920 Combination, as speed, ecclosed chains, 28.V3 tyres, horn, aprese, covernil: 190 gast, seen by appointment cock, Horacastle Rd., Boston.

19 is rower Combination, 5-6hp. J.A.P. especiometer, lamps, wind screen, lurgar firer, horn, pillion seat, appron, scarse, usual Church End., Finchley, N.3.

70.15 Rever. Combination 17.6.

10 15 Rover Combination, 31/2h.p., 3-speed combination, 51/2h.p., 3-speed combination, tools, pump, nice coachbuilt sidecar, 2 new and tubes; £110.—Oram, 60, Castie St., Troubr

6 h.p. Rover Combination, W.D., 3 lamps, B wind screen, luggage grid, leg shields, etc., good condition; owner gettiog heavier matrial, appointment; £165,—Sharp, Theydons Albans.

ROVER 1914 Combination, 31/h.p., 3-speed, clutch, carebuilt canoe sidecur, speedometer, 3 gas lamps, the bot in perfect running order: £55; any time after 5 peleok, except Friday und Monday.—3 status Rd., Sunbury. [9815]

BOVER 1919 34th, Dhilipson pulley, very fast, profest condition throughout, administration to consider the military throughout, administration to be made sure inner tube, military under 500, trini only time; £100, or near offer.—Lt. Builton, Whittington Barracks, Lichfield.

F-O.JI. have a 1919 31/hp. Rover and brand heve coach sidecar, 3-speed countershalt, clutch starter, fully equipped, as new, mileage under 300-pair Office Tar House, 5, Heath St., Hampstead (nr. Hampstead Tube Station). Phone: Hampstead 3752, Bours 9-7, including Saturdays.

Royal Ruby.

ROYAL RUBY 2-stroke, single, splendid condition; £30.—Box 2,567, c/o The Motor Cycle, [1329]

JACK HEALY, Cork, official Royal Ruby agent.— Rotational delivery. No premiums accepted. [6490

RUBY New 1920 21/2h.p. 2-stroke, Villiers; 48 gus. plus 10%.—Frank Whitworth, Ltd., 139, New St., Expso.

ROYAL RUBY Sh.p. Combination, not done 50 miles, lamps, horn, tools, unscratched; genuine argain at £170.—Woodard, Farnham Royal Nursery, Slough.

19 19 Royal Ruby 6h.p. Combination, new December, hood, wind screen, mechanical horn, low mileage, perfect condition throughout; any trial; £185.—Cole, 73, Old Chester Rd., Birkenhead. [9045]

75, Did Chester Rul, Dilkenheta.

170.C.H. have a Royal Ruby 2-stroke, Villiers engine, good order.—Fair Offer Car House, 5, Heath St., Hampstead (hear Hampstead Tube Station). Phone:

Hampstead 3752. Hours 9-7, including Saturdays.

Rudge

CROW Bros., High St., Guildford, Rndge agents, supply at list prices. [X7948]

RUDGES.—Early delivery of all models.—Bedford [5309] RUDGE, clutch model, good condition; £48.—Johnson, 333, Acton Laue, Acton. [9644

19²⁰ Rudge Multi 3½h.p., T.T. readster, brand new £120.-6, Blyth Rd., Worksop. [954]

RUDGE 315h.p., 1913, good condition, stored several years; £38.-137, High St., Aldershot. [1301]

19¹⁴ Rudge Multi, 1920 renovations, like new; £70.—Wood, Keighley Rd., Colne. [X7451 RUDGE Multi, 1913, splendid condition, stored during war; £45, no offers.—Boyle, Bidefold. [9118

RUDGE 3½h.p., clutch, lamps, etc., splendid condition; £55.-50, Eden St., Kingston. [1268]

RUDGE 31/h.p.; 47 gns.; 3-speed clutch; seen and tried after 6.-88, Haven Lane, Ealing. [1170

RUDGE Multi 31/2h.p. C.B. Combination; 65 gns.— W. Davis, 63, Trinity St., Berough, S.E.1. [1192 RUDGE Multi, 3½h.p., 1919, sidecar, horn, lamps: £115.—Wale, 7, Queen's Rd., Nuneaton. [X7438

RUDGE, 1920, multi speed, delivered this month, 200 miles only, perfect.—'Phone: Hammersmith

7-9h.p. Rudge Multi, absolutely in stock; £147, plus carriage.—A. J. Young and Co., Ltd., Newmarket. market. 19¹⁶ I.O.M. Rudge Multi, in splendid condition; £77.—Loweth, 6, Mount Pleasant Rd., Ealing, [971]

RUDGE Combination, coachbuilt, fine condition; Camberwell. Camberwell.

Camberwell.

31hp. Rudge, Brooklands, overhauled and enamelled, 2 all accessories; £53.–146, Southfield Ref. Chiswick, London.

120 31hp. TT. Rudge Multi, lamps, horn, and add, Weymouth.

31hp. Rudge Multi, with sporting sidecar, as new, complete with accessories; £95, or offers, 132, Becknock Rd., N.

120 31hp. Rudge Multi, with sporting sidecar, as new, complete with accessories; £95, or offers, 132, Brecknock Rd., N.

120 Thomas Rd., Hackney.

120 Thomas Rd., Hackney.

120 RUJGE 34hp., multi gear, clutch; £67/10.—Newnham Motor Co., £23, Hammersmith Rd., W.6.

120 Fhone; Hammersmith 80.

Spring is here



You can reap the full Spring's

Invigorating **Properties**

by fitting Ustikon Soles. They give Fresh Life

> to the boots and impart Energy

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We hope all our readers will not miss this chance of health and prosperity.



They are easily stuck on and gnaranteed to hold as firmly as rivets or sewing. Follow the instructions, you can repair your own boots, make them absolutely waterproof and knock 50 per cent. off your repairs bill. They last twice as long as leather. One great advantage is that boots are not ruined by repeated nailing, and by replacing Ustikon Soles the foundations outlast the uppers.

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Elite Rubber Co., Ltd. 264-266, Vauxhall Bridge Road, VI_TORIA, LONDON, S.W.I.

MOTOR CYCLES FOR SALE. Rudge.

19 20 Rudge Multi T.T., 3½h.p.; £111; first deposit gecures, Talbot Motor Co., Heron Court, Richmond, S.W. 'Phone: 1697. [9385]

RUDGE 3½ Multi, new Nov., 1919, used 200 miles, lamps, horn insurance policy, near London.—Box 2,521, c/o The Motor Cycle.

RUDGE Multi 5-6h.p. Coachbuilt Combination; £80, or nearest offers, for quick sale.-59, Colyers Laue, North Heath, Erith, Kent. [9685]

19 19 31/h.p. Rudge Multi, new condition, mileage 500, lamps, tools, and spares; any trial; 95 gns.—Henry, Moorings, Woodhall Spa. [9728

R UDGE Multi 3½h.p. Conchbuilt Combination, clutch, pedal starter, foot oiler, believed 1918 model; £85,-103a, High St., Wandsworth. [1386]

19 19 31/2h.p. Rudge Multi, I.O.M., and 1920 C.B. sidecar, disc wheels, sporty; £115, nearest offer.—1, Victoria Rd., Brighton. {1226

RUDGE Multi, Nov., 1919, 2 lamps, 2 generators, Klaxon, leg shields, tools, perfect; 100 gns., offers.—17, Kingsbridge Rd., W.10.

1920 3½h.p. Rudge Multi, all accessories, spare helt, not done 500 miles: £120, or nearest offer.—Davies, 56, Greaves Rd., Lancaster. [9151

R UDCE Multi 5-6h.p., 1920 model, hand clutch, lamps, etc., run 300 miles; £117; ae new.—Spurr, Bridge St., Earlestown, Lancs. [X7487]

19²⁰ I. of M. Rudge Multi, 3½h.p., Henderson coachhuilt sidecar, brand new; £135; after 5 p.m.—84, Valley Rd., Streatham, S.W.16. [X7350

R UDGE 3½h.p., 3-speed, clutch, cane sidecar, £60: also old 2¼h.p. Minerva, ladies' model.—Broad, 56, Hunloke Rd., Holmwood, Chesterfield. [1155

R UDGE Multi 3½h.p., 1915, rebushed, new Dunlops, Lucas lamps, guaranteed perfect; bargain, £85.— Hodson, The Beeches, Carrington, Boston. [9285

RUDGE Multi, 1917, 31/5h.p., C.A.V. mag., 650×65 tyres, lamps, excellent condition, small mileage; £74.—Maudes', 100, Gt. Portland St., Loudon. [9877

T. Rudge, 3½h.p., 1912 model, fixed engine, just overhauled at cost of £25; first money order for £40.—Chauffeur, Doyden, Port Isaae, Cornwall. (D)

R UDGE Multi C.B. Combination, new tyres, head and rear lamps, spare tube, and tools, in splendul condition; £75.—French, 12 Thrale Rd., Streutham, [1213]

WAUCHOPE'S, 9, Shoe Lane, London.-5-6h.p. Rudge Multi and sidecar, £110; also 3½h.p. 1.0.M. Rudge Multi, 1915, £90; another 1919 model,

RUDGE Multi, Oct. 1919, 314h.p., touring model, done 500 miles, excellent condition, genuine; £100; after 3 p.m.—Salshury, Birchwood, Sydney Rd., Condidord. [8532

10 19 Rudge Multi and new Swan sidecar, perfect condition, tyres unpunctured, lamps, speedometer, and horn; any trial; £130.—E.M., 8, Vallance Rd., Hove. (X7355 meter, and Rd., Hove.

RUDGE Multi 31/sh.p., in perfect condition, enameling and plating as new, any examination; 70 gns.; would exchange lower power.—13, Vernon Rd., East Sheen.

19 (late) Rudge Multi, 5-6h.p., C.B. sidecar, screen, not done 200, guaranteed as new throughout, private owner; £135 cash; Kent.—Box 2,551, c/o The Motor Cycle.

R UDGE Multi, 3½h.p., clutch; 65 gns; just hack from makers, every part replated, enamelled, and overhauled; good as new.-24, Newton Rd., Cricklewood, N.W.2.

9 1h.p. Rudge Multi Combination, in splendid con-dition, very little used, subject to any examina-tion: £110.—H. B. Davis, 12, Cokeland Place, Cradley Heath, Staffs. [9929

10 19 (Sept.) 3%h.p. Rudge Multi, carefully ridden, mileage 500, new condition, spare belt; price 95 gus.; after 7 or week'end.—H.C., 18, Whitburn Rd., Lewisham, S.E.

RUDGE Multi, 3½h.p., 1915, Rudge coachbuilt side-car, accessories, stored 3 years, condition per-fect: £85.—5, Leighton Buildings, Westminster (near Millbank Hospital). (X7453

The Translate May the Translate May 1914, thoroughly renovated, full specification and schedule of spares on application; £55, or close offer.—10, Worbeck Rd., Aherley.

RUDGE Multi, 1916, excellent condition, hand clutch, 2½ tyres, Senspray, lamps, horn, new spare helt, exchanges; £72.-8, Atheniay Rd., Irydale, Nunhead, S.E.

10 16 355h.p. Rudge Multi, perfect, new hack wheel, piston, valves, bearings, tyres, lamps; £75; exchange countershaft Triumph, cath adjustment.—A. Knill, Queen's Crescent, Exeter. [9939

RUDGE Multi 3'3n.p., practically brand new, ridde n 500 miles, absolutely unscratched, unpunctured, extremely fast, P. and H., Lucas horn, knee-cript. ±105.—206, Cavendish Rd., Balham, S.W.12. 1033

MOTOR CYCLES FOR SALE. Rudge.

CENUINE Isle of Man Bacing Rudge Multi, tuned for high speed, and used only by expert, all accessories, guaranteed condition, £88; 22/a.p. Douglas considered in part exchange.—Box 2,582, c/o The Motor Carlo.

32 h.p. Rudge Multi, clutch model, August, 1919, tyres, belt, and the whole machine as new, mile-age per speedouater 1,470; will accept £92, or nearest offer for quick sale.—Charles Devey, Wolsingham, Co. Durham.

F.O.C.H. have a 1914 Rudge Multi 3½h.p., excel-lent order, fully equipped.—Fair Offer Car House, 5, Heath St., Hampstead or., Hampstead Tube Station), 'Phone: Hampstead 3752. Hours 9-7, in-cluding Saturdays. (3506

MULTI 3½h.p., many new parts, rebored, rebushed; tank enamelled, tyres ex-inners unpunctured, lamps, horn, pump, specdometer, etc., a reliable mount, very carefully used; £67.—Salmon, Stationer, Sydenham. Phone: 375.

F.O.C.H. have a 1919 Rudge Multi and Sidecar, 3½, h.p., small mileage, fully equipped, excellent order.—Fair Offer Car House, 5, Heath St., Hamp-stead (nr. Hampstead Tube Station), Phone: Hampstead 37bc. Hours 9-7, including Saturdays. [8507.

RUDGE Multi 3½hp., late 1914, clutch, C.A.V.,
Rushard Multi 3½hp., late 1914, clutch, C.A.V.,
Benspray, very sound condition, recently overhauled by makers with all necessary renewals, last
excellent climber, reliable, easy starter, good appearner, speedometer, lamps, horn, mirror, etc., spare
valves, tube, plug, etc., all new since October, complete; £70; solid value; after 2.30—1, Kingsfield Rd.,
Bushey (ar. station, L. and N.W.R. or Bakerloo).

Scott.

SCOTT, 1920, brand new, in crate; offers.-SCOTTS.-Place your order now with the Bedford Garage, Walsall. 'Phone: 270. [5308

SCOTT 1914, just overhauled, first-class condition, new Binks; £55.—42, Alma St., Taunton. [9887 SCOTT 33/h.p. C.B. Combination, perfect condition; £35.-103, Choumert Rd., Peckham, S.E. [9683

SCOTT, new, owner taking delivery A.J.S.; first cheque secures; Nottingham.—Box 2,443, c/o The Motor Cycle. [9036

Motor Cycle.

SCOTT Combination, C.B., B.B., Bosch, just overhauled, grand condition, perfect; £115.—Howgego, 74, Faircross Av., Barking, E. [1285]

SCOTT, 1915, new Binks, just heen thoroughly overhauled (cost £15); £80, near offer. — 151, Northcote Rd., Wandsworth Common. [8962]

SCOTT, 1913, perfect order, excellent appearance, good tyres, good compression, late Binks 3-jet, all accessories; £60.-114, Woodstock Rd., Oxford. [1102] SCOTT, 1914, recently thoroughly overhauled and all worn parts replaced with new; owner going abroad; £60.—Gordon Armstrong, Beverley. [8990]

SCOTT 5%h.p. and Sidecar Chassis, 2 speeds, kick start. Binks, Bosch, lamps, and spares; £45.—Crescent Engineering Co., St. Aane's-on-Sea. [X7343] SCOTT, new 1919 (October), discs, electric lamps, horn, splendid condition; best offer over £115 secures.—G. F. Sloan, 14, Athole Gardeus, Glasgow.

Dhorn, splendid condition; best offer over £115 secures.—C. F. Sloan, 14, Athole Gardens, Glasgowa Scott T. 1916 Combination, good condition; program of the secure of the

Toodon district.—Box 2,477, clo The Motor Cycte, 1919 rull 150 miles, absolutely perfect, every incessory, meluding East-ings wind screen for sideour; £195.—Mess Bergeaut, Officers' Mess, Queen's Biniucks, Perfix Goodyn, 1919, electric lighting, disc will 150 miles, and perfect condution; £120, or nearest offer. Also coachimit sporture sideour winds discovered to the conduction of the co

Caster.

COTTS. Scotts. Scotts.—E. W. Ball, 6, Wheeley's
Rd., Edghaston, Scott's Birmingham agent. 1
will show you anything worth knowing about Scotts
you buy from me, and give you shoolute confidence in
your moant.

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was greatly exprecuted by
Newcostle-upon-Tyne, 1-2-1920.
"Thank you very much for your letter
of Jan 28th, and for the yood wishes
which I appreciate very much. Your
gonerous treatment is very a different to
the way I have been treated by others,
and in future! shall have no hes diction
in placing all my orders with you."

Durham, 5-2-1920.
"I am very pleased with your straighttorword business methoas and your
courteous attention to postal clients."

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> "SKOOTAMOTAS" Delivered from Stock.

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MOTOR CYCLES FOR SALE.

Singer.

2 3h.p. Free Eugine Singer, Bosch waterproof, Se 4 spray carburetter, Miller lighting set; ride awa £35, or nearest offer.—H. Knighton, Woodford, Thre

1912 Singer, Bosch, fine goer, stored since 191. Staumore, Middlesex. [99]

4 1h.p. Singer, 2 speeds, countershaft, clutch, ped 22 starter, with-special wicker Montgomery sides complete with Lucas herr, lamps, and accessori overhauled last December; £70, no offers.—Burnhæ Cranbrook.

Sparkbrook.

SPARKBROOK Lightweight, fitted with Villiers 2 h.p. 2-stoke eegue; cash £60/15, or on Harry system of easy payments 4% extra,—Harrods Mot Showrooms, 116-118, Brompton Rd. (opposite Ma Building), Londou, S.W.1.

2 h.p. Sun-Villiers, 2-stroke, lamp, hora, etc.—Picking, Mardol, Shrewsbury. [X75] SUN-VITESSE, 1915; 2%h.p., 2-speed, 2-stroke, ri-away; first £40.-36; St. Thomas Rd., Hackne

Sun-VILLIERS 2/Ab.p. 2-sticke, very hot stuff, riaws; £3710.-105a, High St., Wandsworths, 23710.-105a, High St., Wandsworths, 240.-Windsor, 2; Hannen Rd., West New S.E.27.

SUN-VILLIERS, 1915, single speed, engine over hauled makers; £34, or offers.—120, St. Paul Rd., N.W.1.

41h.p. Sun-Precision and Sidécar, just overhaule 41 in good running order, Binks carburette speedometer; £80.—Foster, The Elms, Kempsto Beds. [95]

SUN-VILLIERS 25/h.p., semi-T.T., fast, aud w guanantee perfect throughout, tyres unpaneture Lucas lamps and horn, mudshield; 422. Douglas wantee -Feinside, Olleibarrow Rd., Hale, Cheshire. [923

SUN-VIFESSE 2/3hp. 2-stroke, late [December] 19: model, mileage very small, in excellent condition lamps, spare tyre, spare belt, and accessories; first often £45 secures.—W. H. Lomax, 12, Guedrey Terrace, & bergh, Yorks

Sunbeam.

SUNBEAM, 31gh.p., 3-speed, W.D., good condition £80,-56, High St., Tooting. [899]

SUNBEAM Combination, complete, lamps, etc.—J. Pickering, Mardol, Shrewsbury. [X756]

19 15 31/2 h.p. Sunbeam; £90.—J. Smith and C 16; Hampstead Rd., London, N.W. [98]

19 20 Sunbeam Combination, very latest model; pri

19 14 31/h.p. Sunbeam Combination; £85.—J. Smi and Co., 16, Hampstead Rd., London, N.W. WAUCHOPE'S, 9, Shoe Lane, London.—31/2h.p. Sunbeam and sidecar, offers; also 1919 n

offers SUNBEAM 6h.p. Combination, bood, screen, swheel, mudshields, accessories—Parkar's Bradshagate, Bolton.

4 h.p. Sumbeam, 1919, 83 m.p.g., lamps, horn; spervalves, tubes; £115.—50, Alexandra Rd. Sout Manchester.

21h.p. Sunbeam Combination, as new: £14 2 Maudes' Motor Mart, 100, Paris St., Exe 'Phone: 933

SUNBEAM 25(h.p., 2-speed, hand clutch, kick sta P.H. lamps; £75; after six.-21, Moiser R Streatham, S.W. [92]

1919 Sunheam Combination, 41/th.p., fully equipped perfect condition; £163.—8c, North End R Golders Green.

19 20 314h.p. Sunbeam, Cowey horn, not ridde Birmingham district; offers.—Box 2,584, 7 The Motor Cycle.

SUNBEAM 234h.p., 2-speeds, good condition; Sofier £65.-2, Douglas Ter., Summer's Thames Ditton, Surrey.

SUNBEAM Combination, 1920, 8h.p., brand m fully equipped; what offers?—Apps, 12, Stan Gardens, Hampstead, N.W.

SUNBEAM 1918 31/2h.p. Combination, Millford & Car, 2 lamps, Smith's speedometer, splendid edition; £175.—Maudes' (below).

SUNBEAM 23/h.p., 2 speeds, kick starter, che drive, Bosch, Senspray, lamps, and horn, splent lightweight; £76.—Maudes', 100, Gt. Portland London.

19¹⁹ Sambeam, all chain, Lucas equipment, rester sprocket; £135.—Bruce Church, N Springs, Billing Rd., Northampton. SUNBEAM 25th.p., Bosch W.T. mag., kick star 2-speed, clutch: best offers over £90.—Bould The Garage, Penu, Wolverhampton.

Sunbeam.

19¹⁴ 2³4h.p. Sunbeam, first-class order, new kick starter, Sterling guards, undershield, etc.; 27.—Verity, Longfield House, Hatfield, Herts. [X7337] UNBEAM 31/2h.p., T.T., black and gold, fitted special S.A. gear box, everything new; 2120.—
19ink, 52, Brodrick Rd., Wandsworth Common. [9379]

1918, St. Brourex ret., Wandsworth Common. 19379 19 Supbonn 4h.p., claim-cual-belt Transmission, the het offer,—94, Knighton Chard Rd, Leicester, the het offer,—94, Knighton Chard Rd, Leicester, UMBRAM, late 1919, 8h.p., coachbuilt sidecar, black and gold, Easting wind screen, mechanicar, nardly soiled; £210.—294, Keunington Park, S.E.H.

Ahn, Sunbeam Combination, 1916, 3-speed, clutch, K.S., Rennec C.B., sideent, lumps and horn-Im-berial Garage, Woodthorpe Rd., Ashford, Middlesex, Phone: \$2.

10 17 Sunbeam 314h.p., No. 4732, black and gold, 3-speed, K.S., large F.R.S. front, Lucus back, exsellent condition; offers over £100.—Newrit, Eaton Villa, Market Drayton. [9464

Market Drayton.

SUNBEAM Mills-Fullord Combination, 1914, 3½h.p.,
magnificent condition, discs, Lucas lamps, foorn;
£110 lowest; seen only.—22, Sandbourne Rd., Ward
Edd, Birmingham (X7488

SUNBEAM 1914 6h.p., Mills-Fulford conclibuit sides Cur, very little used, equal to new, with all neces sories; any trial: £150.—A. McKibbin, Kents Green, Taraton, Glowester. 3h.p. Subeam, 2-speed, clutch, kick start, lamps, 4 horn, speedometer, etc., good tyres, very little ridden, spleadid condition; 80 gns.—Sandfield Cot-lage, Esher, Surrey.

19 3 h.p. Sunbeam de Luxe Combination, electrically equipped, spare wheel, just overhauled; seen any time by appointment; £200.—J.W. Oakfield Park, Dartlord.

21h.p. Suarkani, late 1914. Gloria sidecar, foot 22 warmer, inggage grid, recently renovated, Lucas quipment. Stewart speedometer, perfect; £110.-4. Leiesster Rd., Newport; Mon. [9515]

Lefecter Rd., Newport; Mon. 1920 Sunheam 3½h.p., black and gold, unridden, as the property of the property of

Shp. Sunbeam Combination, Sept., 1918, extra large sidecar, spare wheel, tyre, Lucas lamp and post norn, for sale to best offer this week.—Thompson, totato merchant, St. Peter's St., Ipswich. [1247]

UNNEAN 35-6b.p., October, 1919, spotting Cancelet wind screen, currier, all lamps, Cower speedura und Klakon, handle and knee-grips, extremely smart serfect condition; £165.—Sharrow, Lickey, Bromscrove [X751]. SUNBEAM 1916 Combination, 4h.p., had clutch K.S., black and gold finish, all chain and little il bath, full equipment, exceptional turnout; £150. -Birmingbam Vulcanising Co., Key Hill, Hockley, Urmingham.

31b.p. Sunbeam 3-speed Countershaft, kick starter, Canoelet C.B. sidecar, 3 Lucas lamps and generars, mechanical condition and finish perfect: any exmination; best offer.—Roper, Wellesley Rd., Rowbarn, Taunton.

UNBEAM Sh.p., Oct., 1919, combination, Grindlay double spring sidecar, hood, screen, luggage and etrol can carrier, spare wheel and tyre, lamps and orn; photo by request; buying car; East Kent—Box. 557, e/o The Motor Cycle.

857, to The Motor Cycle.

WINDEAM 3/5.p., with Bramble sideour (enclosed)

Springing, service green finish, double fank, semiT, burs, mudshields, speedmeter Lucas electric head
th, electric Klaxon, etc., in fine condition; nearest
160—Box 367, clo The Motor Cycle.

[X7284]

Gli 3/4.p. Sunbeam Combination, lamps, horn,
speedometer, electric lighting, sideour, screen,
od, watch; £140, no offers; seen after 6 p.m. and
et 1 p.m. Saturday; reason selling, 1820 model
age delivered.—Lombard House, Lombard St., Lichding delivered.—Lombard House, Lombard St., 1840

[S668]

9 20 (Merch) Sunheam Combination, 3½h.p., inter-9 changeable cycle wheels, Lucas gas sets and horn, rto wind screen or (not both) Sunheam, 1919 (late), 4h.p., little used, Grindlay sideent, Cameo wind acreea, 3 lamp sets, horn, Brooks saddle-rest, perfect outfitz, et ofhers over makers' price.—Sunheams, 137, Mid-old Rd, Bedford.

od Rd., Bedford.

9 26 Shp, Sunbeam and Sunbeam de Luxe Sidecar,

9 with £32 worth extras, including electric light5 lamps and accumulator, spare wheel and tyre
fer nacd, wind screen, electro plated discs to all 4
eds. Riaxon horn, etc., carefully used 1 month, astailing, Warichand, Derset.

1948.

Swift.

WIFT 31/2h.p., m.v., Amac, mag., £25, ride away; light coach sidecar, £8/10.—122, Gipsy Hill, 19512

I.D.C. 4h.p. Coachbuilt Combination, 3 clutch; £75.—10, Royal Parade, Dawes lham, London.



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2³/₄ h.p.

Silver and blue tank.

65 Guineas.

30 Guineas down, and 12 monthly payments of £3 10s. 6d.

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DOUGLAS

Combination, guaranteed. 100 Guineas.

50 Guineas down, and 12 monthly payments of £5.

8 h.p. W.D.

NEW IMPERIAL

Combination.

£145, or

£75 down, and 12 monthly payments of £6 14s. 2d.

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ROVER-J.A.P.

. Combination, guaranteed.

£145, or

£75 down, and 12 monthly payments of £6 14s. 2d.

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LAMB'S

151, High St., WALTHAMSTOW.

'Phone: 169 Walthamstow. 'Grams: "Cyclotomo, Phone, London."

50, High Rd., WOOD GREEN, N.22 'Phone: 1956 Hornsey.

387. Euston Road, N.W.1. 'Phone: 4978 Museum

MOTOR CYCLES FOR SALE.

T.D.C.

23h.p. T.D.C., 2-stroke, brand new Amac, E.I.C., brands; first cheque nearest ±40; exchange 3½ h.p.-Shuffrey, 12, Lathbury Rd., Oxford. [9752]

T.M.C. 8-10h.p. Combination, 4-cyl., w.c., 3 speeds, shart drive; £95.—W. P. Edwards, Taunton. [9574] T.M.C., 1914, 4-evl. water-cooled, 3-speed, spring frame, C.B. sidecar, hood and screen; £100.—Woodgers 307, Goldhawk Rd., W.12.

Trlumph.

T.T. Triumph, clutch, Bosch, lamps, good order,-7, Nelson Rd., Wimbledon, [1167] TRIUMPH, countershaft, new condition, late model; £78.-70, Baring Rd., Lec. [9688

TRIUMPHS, from £85.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., S.W.3. [8601 TRIUMPH, countershaft, in first-class condition, exceptional bargain, £77/10,—Below.

TRIUMPH, 1914, 3-speed, lamps, etc., this machine has been well kept and is in excellent condition, ready for any tour; bargain, e70.—The Minchiu Engineering Co., Ltd., 39, Penrhyn Rd., Kingston-on-Thames, Tel.; Kingston 97.

TRIUMPH, 1917, in good condition; £75.—262, Blackhorse Lane, Walthamstow. [9928 19 13 Clutch Triumph, good running order; £46.— 8, Meanley Rd., Manor Park, E. [9387 a TRIUMPH Clutch Model Combination, lamps, etc.; £46.—C.S., 14, Swaton Rd., Bow, E.3. [9672

19 18 Countershaft Triumph, in fine condition; £81, Dally, 84, Doyle Gardens, Harlesden. [8961 TRIUMPH 3'2h.p. Clutch Model, splendid £45.-F. Bailey, 7, London Rd., Redhill. order; TRIUMPH 3½h.p., re-enamelled, new wheels, tanks, etc.; £35.—Webb, 30, High St., Hampstead. [9847

BABY Triumph, 1915, 2-speed, perfect, accessories; £55.—Laws, 8, The Villa, Charlton, S.E. [1003 19¹⁷ Triumph Combination, C.B., as new through-out.—Faulkner, 7, Linda St., Battersca. [995&

3-SPEED Triumph, clutch, good tyres and lamps.— Lindfield, Post Office Rd., Crawley, Sussex. 19 13 3'4h.p. Triumph, good order, lamps, Philipson; 235; seen after 6.—10, Clapham Rd., S.W.9.

19 Trimmph 4h.p., best accessories, 7 months stored, perfect; £110.—Box 2,549, c/o The Motor Cycle. [1308]

TRIUMPH 31/dh.p., 3-speed, Bosch, excellent condition; £55.-66, West Side, Clapham Common. [9563 19 12 Clutch Timmph, in good order, lamps, horn; 245.–F. Wilderspin, Chatteris, Cambs. 'Phone: [9401

TRIUMPH 4h.p., countershalt, enamelled and plated as new; £90.-40, Replingham Rd., Southfields, S.W. [9705

TRIUMPH, 314h.p., 1912, clutch, engine rebushed, perfect; £45.-23, Jupiter Terrace, Well Hall, S.E.9. [9337 TRIUMPH Motor Cycle, in good running order £40.—Apply, 4, Amos Rd., The Grove, Hammer smith.

mith. 1911 Triumph, F.E., recently overhauled, lamps, tools, spares; appointment.—Homestead, West Bergholt, 19145

Essex.

1917 Countershaft Triumph, condition excellent, very fast; £87.-61, Glenesk Rd., Eltham, [1082]

S.E.9. 1919 Countershaft Triumph, practically new; £90, or near -374, Grove Green Rd., Leyton-[9987] stone.

31h.p. T.T. Triumph for Sale, in first-class of tion; £38.-47, Edith Rd., South Nor condi-S E 25

1914 Triumph Combination, complete spares, 3-speed, excellent order; 65 gbs.—Bowerbank, High St., Corsham. [9523 TRIUMPH, fully equipped, heavy Dunlops, fine con-dition; bargain, £38.-1a, Redeliffe Rd., Ken-[1253]

sington. sington.

TRIUMPH 315h.p., clutch, 1912, in good condition,
240; wicker sidecar, £5.—H. H. Gaffer, Cotton,
Stowmarket.

197407 19 dition; £50.-Apply, 17, King's Rd., Edmonton, W.18.

NEW Junior Triumph, ridden 400 miles, all accessories; what offers? Appointment.—77, Wellington Rd., Enfield. [9764

Rd., Ennetd.

19 16 Triumph Combination, 3-speed countershaft, lamps, excellent condition; 100 gns.-63, Solon Printen. [1061]

TRIUMPH, late 1919. T.T. model, done 300 miles, equal new; £90.—Bate, Harrow lnn, Culcheth, nr. Warrington.

BEAUTIFUL Countershaft Triumph, 1917, almost new, mechanical horn, etc.; £87.—78, Edgell Rd., Staines, Middlesex. [9169]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. P39

xiva.

MOTOR CYCLES FOR SALE. Triumph

NEW Triumph Junior, 150 miles, complete lamps, horn, registration, etc.; 68 gus.—Worboys, Saffron Rd., Biggleswade. [8653 encedo-

BABY Trimmph, 1914, 2-speed, overhauled, sp. meter, lamps; best cash over £50.—28, Gross Rd., Chiswick, W.

1924 Triumph, clutch model, new tyres and pulley, is good coadition; £40.—H. Deering, Forrest-

field, by Airdrie.

[9697]

[7RIUMPH 31½hp. C.B. Combination, 2-speed, F.E., splendid condition; £45.—94, New River Crescent, 19234

[9234]

[7RIUMPH, 1920, under 50 miles, C.B. sidecar; £165.—C.lfiford Wilson Mg, Co., 70, Royal Hospital Rd, S.W.3.

[7RIUMPH 19]

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TRIUMPH Combination, C.B., 1914, 4h.p., 3-speed, privately owned; 75 gns.—Leedom, Fire Station, Commercial Rd, E. [9613]
WAUCHOPE'S, 9, Shoe Lane, London.—215h.p. Raby Triumph, 265; also 1912 5/5h.p. Triumph, 2-speed, fice engine; 265.

TRIUMPH, 1918, countershaft, 3-speed, perfect condition; £80; appointment.—13, Bloemfontein Rd., Shepherd's Bush, W. [9027]

Shepherd's Bush, W. - [9027]

C45,—3½hp, 3-speed Triumph, K.S., clutch, T.T. bars, perfect: any trial.—58, Lilac Grove St. Laisterdyke, Bradford. [X7315]

19²⁰ Triumph, brand new, 4h.p., 3-speed countershaft, unridden; best offer; Coventry.—Box 381, c/o The Motor Cycle. [X7422]

581, c/o The Motor Cycle. [X7422]
TRIUMPH 4h.p. Countershaft, 1918 model, lamps, etc., only done a few miles; £95.—Freech, 12, Thrale Rd., Streatham, S.W. [1214]

Thrale Rd., Streatham, S.W. [1214]

LATE 1919 Bahy Triumph, as new, Lucas head, electric tail, tools, and horn complete; £70.—
Knox, The Chase, Nuneaton. [X7310]

31h.p. Triumph, £35; 1920 4h.p. constershaft Triumph, as delivered, £130.—Collett Bros., opposite Norwood Junction. [9275]

19275
1918-19 Triumph 3-speed Countershaft, perfect condition; £90.-Write appointment, Dudley, Feirfield Rd., Grove Park, S.E.12.

TRIUMPHS (2), 4h.p., Sturmey-Archer 3-speed, ready to ride away; £55 and £68; London, N.—Box 2,547, c/o The Motor Cycle. [1306]

TRIUMPH Combination (Coachbuilt), 2-speed, kick start, new condition; £65.—57. Kenbury St.. Coldharbour Lane, Camberwell. [8943]

TRIUMPH, 3 speeds, countershaft, clutch, complete lighting set, ride away; £70; seen evenings.-51, Kendall Rd., B.ckenham, S.E. [9858

19¹³ Triumph, clutch model, complete lamps, speed ometer, Binks carburetter, excellent condition £55.-215, Ware Rd., Hertford. [984

485.—215, Ware Rd, Hertford.

TRIUMPH 1910, stored 3 years, clutch, lamps, etc., any trial—Morel, Porfor Rd., Porf

TRIUMPH 31/h.p., 3-speed hub, clutch, lamps, etc., tyres and condition very good; Saturday afternoon; £55.-46, Creighton Rd., S. Ealing, W.5. [9089]

TRIUMPH, 1915 (believed), clutch model, Philipson gears, lamps, excellent condition throughout; £50.-King, Egrove Farm, Oxford. [X7428]

TRIUMPH Motor Cycle for Sale, 31/h.p., B.B. carburetter, Bosch mag., price flowest) 245/10.—C. S. Williams, Gwynfa, Conway Rd., Colwya Bay. [9531]

TRIUMPH, late countershaft model; 72 gns.: n appearance, everything good, runs splendidly 10, Bonner Hill Rd., Kingston-upon-Thames. [89] TRIUMPH Combination, 1914, 4h.p., 3-speed, clutch, lamps, horn, spares, 2 new Dunlops; £30.—51, Aldborough Rd., Seven Kings, Essex. [9354] verv

4 h.p. Triumph, sporting model, disc wheels, fast, fully equipped, beautiful condition; 48 -Thoms, 64, Church St., Edgware Rd., W.

-Thoms, 64, Chuich St., Edgware Rd., W. 11209
TRIUMPII, countershaft, engine No. 55694, 258;
one, engine No. 57768, 268; one, engine No. 5593, 269.—Hole, 129. Park Lane, Carbalton, 1995
MODERN Triumph, 3-speed hub, foot clutch, senier to the company of the comp

TRIUMPH 4h.p., 1914, 3-speed, hand controlled clutch, Dunlops, first-class condition, just over-hauled; £60.—Aleyone, Gloncester Rd., New Barnet. 1903 1914 4h.p. 3-speed Trimph, good tyres and belt, 2 lamps and horn, in good mechanical condition; £58.—F. Wilderspin, Chatteris, Cambs. Phone: 34,

THE COLMORE CUP TRIAL.

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The above machines ran consistently throughout and all finished dead to time.

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All Purpose Model, single-speed All Purpose Model, plain 2-speed

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Is c-of-Man Sporting Model, 2speed, plain countershaft gear \$69 0 Isle-of-Man Sporting Model, with Sturmey-Archer 2-speed gear, hand-controlled clutch, and

S. A. NEWMAN, LTD.,

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ASTON CROSS, BIRMINGHAM. Lists free on application.

THE

MOTOR CYCLES FOR SALE.

Triumph.

TRIUMPH, clutch model, condition and appearan as new, complete lamps and horn, too fast owner; 42 gns.—337, Crystal Palace Rd., East Dnlwick

TRIUMPH, 1915, engine end gears just compl renewed, new Watsonian sidecar; £92/10, nearest offer.—Grimwade, 5, Wellington Sq., Chelten

19²⁰ 4h.p. 3-speed Countershaft Trinmph, de promised before April 31st next; what for £15 deposit paid?--Box 2,522, c/o The Motor

TRIUMPH 4h.p., 1914, clutch, speedometer, lamps, horn, tools, perfect condition; first over £56.—Great Fentoa House, Grove Rd., Fent TRIUMPH 31/ah.p., N.S.U. 2-speed, tank re-enament tyres good, needs attention; £32; exchange golightweight.—124, Hugenden Rd., High Wycomb

TRIUMPH Junior, done about 900 miles, I horn, spares, perfect condition throughout; first cheque secures.—Box 2,558, c/o The Motor

COUNTERSHAFT Triumph Combination, Countershaft Triumph Combination, Countershaft Speed, hand clutch, renovated like new, before 5 p.m.—Builder, 4, Black St., off Milk Bristol. TRIUMPH 1914 4h.p., 3-speed, perfect condition tyres and belt almost new; any trial; £65, or neffer.—Snutt, 1, Nuthurst Villas, Benhill Rd., Camb

Thp. Triumph. October, 1919, ridden under miles, perfect condition, all accessories; offer over £110; Beds.—Box 2,581, c/o The M Cycle.

TRIUMPH 31/2h.p., 1914, semi-T.T., hand clute 3-speed, 2 pairs footrests, good condition; gns., or nearest offer.—Kilsby, Berrylands R. Surbiton.

TRIUMPH 31/h.p., engine overhauled, tyres and as new, plating and enamel in splendid conditions and accessories; £40.-74, St. Stephen's Hounslow.

TRIUMPH, 1914, 3-speed Sturmey, 4h.p., coac sidear, in excellent condition, tyres good, 1 and accessories; £75; letters first.—10a, Stondon S.E.25.

TRIUMPH, 3½h.p., single speed, new belt, n magneto, Lucas lamp, all accessories, splen-condition; £38. — 47, Elborough St., Southfie S.W.18.

TRIUMPH T.T. Roadster, finest second-hamachine possible, every accessory, only one seeing; £50; after 6 o'clock.—12, St. Mary's 8 Paddiagton,

TRIUMPHS.-4 machines at £62 each, 4h.p., speed hub. clutch, decompressor, in first-old corder, new belt and magneto.-262, Blackhors Laid Walth-imstew.

TRIUMPH Countershaft Combination, new August 1919, luxurious bulhous sidecar, perfect outlets 130, or near.—60, Wallingford Av., North Kenston, London.

TRIUMPH 1914 4h.p., 3-speed, Millford C.B. aids just overhauled by makers, perfect condition, by lamps, spares, tyres nearly new; £85.—18, Station E., Covectry.

T.T. Triumph 1912 31/h.p., tyres, belt, and ensexcellent condition, exceptionally good engage Klaxon, spare valve, tools; £45.—Lock, Pri

A excellent conductor, Klaxon, spare valve, tools; £45.—Lock, Frince Oxted, Surrey.

Condition, drop frame, fixed 2-speed clute BSA, wheel; £50; The Moor Cycle.

The Moor Cycle.

[N15]

TRIUMPH 1912-13, clutch model, Dunlops, Bot Cowey, horn, lamps, eogine just overhau splendid condition, fast; £48/10.-45, Sandford Moseley, Birmingham.

19 18 (late) Trinmph Countershalt Combination, speeds, hand clutch, kick start, unused months, condition as new; £128.—15, Warwick Countershalt Combination, and countershalt Counters

TRIUMPH, N.S.U. 2-speed gear, Bosch water mag., latest spring forks, lamps, accessor running order, and wicker sidecar; £47.-38, Cowley Rd., Oxford,

19 13 Late Triumph, 3-speed and sidecar, untidy in fine running order; £70,—Smith's Garal 10-14, Redcliffe Mews, Harcourt Terrace; Earl's Co. 'Phone: Western 1232. [X7:

TRIUMPH Combination, all latest, only 2 mor 1 old, scarcely used, perfect condition, Klassick Miller and Lucas lamps, tool kit, etc.; £155.—Sare King St., Peterborough.

TRIUMPII 4h.p. Countershaft Combination, 19 engine 54666, Millford coachbuilt sidecar (ne 2 Lucas lam) sets; £135.—Wood, 38, Airthrie F Goodmayes, Ilford. (D)

TRIUMPH 4h.p., 1914-15, 3-speed, clutch, in Jamps, horn, Dunlops, enamelled, cycrhuz guaranteed sound,—Eaves, 2 koocks, 5, Thornfield F Shepherds Bush, W.12.

2 11.p. Triumph, new tyres, tabes, handle-hars, b 2 and make and break, in good running ord all on, 245; after 6 p.m., or week-end.—Swaine, 4, Riv Vilhas, Dagenhum, Sussex.

Triumph.

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RIUMPH 1918 Combination, Mills-Fulford sidecar, accessories, in good order; £130.—Elemand Co., 16, Bishopsgate Av., Camounile St., E.C.3. [0066]

RIUMPH Combination, 1918, handsome coachbuilt sidecar, wind screen, luggage grid, insurance, spare u, tubes, necessories; 100 gns.; after 7 p.m.—11cm. b, Church Rd., Barnes, S.W.13. [9212]

19212

13-14 Triumph Combination, 4h.p., 3-speed, defutch, Boseb, good maning order, C.B., 80 Ag, private owner; 280.—6, Boston Place, Porset, adjoining Marylebone Station.

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8 h.p. Twin Chater-Lea Runabeut, shaft and worm: £90, or offer.-Dickey, Beaminster, Dorset. [967]

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CYCLE Car Chassis, 4-cyl. engine, mag., clutch, 2-speed; £40.—Collett Bros., opposite Norwood Junction. [9276

A.C. Sociable, good condition, hood, screen, lamps,
Bosch; seen by appointment.—Letters, 25, Digby
Rd., N.4. [8947

A.G. 2-seater, hood, screen, lamps, speedometer, first-class condition throughout; £35.—Taylor's Garage, Wednesbury. [9970

G.N., standard, £10 deposit paid, for delivery in April; what offers for transfer?—Box 2,476, c/o

MERRALL BROWN, the super 3-wheeler; £330; April delivery.—Halifax Motor Exchange, Union St. South, Halifax.

 $\mathbf{B}^{ ext{LERIOT}}$ Whippet Cycle Car, 8-9h.p., new; £300; $\mathbf{E}^{ ext{Loright}}$ owner taking delivery larger car.—Clifford, 22, Fitzharris Av., Bournemouth. [9838]

MORGAN, 1914, a.c., hood, screen, lamps, perfect; £155, or nearest offer, must sell.—Plaot, Wych-don Lodge, Weston, Stafford. [9290

don Louge, veston, obacous.

A. C. Sociable, 1917 engine, new tyres, excellent, condition, hood, screen, lamps, overhauled; £110, —

Box 2,563, c/o The Motor Gyete. [1324]

19 19 Morgan de Luxe, J.A.P., red, diecs, electric light, hood, screen, Stuart, small mileage, as new; £240, —24, Essington Rd., Westcliff. [1402]

MORGAN 8h.p., 1915, hood, wind screen, accessories; £150; take good combination part payment.—Ward, 35, Baalbec Rd., Highbury, N.5. [9447

ment.—Ward, 35, Baalbec Rd., Highbury, N.5. [9447 5 fshp. A.V. Monocar, J.A.P. twin, 1919½ model, blue, electric lighting, new condition; £129/10; cxchanges.—el., New Kent Rd. London, S.E.I. [9927 A.C. Sociable, wind sereen, hood, side curtains, elamps, smart, and in good running order; 75 gns.—P. Wright, 94, High St., West Norwood, S.E. [8951] and transfer for £5 deposit paid; car mow ready at mathers—Box 2,445, clo., The Motor Cy [9033]

A.C. Sociable, 2-seater, in good condition, with hood and screen; what offers? would exchange for motor cycle.—Stanley Baker, Odiham, Winchfield. Hants. [1083]

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descriptive literature. Trials can be arrange
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No. 106, aircooled, Bosch waterprod; aircooled, Bosch waterprod; Centh, outside Hywheel, chain and double bet expanding pulleys, brand new body, Rolls bonnativer springing, tyres, belts, and chain new tyre, tube, and belt new, electric lighting, much horn, tools, repair outfil, whole In Al conplote; 2150—Humphreys, c/o Heyhourn's Chaldenbead, Maidenbead.

Mandenhead.

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SIDE-CARRIERS AND PARCEL-CA £100 Down and 12 monthly payments of £25 s a magnificent 3-ton lorry.—Details, Palmer's age, Tooting,

A UTO CARRIER Delivery Van, Sankey steel v new tyres, good order: £60; exchange motor -William Nixon, Brampton, Cumberland.

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ASTER'S Coming, when the dickie birdies sing apon the tree, when the wicked West End agent at his wicked eye with glee. See the buyer soft proaching, whistling not the salman's using sulle, spots Jancy, asks the price, and talks of buying in much

L'T the West End agent rampant, having many Fasters seen, knows the markets in his favour opers ten for each machinel, so he doubles all his ices: he can wait, the summer's here, buyer cna't, at time my adverts reach a sadder, wiser ear.

POSE I'm in a bad way when I break forth into verse? But it's this spring weather, so I dinarts. Howevenever, my list's here, and my addinarts. Howevenever, my list's here, and my addinarts. Howevenever, my list's here, and my addinarts. Howevenever, my list's here, and my when you will be a support of the state of the support of the

m Cox, Douglas S.

ASSTER Bargains.—Electric parcels runabout, 5-1 cwt., 45-mile radius (new batteries extra), 51 cwt., 45-mile radius (new batteries extra), 51 Baby Feugeot, 4-seater, mag., honeycomb lator, 5-pted., 275. 63.p., Rover-seater, 6-1 little Baby Pougeot parcels van mag., 5-speed, 18 pted parcels van lator, 4-cyb, 18 pted parcels van parcel van parcel

85.—Cox (below).

ASTER Bargains.—6-cyl. 18hp. Delaize chastis, old type, but rues splendily, live axie, Bacch mag, add-10bsen carburcter, good tyres, bargain this, 85; 1914 Maxwell van, £225; 16-20hp. Rever landaulet. 4-speed gate, cord, bargain, £250; vidog 2-cented 11-9hp. 1915 avreo, 4-cyl. monobloc, and additional control of the cord, bargain, £250; vidog 2-cented 11-9hp. 1915 avreo, 4-cyl. monobloc, aliao) torpedo tonere, detachable das whele, Angelia, 6-cented and control of the control of

50; Unic 1-ton van, 2550.—Cox (below).

ASTER Bargains.—12-15h.p. Pilain streamline 2-seater, late type, a particularly nice little car, bolico, enclosed valves 4-speed gate, double dickey, leb ack, beaufull cenditioe, bargain, 2550; 15.9h.—lard 4 landaulet, monobloc, cord upholstery, oversteen a construction of the construc

(below).

STER Bargains—20hp. Crossley two typeds conver, dynamo lighting, detachable wire worded anniosers, and the convergence of the convergenc

et, detachables, cloth interior, smart cart, 2783.

(thelow).

MMERCIAIS. Commercials. Easter Commercials. A solid list of solid bargains with solid tyres ett be being unsold): 18h.p. 1-ton Pathard M. A solid list of solid bargains with solid tyres ett being unsold): 18h.p. 1-ton Pathard M. Acte W. M. Start W. M. Sta

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Union Street South, HALIFAX.

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SUNBEAM, 1918, 33 h.p., 3-speed . £135 0
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CARS FOR SALE.

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WHITING-GRANT Light Car, 2-seater, repainted fawn, lighting, starting; £265.—Railway Garage,

TWIN-CYL. Light Car, 2-seater, mag., good ty hood, etc.; £37/10, bargaic.-F., 65, Nottingle Rd., Alfreton. [1

8 h.p. Rever 2-seater, trade body, splendid running order; £90; trial by appointment.—105, Spring bank Rd., S.E.13.

PEUGEOT, 6h.p., 3 speeds, all lamps, recently over-hauled, Stepney car; £215.—Maudes', 100, Gt Portland St., Lendon. [9884] ROVER 6-7h.p. 2-seater, mag., hood, screen, Stepney; £35, or offers, or exchange for motor cycle.—6, Walton St., Aylesbury. [9946]

SINGER 1917 10h.p., dynamo lighting and self-starter, guaranteed as new, just overhauled: £435. —Mandes', 100, Paris St., Exeter. [9883]

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New Mood, nearly sold out, but other real bargains in few days. Still lett, however, that nice little Rover 2-seated light car, late model, runs rippin, £85; 12hp. 4csl. Humber 2-seater, £155; 12hp. Wolseley-Siddeley torpedo 2-seater, modern appearance, runs-siddeley appearance, runs-siddeley

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Lightweight of exceptionally elegant appearance, traight built frame, winged midguards, foot-boards, 24 hp. 2-stroke engine, two exhaust pipes, itted with 2-speed goar box, C.A.V. magneto, time carburetter, Dunlop tyres and belt, designed throughout for comfort.

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t emart 2½ h.p. 2-stroke of sporty design, sub-lentially built, drop frame, engine (unlike other wo-stroke) embodies three fly-wheels, thereby iving greater power and speed, fitted with 2-speed ear box, Runbaken magneto, Amac carburetter, foot-boards, Dunley tyres and belt...

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THOMSON-BENNETT Magneto, 180°, off 2° jh.p. Douglas, excellent condition; £5/10.—Moseley, Kirby Muxloc, Lefeester.

SOUTHERN Ignition Co., Rutland Works, Hove, magneto repairing specialists; immediate delivery new magnetos and spares. [4300

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PLATINUM Point Screws, 5/- cach: Bosch and C.A.V. contact breakers, £1 each.—Majestic, 195, Stonhouse St., Clapham, S.W.4.

FELLOWS Magneto, 45°, to suit big twin, just received from makers; cost £10, take £8/15,—65, Davy St. Ferryhill, Co. Durham.

BOULTON Magnetos can now be supplied from stock; 25/hr, £4/5, 3/5/hp, £4/15 each,—Houlton Magnetos, Ltd., Wolverhampton.

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C.A.V., single, acti, £5; ditto, M.L., £6; also Bosch, C.A.V. 180°, cheap; spare contact-breaker, 15;—Ashby, 89, Backhurse Rd., Walthamstow, [873]

BOSCH and C.A.V., clockwise, single-cyl, guaranteed perfect; £5 and £4/10 respectively—Semple, 38, St. Leonard's St., Duniermline, [1223]

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MAGNETOS.—New C.A.V. and Thomson-Bennett for Trinmph, B.S.A., Clyno, Douglas, V twins, etc.; trade supplied.—Halifax Motor Exchange, Union Street South, Halifax.

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A CCUMULATORS, best London make, at lowest prices. Try one and see quality. 4 volt 40 amn. 21/6, carriage 1/.—Yates and James, 144, Church (0128, Kensington, London. (0128)

EDINBURGH Armature Repairing Co.—Magoeto repairs of every description executed by experts; work guaranteed; quick service.—Phone: C.115.—172, Easter Rd.

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Any Make Car Lighting, starting, and ignition sets repaired and overhouled. All renoirs guaranteed. Remagnetising by improved process—The Magaeto Repair Depot, Ivy Rd., Handsworth, Birmingham.

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B ASTONE'S for Magnetos.—New E.I.C., 186472

proof, single, for 356-b, and 44/hp., also Deptdand lightweights, at right prices.—Magneto Dept228, Pentoavillo Rd., King's Cross, Londoo, N.1.
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GUMBRELL and Co. repair magnetos and lighting dynamos. Spare parts stocked. Quick service. Work gnaranteed 12 months. We make a proper job. -43, 45, and 47, Derby Rd., Loughborough, Leicester.

DEBRON, registered 291,298, greatly superior to platioum, unequalled for hlades, screws, etc. cures misfiring, 101, each rivet; Jehron screws, fit Bosch magnetos, 22/- pair; old screws Jebronised, 10/- each.

JEBRON Contacts, used by Messrs, Collier Bros., Colver, Martin, making world's records.—Jehron, 38, Herbert Rd., Woolwich, London, S.E.18. (0002) 238, Herpert Rd., Woolwich, London, S.E.18. (6002 DOVELAND Magacto Repair Service (established process; magactos and spare parts. 'Phone: Streatham 1390.—Loveland Bros., Crescent Magacto Works, Nor-bury, S.W.

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MAGNETO Repairs.—Seed your magneto to Palmer's Garage, Tooting. Reply paid; quotation,
legraphed on, receint. Quick, efficient repair guaranlegraphed on, receint. Quick, efficient repair guaranpalmer's Garage, Tooting.

BRAND New. C.A.V. Magnetos. 1869; 26/6; Dixie
21 ditto, £5/10; new Berlings, singlecyl., £5/5;
V twics, all degrees, new and second-hand. in stockEuskou Ignition Co.. \$29, Luston Rd., London.
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Elc., elc. STOCK IS ALWAYS CHANGING. WRITE YOUR REQUIREMENTS. SATISFACTION GUARANTEED.

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I will buy your Machine for Cash.

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	not done 20 miles	£168
	1919 31 h.p. SUNBEAM, new 1920, Sidecar,	
	accessories	
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	1914 6 b.p. SUNBEAM, Lucas lamps,	
	speedometer, Cameo screen, petrol can	
	carrier, luggage grid, Lucas horn, etc.	£145
	1915 7-9 h.p. INDIAN, Canadian model .	£95
	1914 4th.p. 3-speed B.S.A	£95
	SOLO BIKES.	
	1920 21 h.p. 2-speed CARFIELD, new	£62
	1920 T.T. TRIUMPH	
•	1915 2] b.p. 2-speed DOUGLAS	£60
	1013 21 b.p. CALTHORPE, 2-speed	£28
	4 h.p. BRADBURY	£36
	oo bore 8 h.p. O.H.V. MATCHLESS	£75
	6 b.p. O.H.V. MATCHLESS	£60
	400 c.c. rotary valve SCOTT, I.O.M. racer	. —
	1013 SCOTT, accessories	£60

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Orders now being booked for BAT, IXION, and ALECTO MOTOR CYCLES.

> Sale distributors for North Glo's for MARTINSYDE - NEWMAN 6 h.p. V. Twin Combination £170.

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ACCESSORIES.

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"BABSON" set MOTEX Rear Lamps		52/6 5/-	Post 9
" Generators		6/6	., 40

PULICS.

LODGE 5/-	K.L.G. 5/-	APOLL	
IGNA 6/-	OLEO 5/-	Posta	ge 3d.
HELLESEN '	" FLASH " BATI	ERY	14 /7
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KING DICK,	3, 7, 1in	•••	1/6

IN STOCK.

B.A.T. 6	h.p. Solo		 £139	3	0
ALECTO	3½ h.p		 £83	7	0
DOLLOS A	0 4044 02	L	040	۸	•



IGNITION APPLIANCES.

THE Magneto Repairing and Winding Co., Establesh works.—Magneto repairs of avery description.

Alternative August or repairs of avery description.

Alternative at a weet product from the control of the

L'ustron Ignition Co.'s 24 hour repair service. Guarnateed repairs to all types of magnetos; Spittion;
and Dixis specialists; official Indian electrical service
station; Thouson-Bennett repairs and spares. All repairs are tested on an approved A.L.D. test beach be
fore dispatch, and therefore curry our guarantee for 1sto the station of the state of

TYRES.

EGGATE, Edinburgh, for tyre value.

I EGGATE, Edinburgh.—For great reductions and Manufactured in briand new clearance 1920 tyres Manufactured in this city by the largest indiarubber manufacturers in the British Empire, and famous the world over for quality, resiliency, durability, and non group properties.—See below for approval terms Prompt desputch guaranteed. We pay carriage.

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EGGATE, Edinburgh, -1920 new pattern, 4-pl.,
fabric, heavy, rubher studded, beaded covers,
24×2, 54/6, list 46/3; 24×24/3, 38/6, list 50/;
26×22, 36/·, list 48/·; 26×29/4, 38/6, list 51/6;
26×28/4, for fix 24/x rims, 41/-; list 55/5; 26×29/4,
26×28/4, for fix 56/7, 26×29/4, 42/-, list 56/5;
260×26, 55/6, list 75/9; 700×80, for 550×55 rims,
26×26, 55/6, list 75/9; 700×80, for 550×55 rims,
26×26, 55/6, list 75/9; 700×80, for 550×55 rims,
26×26, 55/6, list 75/9; 700×80, for 51/6, list 52/4,
26×26, for American rims, 61/6, list 52/4.

LEGGATE, Edinburgh,—These goods are all hrand new and sent anywhere on 7 days' approval against remittance; cash refunded in full if goods not approved of.

LEGGATE and Company, Motor Cycle and Tyre Specialists, 15, Slateford Rd., Edinburgh Phone: Central 8693. Telegrams: Tyres, Edinburgh PHENIX Tyre Repairs of Every Description; send for price list.—Below.

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PHENIX.—Bursts, cuts, broken heads repaired effi-ciently and quickly, from 2/-.—Below.

PHGNIX.—Tubes repaired, reseating, rejoining, from 1/-; butt ends fitted, 4/6.—Phoenix Tyre Repairing Co., 224, Sherlock St., Birmingham. [X7505] ECONOMIC Tyre Co.—We have a small purcel of the following in new Kempshall clearance:

E CONOMIC. -26×2½ non-skid, 40/-, listed £3/7/6; 26×2½ nnti-skid, 35/-, listed £3/3/6; 28×3 non-skid, 60/-, listed £5/6/4.

ECONOMIC.—Standard goods. 24×2 Dunlon, rubher-studded, 27/-: 24×2¼ Clincher de Luxe, 50/-; 26×2¼ Palmer cord, heavy, 63/-.

20.24 Talmer total, heavy, 66/-; 26×2½× E CONOMIC.—26×23¢ Palmer heavy, 66/-; 26×2½× 2½ Rom square stud, 57/5; 26×2½ Moseley grooved, 67/8; Palmer cord, heavy, 67/11; 26×3×2¹ Dunlop extra heavy rabber-studded, 74/3.

ECONOMIC.—28x2½ Goodyear, 45/:; Dunlop heavy, 55/9; Goodyear, 100/:; 780x50 (Goodyear, 100/:; 78

E CONOMIC.—650×65 Palmer cord, 61/4; heavy, 73/3; Avon combina-tion, £5/1/6; 700×80 (to fit 650×65 rims) Palmer cord, 86/11; Clincher Dreadnought, 78/9.

cord, 85/11; Cincher Dreadnognt, 79/6; 24×24/4, 9/9; 26× Z0X, 10/- (clearance 7/6); 26×23/6; 11/-; 26×23/6; 24×21/1, 13/6; 26×23/6; 11/-; 26×23/6; 11/-; 26×23/6; 11/-; 26×23/6; 13/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6; 26×23/6;

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 $E^{\rm CONOMIC\ Tyre\ Co.,\ 314,\ New\ Cross\ Rd.,\ S.E.14}_{\rm (nr.\ Town\ Hall)}, \ {\rm 'Phone:\ New\ Cross\ 1393.\ 1}_{\rm O'clock\ Saturdays.}$

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TWO Heavy Dunlops, rubber-studded and grooved, 26×2½, brand new; 50/- each; approval.—41, Ashford Rd., Cricklewood. [9544

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FEL	LEIS	2	Ribbed	Tube	Tube
avy		26 x 21		10/6	
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19		26 × 2½	59/2	11/9	14/9
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We have a very large selection of DTOR CYCLE ACCESSORIES. invite your enquiries which shall have

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Can deliver immediately as under:

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18 the strices; 16 10s.
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e for an early date for delivery of the following r Cycles: INDIAN, A.J.S., SCOTT, BAT-BADBURY, WILKIN, O.-K., and HOS-N. RICHARDSON Light Car and LAGONDA N. F

ie: 2802. Wires: Roper 2802, Sheffield

TYRES.

PRAND New Clincher, rubber-studded, 28×3 42/6, 26×2½ 39/6, 26×2¼ 33/6.—Wandsworth Motor Exchange, Ebner St., Wandsworth Town. [2828]

NEW Dimlop Oversize, extra heavy, fit 26×2½; Amac heavyweight carbinetter, 25½; Notton spares, new date requirement).—Wood, 559, Mexandra Park Rd., London, N.22.

100 BRAND New Kempshall Non-skid Tyres, 35: each, J. Smith and Co., 16, Hampstead Id., London, NM.

PRAND New Hutchinson Tubes, 650×65, in boxes, unwrapped, 8/6 each; also 26×2-24, new tubes, 6/- each;—1. Smith and Co., 16, Hampstead Rd., London, N.W.

RETREADING and all Repairs to Covers and Tubes carried out promptly. Send now; Easter is near.—Stanley Yulcanising Co., 55. Rann St., Ladywood, Birmingham, the H.F. specialists. [X8664]

DO You Want reliable high-class retreading, bursts, vulcanising, chafed beads remoulding, or buttends fitting? Then get in touch with The Melton Rubber Works, Melton Mowbray. You will never regret it.

TYRE Repair Specialists.—H. F. process (1085), including retreading burst covers, Every kind of lepair to tvres and tubes in 24 days, the control of the Melton Rubber of the Melton Rubb

4 ×2in. Braud New Palmer Cord, 47/4; K3383 × 2:nly, 54/7; Clincher Junior De Luxe rubber non-skid, 27/3; Palmer tubes, 7/3: 24×2 brand neu Dunlop rubber non-skids, 27/3 each.—Emanual (see below).

 $650^{\times 65}$ Brand New Dunlop 4-ply Heavy, 60/each; all goods carriage paid.—Emaouel (see

26×2in. Brand New Palmer Cord, 49/6; Clincher Junior De Luxe rubber non-skid, 28/6.—Emanuel (see below).

26 ×214 in. Brand New Palmer Cord, 52/-; Palmer 2-ply, 41/5; Clincher Junior De Luxe rubher nco-skid, 30/3.—Emanuel (see below).

26 ×2½in. Brand New Palmer Cord, 57/2; Palmer 22 ×2½in. Brand New Palmer Cord, 57/2; Palmer non-skid, 34/3; 650×655 brand new Palmer Cord, 61/4.–II. Emanuel, 27, Belgrade Rd., Stoke Newington, N.16. "Phone: Dalston 3161.

NEW Dunlop 26×214 Lightweight Tyre, £1; new Joha Bull, 5-jib, 26×214, fit 21a, extra heavy, 22/15; 2 new tubes, 26×215, fit 21a, extra heavy, less cylinder and piston, £2.-257, Belvoir Rd, Coalville.

Coarville.

R ETREADING.—Your tyres reconstructed, burst tyres and tubes scientifically repaired by our own process. Full statisfaction parantheed. 13 years' experience.—Victory Tyre Repairing Works, 26, Vine 85. Laiesetz. (X653)

NEW 28×2½io. Bates Wired Cover, 30:-; 26×2½in. Hutchinson ditto, 30:-; 28×2½in. P.U. beaded cover, 35:-; 28×2½in. ditto, 36:-; 28×2½in. Clincher, 40:-; 26×2½in. ditto, 45:-—Murrays, 37a, Charles St. Hatton Garden, Holborn.

EXTRA Heavy Ribbed Covers, 26×21, 39/6, 21/ib. 36/-; clearance tubes, 26×21, 8/6, 21/ib. 7/-, 21b. 5/6; Dunlop belts, 5ft. 3hi. X/ain. 8/6, three lengths make 2 belts; carriage paid on 21 lots.—Common, Central Garage, Kidderminster.

ALMER heavy 4-ply corers, 700×80 and 22×3, 55, each; 29×35 heavy cord, 26+c. Clinchen de Luxe, 26×24, 26×25, and 550×65 covers, new inner tubes one puncture, all sizes, Palmer, Clincher, and Hutchisson, 71- cach.—J. Tassell, 1a, Bloomfield Rd, Plumstead, S.E.

NEW Heavy Beaded Covers, 26×2 27/6, 26×21/30/r, 26×21/55/r; buttended tubes, 26×2 8/6, 26×5 12/6; endless tubes, 26×2 7/6, 26×21/8, 26×2 8/6, 26×5 12/6; endless tubes, 26×2 7/6, 26×21/8/6, 26×21/8/6, 26×5 11/6; new rubber helts, 7/ft. 6/m. ×/gim. 1/6, 8/ft. 6/m. ×/gim. 1/6, 8/ft. 6/m. ×/gim. 1/6, 8/ft. 6/m. ×/gim. 1/6, 8/ft. 6/m. ×/gim. 1/6/m. Sent approval carriage paid receipt remittance. Polmer's Gauge, Teoting, S.W.

TANKS of every description; repairs, re-enamelling; illustrated booklet on receipt of postage.—Green, Water St., Blackfriars, Manchester. [0006]

TANKS.—Tanks, any shape, to order; repairs, or enamelled Discs for motor wheels, lists free.—Attwoods, 86, Rosebery Av., E.C. Tel.: Central 12445.

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FOR Insurance of oil kinds (specially motor), apply. Ernest J Bass, Insurance Broker, Bishops Stort-[0005] ford

4½ Lawson, 40, Upper Saint Mary's Rd., Benrwood, Birmingham. [X7045]

"THE Motor Cycle" Iosurance Policy is the policy authorised by "The Motor Cycle," and covers motor cycles or cycles and sidecars used for private purposes. Complete comprehensive cover. Maximum near-fix minimum rates. Free weekly copy of "The Motor Cycle" to all policy holders paying a premion of 2415 or oner. Philip particulars and prospectuses on application.—The Authora Fire and Accident Insurance (Co., 14d., 20, Tudor St., London, E.C.4.

Martinsyde---Newman

6 h.p. Sidecar Combination

£170

A few sub-agencies open in South Staffs., East Warwickshire, and parts of Worcestershire.

Full particulars from wholesale and retail district agent:

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Large Selection 1920 MACHINES IN STOCK.

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Most modern-equipped workshops for executing every description of Repairs and Overhauls.

SATISFACTION GUARANTEED

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Famous for their great achieve-ments and performances, the Clyno and the Carfield repre-sent the highest standard of motor cycle production.

CLYNO, £70 The world-famous lightweight,

CARFIELD two-stroke, 3 different models, 2½ h p. Vuliers Engine, clutch model, kick-starter £68/10

Two-speed model, 21 £62 Single-speed £53/10

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We will supply you with a mechanically perfect countershaft 2-speed gear box, complete with controls and plate for bolting on. Finest workmanship, latest design, adopted by leading manufacturers.

We guarantee that it can be fitted to a LEVIS, or other Lightweight Motor Cycle, in ten minutes without outside help.

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ROYS, Ltd., invite enquiries for insurance of all fusions. Prospectuses and rates, quotations and Insurance Offices, 170, 6t. Portland St., London, W.1, proposal forms sent on application.—The Secretary, Tel.: Mayfair 2272 and 2275.

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A UCTIONEERING and Estate Agency.—Special course of postal tuition for those destring to start a business.—Write for prospectus No. 2, Agric. Correspondence College (Dept. T.), Ripon. [9273]

WOTOR TUILIOn.—The Bittish School of Motoring, driving and gives the highest stundard of training in driving and the student of training in the student of t

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A DJUSTABLE Spring Lamp Bracket for hicycles (rear), motor bicycles and sidecars, provisionally protected; all rights for sale, cheap.—B., 82, Northgate St., Gt. Yarmouth.

PATENT AGENTS.

J. E. S. LOCKWOOD, Motor Specialist.—Guide free.

3, New St., Birmingham. [8057]

CONSULTING Patent Agency, 253, Gray's Inn Rd. London.—Aero and aircraft engines. [6631 PATENTS Advice, handbook, free.—Kiog, Registered Patent Agent, 165, Queen Victoria St., E.C.

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PATENUS, designs and trade merks (British, foreirn and Golonian-Fletching Wilson), or Control Part and Registered United States Patent Attorney. T.A.: Wilpat, Coventry, 1996-6

SITUATIONS VACANT.

WANTED, capable young lady to assist in shop.— Box 2,569, c/o The Motor Cycle. [1331 PROGRESSIVE Position open for capable salesman-mechanic able to take a share interest.—Box 2,568, c/o The Motor Cycle. [1330

CLASGOW Firm desire the services of a motor cycle
Crider experienced in road trials to carry out road
tests and ride new cycle in forthcoming official trials.

Apply, stating aga and full experience, to Box
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SITUATIONS WANTED.

TURNER-MECHANIC, young, experienced, seeks situation in garage, trial.—Bragg, Noah Farm, Billericay, Essex. [9702

COMPETITION Rider wishes to make arrangements to ride in 1920 T.T. Junior or Senior. Pay own expenses.—Box 2,447, cf. of The Motor Cycle. [9035]

DEMOBILISED D.R., 23, single, well educated, seeks situation with motor cycle firm as clerk, demonstrator, or similar capacity.—Foster, Hitcham, Bucks.

FINANCIAL.

I NCOME Tax Rebate, claims prepared.—Lanark, 101, St. Leonard's Rd., East Sheen. [1149] F OR Sale, the rights of the patent puacture stopper, No. 111375.—Box 2,526, c/o The Motor Cycle. [9560

HOTELS AND APARTMENTS

DOUGLAS.—The Monningham Private Hotel, menade, 10/6 day inclusive. Manager, T. H

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WHEN Buying a second-hand motor cycle, have it thoroughly examined by an expert. Terms moderate.—Telegrams: Kearsley, Finedon, Wellingborough.

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WORK Wanted.—Small capstan, repetition, bench, turning, and press work; good commission paid on all orders introduced; special terms for proprietary articles; accurate work, keen prices.—Box 2,509, c/o The Motor Cycle.

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3 h.p. Two Stroke.

3 h.p. DALM Engine 318c.c., Mounted in strong frame, giving comfortable and low riding position, "Y" patent spring forks, A.M.A.C. carburetter, E.I.C. Magneto, 26 X2 tyres, large tapered tank, 7 in. rear mudguard, Pedley belt, Pan saddle, tool box on tank, best finish, enamelled purple, mauve tank, purple lines.

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B. A. T. EXPECTED SHORTLY.

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'IRES: "TUNE, READING." 'PHONE: 967.

WANTED.

WANTED, 2-stroke, any condition.—Onkley, Harst Green, Sussex. [1162] 3-SPEED Gear Box, complete and perfect.—489, Latimer Rd., W.10. [9005] 8h.p. J.A.P. Front Cylinder,-Humphries, Mitcham Junction.

| TRIUMPI1, 1912-16,-Particulars (letters), T., 164, Illich St., Harlesden, L., 1113, ATE Model 4, 6, or 8h.p. Combination.—Box 2.520, 19554 | Morror Cylinder and Induction Pine.—WOTC-REVE Front Cylinder and Induction Pine.—125, Haxby Rd., York. 19028 | LANDED Society and Manager 1918 | Landed Society 1918

WANTED, Scott Parts.—Mr. Tavener, 181, Beaumont Rd., Leyton, E.10.

SOLO Scott Wanted, 1920 T.T. Model.—Dallaway, 1946

31h.p. Solo Wanted, good make; cheap for cash.— 27, Nelson Rd., Wimbledon. [1168] CYLINIER (rear) wanted, 6h.p. Rex., 1910.—Scott, Murston Rd., Sittingbourne. [9192]

WANTED, Alldays Allon frame and tank.-60. Carleton Rd., Holloway, N.7. [9534

CYLINDER Wanted, for 1911 Rex single, 51/sh.p.— EX7522 Wanted, 4-5h.p. twin J.A.P., complete.—Lee, East Hill, Houghton, Dunstable. [X7480]

N.S.U. Gear, repairs not objected to if cheap.—Box 2.576, c/o The Motor Cycle. [1339]

WANTED, Scott frame, also 2!4h.p. Enfield frame. -Huggins, Skelton, near York. [X7272 WANTED, motor cycle, cheap for cash; state date.—
11, Brunswick Sq., Gloucester. [X7236]

TYPEWRITERS Wanted, Corona or Standard folder.
—E.W.B., 228, Railton Rd., S.E. [5157]

WANTED, a C.B. sidear, for 3½h.p. motor cycle.—14, Scott St., Bootle, Liverpool. [9193]
CYLINDERS for Enfield 2½h.p. twin.—Particulars, Box 2.556, c/o The Motor Cycle. [1315] 100 Motor Cycles wanted; bring or send; for spot cash.—Palmer's Garage, Tooting. [0010]

1912 Douglas Zýl.p. Engine wated, good condition.
1912 Douglas Zýl.p. Engine wated, good condition.
D'UGLAS Wanted, Zýl.p. T.T., late model (not
W.D.).—Grice, Silectoti, Cumberland.
WANTED, good solo or combination, 1914 or later.
-103, Thurlow Park Rd., S.E.21.
STRORE 2-speed Semi-T.T.—Full particulars, Ward.
Kirkby-Misperton, Pickering, Yorks.
[1139]

GENERATOR, Low preferred, to generate for 3 lamps.—Newfield, Entry Hill, Bath. [9945] B.S.A. Solo or Combination, 1915 or 1916; absolutely sound.—32, Sherwood Rd., Addiscombe. [X7241 WANTED, J.A.P. solid connecting rod, 6h.p.—Ack-royd, 19, St. John's Grove, Leeds. (9962 WANTED, good combination for cash.—C.S., 14, Swaton Rd., Bow, E.S., Tel.: E3155. [9673 GEAR Box, 2 or 3-speed clutch, kick starter, suitable for 8h.p.-Millard, Shepton Mallet. [9073 WANTED, good modern combination, for cash; state lowest price.—Bell, Customs, Fleetwood. [1079]

LIGHT Sporting Sidecar, also Grand Prix Morgan. -49, Althorp Rd., Wandsworth Common. [1383 WANTED, spare wheel, in good condition, for 8h.p. Sunbeam.—Moss, Misterfon, Doucaster. [930]
COMBINATION, Zenith, Enfield, Indian, etc.; any year.—King, Scotland Place, Ramsbottom. [X7474] System-Aing, Scottand Price, Kamsnotton, LY7974
SideCAR (Geachbuilt) warted, preferably P. and M.,
SideCAR (Geachbuilt) warted, preferably P. and M.,
WANTED, 25th.p. Doublas that needs, repair—38,
TNDIAN Frame, middle portion, front forks, spare—8,
Mchanic, 314, Gray's 1nn Rd., London, 19255
WANTED lady's 1012,00 model; generable crice

WANTED, lady's 1919-20 model; reasonable price, cash waiting.—Brodie, Heathfield, Sussex. [9016] Wanted, spring pillion seat, cheap; approval, de-posit.-Miss Page, 66, High St., Evesham, [9082

Wanted, good make solo, not under 2%h.p.: reasonable.-E. Fisher, Enardean, Gloucestershire. [9516 WANTED, 2%h.p. Douglas frame, forks, and tank.—
7, Fern Cottage, Hanworth, Middlesex, 19428
TWO N.S.U. Gears, recessed to fit 4h.p. and 8h.p.,
T. J.A.P.—Box 2,577, c/o The Motor Cycle. [1340]
N.S.U. Gear, adjustable pulley, fit Triumph.—
Hulbert, 37, Meyrick St., Pembroke Dock. [1279]

Wanted, good sole or combination for eash; state lowest price.-44, Sun St., Waltham Abbey. [6266 WANTED, turniture and visible typewriter for office.

-Garage, 75a, Friern Rd., E. Dulwich. [5158]

W ANTED, Trimmph back and gear box stays.—
Thorpe, New Lane, Patricroft, Manchester.
[X7472] M OTOR Oycle, 1915 or later, lightweight, immediate M cash.—Motor, 142, Corbyn St., Finsbury Park, N, 1613

DOUGLAS, 1912 to 1916, or a good 2-stroke.—Full particulars, write R.H., 4, Tavistock Rd., N.W.10.

BRADBURY 1913 Cylinder and Piston wanted.—
Flanagau, Marconi Station, Chifden, Co. Galway.

[9463] FOR 1914 Premier 4h.p., forks, wheels, tank, stand, guards, saddle.—68, Ettington Rd., Birminghom

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1920 8 h.p. ZENITH (Special), extra large tack, single-lever Zenith carburetter, double lubri-

single-lever Zentth carburetter, double num-ration.

1920 8 hp. ZENITH, Standard c/S models (two, 1920 ALLDAYS ALLON, 2-speed, clutch, k/start. 1910 8 hp. ENTIELD Com., electric lighting. 1910 4 hp. TRIUMPH Combination, with access, 1916-17, 7-9 hp. HARLEY Combination, with ac-

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New Bosch and C.A.V. Conlact Breakers, 30/-, 25/Sidecars and Sidecar Bodies from £7. THE LANGFORD SIDECAR WITH LUNCHEON Basket in Bulbous Back NOW ON VIEW.

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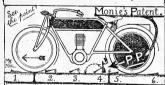
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Road Rider in "The Motor Cycle."



All dangerous nails are kept out of rear tyre by the Monie

Puncture Preventer.

Of every 100 punctures, the rear tyre gets 90. The P. prevents these and so reduces punctures by 90 percent. We sure antee this. The P. adds to life of rear cover, and also insures it against "sudden drath" The P.P. is fitted in five minutes to Triumph, Douglas, J.J.S., Rudge, Arieibeld, P. Rudge, Arieibeld, and the property of the Slot allows rapid adjustment.

Money back if not ratisfied.

When ordering, give name of machine, and if Adapter is needed.
Price 10 6. By post 11 PUNCTURE PREVENTER

CO., 38, BATH STREET, GLASGOW.



WANTED.

WANTED.

BINKS Carburetter Wanted, Sigle, 11/6in. stump.—
5, Mount Tamar Villas, St. Budeaux, Phymouth.
(K7265)

WANTED, motor cycle or combination immediately; reasonable price, cach.—1, Othello St. Liverpool.
[9215] WANTED, Harley-Davidson, 1919 or 1920 model, Morgan, 10, Howard Rd., Church Hill, E.17. 3-SPEED Sturmey Countershaft, kick start, belt drive or Bowden countershaft, 6, Buller St., Bury. [9501 WANTED, spring forks, suit 28×21/4 wheels, perfect condition.—Engineers' Garage, Sleaford, Lines.

condition.—Engineers' Garage, Sladford, Lincs. [925]

N.S.U. Gear fit Trinmph, also Brooks B170 saddle, good condition.—50, Inge St., Birmingham. WANTED, P. and M. or Triumph. after 1912; upproval.—Roberts, Monmouth St., Colne, Lanes. (X753)

WANTED, combination or solo; reasonable.—Mose-dale, 30, Canterbury Rd., West Kilburn, N.W.6.

WANTED, medium C.B. sidecar to suit Trimph.

—Bleakley, Elliott St., Tyldesley, Manchester.

[1238] WANTED, cylinder, 3½h.p. Premier, 1912, new or good condition.—Darling, Allanton, Newmains, N.B.

WANTED, engine, magneto, carburetter, 4 to 6h.p. single or twin.—23, Jupiter Terrace, Well Hall, S.E.9.

TRIUMPH Parts wanted, frames, engines, earbur-etters, magnetos, etc.—Tennent, Hillhead, Kirkin-[8974 TRIUMPH or Blackburne 4h.p. Countershaft Com-bination, about 1916.—118, Herbert Rd., Wool-[9381

SIDECAR, coachbuilt touring, 4-point, for Triumph.— Marriner, 39, Whitefriars Crescent, Westchift-on-Sea. [9368

Sen.

WANTED, 2-speed Roc wheel, in running order, also correspond forks.—C. Luke, Penhale Fraddon, [9963] WANTED, lightweight sidecar chassis, with 24in. or 26in. wheel.—J., 86, Park Rd., Chiswick, [1305]

LEATHER Airman's Coat wanted; reasonable price and condition,-17, Wilcox Rd., South Lambeth, S.W.8. [1042]

S.W.S.

WANTED, Triumph parts for late model, engines, magnetos, wheels, etc.—Tennent, Hillhead Kirkin-[8973] MORGAN Runabout, Grand Prix model, in perfect condition, new, or nearly so.—George Woods, Horn-castle. [9536

costle.

19¹³ 2³/h.p. Douglas Frame, in good condition—
Weldonia Motor Eng. Co., Manningham, Brad[9170]

ford.

WANTED, Enfield 1917 or later combination, for business purposes.—C.S., 10, Courcey Rd., Horn-[9393] WANTED, good reliable solo mount, not earlier than 1916.—L. E. H. Hill, Eastgrove Rd., Sheffield.

DESK Wanted, roll-top or flat knee hole, also swing chair and large partner's table.—T., 44, Barry [5159]

Rd., S.E.

SPEEDOMETER and Binks Carhuretter Wanted for

4h.p. Triumph, 26in. wheel.—121, Manchester Rd.,
[9460] WANTED, B.S.A. Frame, forks and tank, not later than 1912.—H. Barnwell and Sons, Hartley Wintney, Hants.

TWIN Engine, a.c., about 8h.p., mag., carburetter, clutch, gear box, for cycle car.—147a, Church St., Paddington. [1150]

Paddington.

WANTED, P. and M. chain cases, 25th.p. Donglas gear box, and magneto.—Garage, 22, Campbell [9078] Rd., Bedford.

Rd., Bedford. [9078] $W_{\rm ANTED}$, 4-cyl. F.N.'s, T.A.C.'s, T.M.C.'s, Hendersons.—Wandsworth Motor Exchange, Ebner St., Wandsworth. [6185] YY SONS.—Williamsole. Librow Wandsworth.

GOOD Solo or Combination, late model; no dealers.
—Write, G., 69a, Hambalt Rd., Clapham Com-

WANTED, 1908 Triumph; state full particulars and lowest price for cash.—Verden, 3, Tichborne St., Leicester. [1243]

St., Lecester.

SIDECAR, light coachbuilt, 26in. wheel, quickly detachable preferred.—John Turner, Allestree, Ensom. (D) detacha.

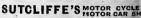
A ZENITH Combination, 6h.p. Indian, or other good make, any year.—King, Scotland Place, Ramshottom. [7563 WANTED, Indian or Harley, solo or combination, modern, good, reasonable.—259, Putney Bridge Rd., Putney. [9650]

WANTED, P. and M. second-hand sidecar, reasonable; no dealers.—Mason, 61, Southwood Lane, Highgate, N.6.

WANTED, cylinder, piston, rings, 314h,p. Humber, 1940.

1940.—Reid, 128, Campbell St., Farnworth, nr. Bolton, Lancs. WANTED, Indian, Powerplus, 1916 combination preferred.—Munro, 21, Astwood Mews, Gloucester Rd., London. [9761







Length, Width. Height toridge.
61t. 6tt. 61t.
81tu. 6tt. 6tt.
10tt. 7tt. 8tt.
11tt. 8tt. 9tt.
15tt. 12tt. 10tt.
2.4t 12tt. 10tt.

All sent carriage naid in sections.

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F. & H. SUTCLIFFE, 44, Wood Top, Heb Bridge, Yorks. 'Phone: -58, Hebden Bridge.



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Easter Events.

Γ is only natural that motor cyclists should take advantage to the full of a national War weariness has bank holiday time. given added zest to motoring bank holidays. It is consequently not surprising that we find a galaxy of fixtures for the forthcoming wee...end, including certain long-established events, such as the Northern motor cyclists' meet at Richmond. Gatherings of this description are of the greatest possible service to the movement, for hundreds of motor cyclists will come together in a spirit of friendly rivalry and will exchange ideas on motor cycle matters. Owners of new models are encouraged to attend, and, amongst other prizes, there is one for the smartest turnout.

The M.C.C. London-Land's End run is another popular event, which has attracted nearly two hundred entries. This year an element of novelty is included in that the outward route has been varied to include Porlock and Lynton hills, and, incidentally, some of the most beautiful scenery in the British Isles. makes the journey very much more strenuous, but, in compensation, entrants are free to return in their own time. Everyone will be pleased with the innovation, for the long return journey at scheduled speed was apt to be wearisome and, with the exception of the magnificent stretch of Dartmoor, between Tavistock and Ashburton, there was little of outstanding interest.

The Birmingham Club's run to Barmouth also finishes at the objective town, and, consequently, competitors are free on arrival to spend the week-end at the coast.

Two open hill-climbs and a large number of club events have been arranged, so that motor cyclists who prefer to spend their holidays tour-

ing in company have plenty of choice.

To all our readers we would extend our heartiest good wishes for fine weather and absence from trouble. A final word of advice. Show consideration for all other road users, and never indulge in reckless driving.

Identification Dates.

LTHOUGH makers of motor cycles generally are only too willing to state the delivery date of any machine when the identification number is given to them, too many purchasers of second-hand machines depend upon the statements as to age which are given to them by the sellers. We like to think that when these claims as to age are in error it is due to ignorance and not with any deliberate intention to deceive.

It has been suggested many times that it is particularly desirable for makers to give a public statement regarding the dates of their machines, but for some reason best known to themselves, considerable reluctance has been shown in giving such information, probably because it would show the yearly outputs. Why this question should be regarded as a secret is not at all clear, as even the smallest makers could show an output of which they should be

One can perhaps understand hesitation in those cases where the year's output has totalled, contrary to popular conception, only a low figure; but in such instances the necessity of giving dates and numbers, naturally, is not so important as in the case of makes of which there are large numbers on the second-handmarket.

At the present time second-hand motor cycles command such high prices that it would be particularly annoying to a purchaser to find that he had been mistaken in his estimate of age, and it is unfortunately true that there are many who are only too anxious to take advantage of

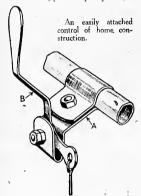
the ignorance of the uninitiated. Elsewhere in this issue, we are able to give the numbers and dates of one well-known Continental make, of which considerable numbers have been sold in this country, and we hope British manufacturers will follow the excellent lead set them in circumventing a state of affairs which lends itself to confusion and misunderstanding.

IDEAS: Useful and Ingenious.



A Simple Control Lever.

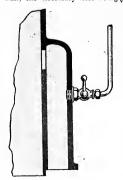
By means of a suitably-shaped clip bolted to the bottom rail of the motor cycle frame, a satisfactory control to the magneto may be obtained without soldering fittings on to the tank. A shows the type of clip required, while



B is a simple lever made from sheet metal. The method of fitting is clearly shown in the illustration. This control is useful also for operating extra air devices, variable ignition, etc.—N.H.

Priming a Two-stroke.

To facilitate starting a two-stroke engine in cold weather, a in gas tap may be fitted for priming purposes. This is screwed into the transfer port wall, the necessary hole being first

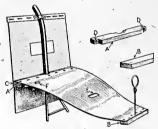


An easy starting tip for two-stroke users.

drilled and tapped. A few drops of petrol injected directly into the passage enables the machine to be started from cold with certainty and ease. If required, a small pipe from the tank may be fitted directly to the tap, thus making it unnecessary to carry a separate petrol squiret.—B.C.W.

Combined Silencer and Mudshield.

T is claimed that the silencer illustrated herewith not only tends to an exceptionally quiet exhaust, but also keeps the crank case and lower portion of the machine generally in a clean condition. The whole is built up of sheet iron with welded joints, is about 2½in.

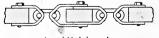


The Douglas engine and gear box are kept clean by this simple undershield.

in depth, and is turned up at the front as shown. To obviate any tendency to vibration, the gases on entering are deflected by means of baffle plates alternately right and left, finally emerging through a pipe with fish-tail end.—

An Improvised Link.

IF a repaired belt is too short for use, and no link is available, one may be made up from the spare fastener which is usually to be found in every

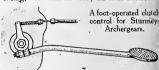


A roadside belt repair.

toollag. The illustration shows clearly how this is done. A piece of leather (or broken belt) is inserted at Λ to protect the pulley flanges —H.G.B.

An Easy Conversion.

FOR those readers who own machines fitted with Sturmey-Archer countershaft gear boxes, and who prefer a foot-operated clutch, the method of conversion described herewith may be interesting. As will be seen, all that is neces-



sary is a long pedal, which is reduced in its diameter at the end to replace the bolt which normally holds the clutch operating arm in position. This pedal should be long enough to be easily reached by the rider's heel. The fitting of this pedal does not interfere in any way with the working of the standard handle-bar control.—F.D.S.

A Simple Anti-theft Lock.

A DEVICE of some description to haffle motor cycle thieves is now almost a necessity. Absolute safety is assured by means of brazing two small eyeleted lugs A on to the front forks in such a position as to register with a lug B riveted on to the rim. The relative positions of the lugs are clearly shown in the illustration. A steel pin C is inserted through the eyelets, thus rigidly locking the wheel. By means of this arrangement the spokes cannot be damaged, If desired the lugs may take the form of detachable clips.—W.H.T.



To baffle thieves the front wheel is rigidly locked by this device.



No Takers.

RECENTLY enquired if any reader could teach me to ride one motor bicycle whilst leading another by its handle-bars. I have only had one reply from a reader who attempted the stunt for a bet, and lost both his wager and a lot of skin.

Easy Starting of a Scott.

AS any reader got a first-class wrinkle for starting a Scott from cold on the first kick? I am a Scott novice, and, though I experience no real difficulty in getting away from cold, it does not seem too easy to manage with one kick, as we can most of us do with four-strokes. Suggestions at present to hand are to substitute short reach compression taps for the plugs fitted in the heads of the cylinders, and to use these taps for doping; or to connecting the drain tap of the Scott petrol tank to a nipple screwed into the induction pipe. The sole objection to this dodge is that meddlesome urchins may operate the tap and flood the crank case with petrol. Mr. Binks's recommendations include the use of an air strangler and necessitate half-a-dozen kicks. I have seen repeatedly Scott experts get away from cold with one kick and should like to know how it can be done.

Three Inch Tyres.

If ALWAYS retract any statements which subsequent experience proves to have been wrong, and at present I am much regretting the aspersions which I once uttered against three inch tyres. I tried them some years ago on fast machines, and formed the opinion that they rolled in speedy corner work, unless they were inflated too hard for additional comfort. In view of their weight and cost I concluded that they were best relegated to monster sidecar outfits. Just now I am using a pair of three inch Palmer cords on a touring machine. I still reserve my judgment as to how these tyres may suit a road racing mount. but hey are unquestionably the goods for comfortable tourng. They go about halfway towards the comfort of a pring frame, they wear with astonishing imperturbability, and they are rock-steady on grease. In future, shall get tyres of this size for all my touring machines, vhen they can be fitted without costly structural ilterations.

Cheap Garages Wanted.

S I go up and down the country. I notice that the farmer, the farmer's sons, and, in a few cases, the farmer's hinds, are buying motor cycles. This is a commonplace as far as it concerns the big Iidland farms, but the same process is evident on a maller scale where the average acreage of a farm arely reaches three figures. In many cases it is either mpossible or undesirable to drive a motor cycle up the farm buildings. The farm roads are negotiable by carts and also by tanks, but a quarter of a mile of mud which would make a 1914 Army camp feel like a clean slate is no going for a two-wheeler, and does not attract a sidecar. Lots of these buyers are putting up garages for their new cycles and cars at the nearest point on the farm to a hard road. It is difficult to suppose that the local tradesmen can knock up a good shed more cheaply than a mass-production firm of the Boulton and Paul type can do it. When the shortcomings of so many suburban villas from a garaging standpoint are taken into account, there must be a big demand for small, cheap garages just now.

And Benches.

NOTHER want which some 'cute trader should foster and supply is that of a motor cyclist's bench. Though I have had a lot to do with the tool trade, at the moment I can only name one firm which could supply me quickly with a small bench, fitted complete with a good-sized tool rack, small bench, and drawers to contain odds and ends. Yet hundreds of motor cyclists require such a bit of furniture, and would rather buy it than many of the purely ornamental gadgets on which they waste so much money every year. Take this paragraph as a tip for some demobilised officer who is hunting round for an investment and a job.

Low Centre of Gravity.

IT is rather late in the day to begin querying the standard position of the engine in the frame; but I am beginning to wonder whether changes are not imminent. We have all seen in the Isle of Man that the Scott holds the road as no other machine has ever done. To see Philipp or Applebee or Wood. corner in a race was enough to frighten a man whose ideas of tilting on a bend were culled from a vertical single-cylinder. It used to be said that the Scott open frame was a big factor in these stunts: that it whipped a trifle where a stiffer frame would bounce. Not being an engineer, I swallowed this myth, and mentally credited 50% of the Scott corner work to its open frame, and the other 50% to its low centre of gravity. Time went on, and I tested other open frame machines, without finding that they clung to the road, Scott fashion. Then the 3 h.p. A.B.C. came along, with a rigid frame and a low centre of gravity, and, lo! it was just about a second Scott for corner work. Now few of us wish to tear round corners as Tim Wood does in the Isle of Man. But the low centre of gravity is an immense benefit in ordinary touring. It means that balance does not become precarious when your front wheel hits a big stone or a deep pot-hole. It means that when the roads are slimy you need not slow right down and take a corner with the machine vertical. On a Scott or an A.B.C. I can lean over with perfect safety on grease to as sharp

Occasional Comments .-

an angle as I dare on dry roads with a high centre of gravity. Not far from my door there is a very sharp corner, which is generally greasy, and is succeeded by quite a nice little pitch of gradient. I like the corner with a low centre of gravity, but I always scrabble it if my centre of gravity is high.

The Lorry Nuisance.

OME motor cyclists hold that the drivers of big lorries and chars-à-bancs deliberately obstruct them; and there can be no doubt that a load of trippers enjoy a practical joke, and sometimes egg a not-reluctant driver to play pranks. But my own experience has always been that the driver of the big commercial motor is quite as well-mannered as the so-called "pleasure" motorist, and my own difficulties in passing the big fellows have always been due either to the narrowness of the road concerned, or the driver's ignorance of my presence at his tail. Compulsory mirrors will be a great help, but two other expedients are necessary. Prolonged drives, day in and day out, are extremely monotonous for the unfortunate driver, and it is highly improbable that the compulsory mirror would receive as much attention from the chauffeur as it requires; he will continue to

concentrate on the road ahead, and will not watch his mirror continuously. But if we all used alarm signals with a note which was audible above the thunder of

three-tonner, we could always pass those drivers who are gentlemen, provided the road was wide For those enough. drivers who are surly or given to practical jokes, prosecution is the sole remedy. If this nuisance reappears next summer in Wales or the Lake District — and 1920 will see enormous fleets of lorries and chars-à-bancs on our roads — a repressive campaign must be initiated. The solitary motor cyclist, who is viciously bullied by a juggernaut full of half-tipsy trippers, is at their mercy for the time being. But he can take the number, and report it to his club -the A.A., or what

not—and the clubs will find means of identifying and punishing the obstructionists. Indeed, in most cases a remonstrance addressed to the proprietors of the vehicle concerned is sufficient.

To Find Air Leaks.

ERE is a reader's suggestion for finding air leak based on the theory that compression afford a better method than suction.

(1.) Shut the throttle and air levers.

(2.) Turn engine forwards until inlet val-

(3.) Turn engine backwards. The piston wil rise and the inlet valve open. A compression is thu created in the induction system, and leaks may be detected by ear, oil squirtings, etc.

Greasing the New Machine.

In N dry parts of England, where the rainfall averages less than 24in. per annum, plating will last well provided the machine is promptly cleaned after every ride. But there are places in these islands where the rainfall touches about 80 or join. per annum and even where this frightful figure is not approached the atmosphere is often so humid all the year round that rust gets in its deadly work in garage between rides, as well as after a sprint in a shower or a lengthy mud plug. That owner is to be envied who lives in a dry climate and has unlimited leisure. The rest of us must grease our machines all over as soon as they are delivered. For my own part 1

unpack the new jigger, thin dowr some grease or thick oil on the kitchen range, get a medium sized paint brush, and obscure

all the bright parts under a green film at once. As I go in for a warm after this freezing job, I muse on many things. For example, as to why the small nuts under the saddle and on the rear number plate should be nickelled? And whether I should really be blown off the saddle if I orderec disc wheels for my next mount, and ventured it across the moors in one of our frequent local gales; And why hub barrels are generally plated? Still, I retain one consolation - nay, two This grease coat wil last until selling day when I shall wipe i off with the super imposed filth and

display a glittering machine to a fascinated purchaser and, furthermore, it will restrain garage loafers from pawing the jigger after the fashion of their breed. But some labour is involved if I covet the club "appearance prize"!



THE NEW MOUNT.

Is there anything quite so interesting as the first good run on a new machine?

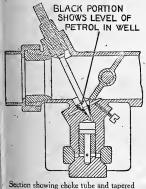
THE CAPAC CARBURETTER. A Single Lever Instrument with Variable Jet.

THE Capac carburetter has had a full year's trial in the hands of the public, and has behaved in a very satisfactory manner on the Coulson-B. and numerous other motor cycles. We have a very happy recollection of it during a trial of the first named motor bicycle, and we know of others which are giving excellent satisfaction.

Among the chief advantages of the

Capac carburetter are its simplicity and conomy. It consists merely of the ordinary type of float chamber, in which the oetrol is delivered at the top, and a apered needle set at a certain angle unning into the jet orifice. This needle s capable of being screwed up or down s capable of being screwed up of down.

o as to allow more or less petrol to be
trawn through. The point of the needle
ests in a well of petrol, and almost touchng it there is a tiny hole communicating
etween the well of petrol referred to
and the engine side of the throttle. This mall orifice is used for the purpose of a low running or by-pass jet, and through there flows a small quantity of strong



needle in well.

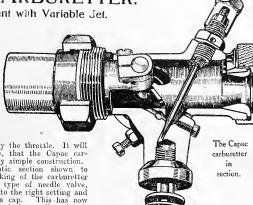
HE physical effort required to lift a heavy motor cycle on to its stand is considerable, and, realising this, Mr. George, of 50, Bramble Street, Covy, has evolved the stand described illustrated herewith. As will be in, its construction is simple and incensive, consisting of two legs which joined at the extreme ends by a wed distance piece. Two cross maters are fitted, one at the end of long leg and the other at the most venient point along the curved maters in order to engage with the olding-up." clip on the mudguard. I whole stand is pivoted on two hinge s above the centre of the back wheel. 'HE physical effort required to lift a s above the centre of the back wheel. of these hinge pins is screwed, and ries a wing nut which is used to the stand in any position by means two serrated washers, one of which ixed to the back stays of the machine the other to the inside of the stand.

mixture for starting and slowrunning purposes.
As the throttle is opened the suction on the slow-running jet decreases and petrol flows through the main jet, and at the same time air passes in ria, the choke tube, its quantity also

being controlled by the throttle. It will be seen, therefore, that the Capac car-buretter is of very simple construction. The diagrammatic section shown to

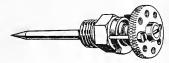
illustrate the working of the carburetter indicates the old type of needle valve, which is adjusted to the right setting and then covered by a cap. This has now been eliminated, and the needle valve is surmounted by a milled nut, round the edge of which a number of holes is drilled. Through one of these holes there is inserted a small screw, which allows the milled nut to be turned only between two limits. The position of this screw is found first of all by the makers, so that the carburetter is approximately right when delivered from the works, and it allows the mixture to be varied from strong to weak, or vice versa, and enables the carburetter to be adjusted to suit varying atmospheric conditions.

The new device prevents unauthorised interference with the setting of the carbu-retter, besides the other advantages named, and yet at the same time it allows the needle to be removed with ease in the case of an obstruction in the petrol passage, and when this is done it in no passage, and when this is done it in no way upsets the adjustment. If the adjustment is not quite correct, the screw may be removed-and inserted in another of the eight holes. There is a friction spring beneath the milled head which allows the needle valve to remain in any position in which it is put. The makers also realise the value of taking in the air



warm, and fit a muff surrounding the exhaust pipe connected to the air intake by means of a detachable tube. The top union of this is provided with a shutter allowing the quantity of hot air to be regulated.

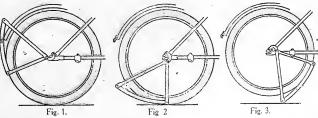
The Capac is a single-lever carburetter, specially designed for motor cycle work, and was one of the first of its kind to be placed on the market after the Armistice. It provides excellent slow running, and gives good acceleration and plenty of power. The makers are the Capac Co., Ltd., 2, Woodetock Street, Oxford Street, London, W.1.

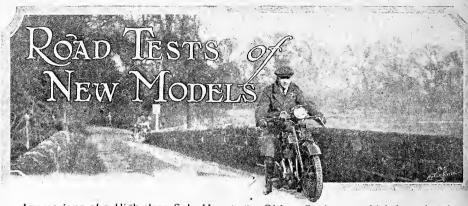


Capac fuel range control.

A LABOUR-SAVING STAND.

Fig. 1 shows the stand up for running, and held in position by the clip on the mudguard; fig. 2 the stand supporting the weight with the tyre touching the ground; and fig. 3 in the "right up" position, which is only necessary when it is required to remove the wheel. This last quired to remove the wheel. This last position is gained with a minimum of effort, as the machine runs up the curved portions gradually. Mr. George would be glad to hear from any manufacturer who is interested in the device.





Impressions of a High-class Solo Mount—the $3\frac{1}{2}$ h.p. Sunbeam—which has already won its Spurs in Competition.

MACHINE which has always occupied a place in the very front rank is the Sunbeam. With the happiest memories of a Six Days Trials' experience in the Lake District on a 234 h.p. model, it was with the greatest pleasure that the writer adopted Mr. A. S. Bowers's suggestion of an extended trial

The T section bottom bracket casting now employed. The front chain adjustment is effected by a draw bolt.

ofthe 31 h.p. singlecylinder sporting model. By reason of its good name, one, of course, expects a great deal from a modern mount with the now familiar black and gold tank,

but those expectations are fulfilled in their entirety -nay, more-on acquaintance with the machine. First impressions are everything, they say. Our trials machine was handed over tuned to the last motch and equipped to the last word. Would that we could say the same of every machine placed at . our disposal for trial! A dig at the kick-starter, and the willing engine promptly answered, the silky-acting clutch engaged, and away the machine went as smoothly as a good-class car. Gear changing proved

easy, and, in short, one was at once inspired by the feeling that the machine was in perfect tune and condition, and ready for the most difficult test. There is a great deal of difference in the controllability modern motor cycles. Some gines are docile and tick over quietly in the free position; others with smaller flywheels and less carefully designed cams wil roar and vary in their actions when not running unde-

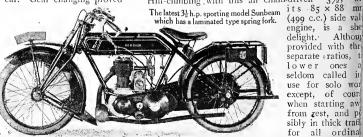
load. Need we say that the Sunbeam belongs to the former category? It is by no means a lightweight, yet its controllability, due to its well-balanced engine and conveniently arranged controlling mechanism. tributes in no small measure to the contentment of the rider and feeling of long acquaintanceship with the machine, even though that acquaintance may have been but short.



The seat lug of the 31 h.p. Sunbeam has the rear stays brazed in. An expander bolt and cone secures the saddle-pillar.

With semi T.T. bars and the new type laminate spring fork, one can imagine no more desirable type of mount for the man who desires to "get there" and back, and withal with the minimum loss of tim Hill-climbing with this all chain-driven "31/2," wi

(499 c.c.) side val engine, is a she delight. Although provided with thr separate aratios, t lower ones seldom called in use for solo wor except, of cour when starting aw from rest, and po sibly in thick traff for all ordina



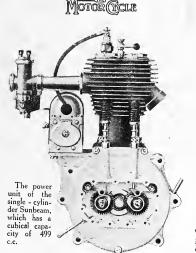
Road Tests of New Models .--

hills are quite within the compass of the top gear of 4.6 to 1 even with a rider of 113 stone up. It is no compliment to a mount of the Sunbeam calibre to instance Sunrising, Edge, and Sudeley Hills, since public trials have demonstrated that no hill with a rideable surface is too steep for such a mount. One's appreciation must, therefore, be devoted to its reliability, its cleanliness, its controllability, and its generally excellent design, leaving hillclimbing ability as a foregone conclusion. We have proved. that the clutch will stand any amount of abuse. The handiness of the detachable wheels we have not had occasion to demonstrate with this latest 31 h.p., since the makers are wise enough to equip it with tyres well up

to their work, and which, as an almost natural result, have never punctured. A detail worthy of praise is the oil feed to the gear box, controllable by a two-way tap operated from the saddle, thus eliminating he need for periodic use of the usual separate oil gun, which, to say the least, is a nuisance and a messy peration at best. The gears, incidentally, are axtremely quiet in action, as well-cut gears usually are.

A. Cool Running Engine.

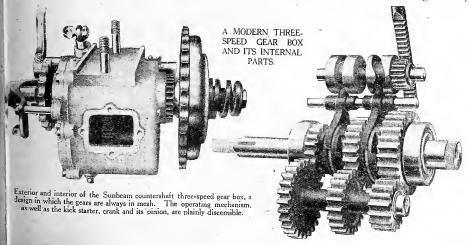
Prolonged fast running in no way affects this remarkbly efficient engine, and that the cooling is ufficient for all purposes is demonstrated by he ease with which single figure gradients are surnunted on the run. Indeed, as we have said, the unbeam owner can revel in hill work whether the pads are wet or dry, for in the event of wet, the



rider can proceed in comfort so far as the machine is concerned, buoyed up with the knowledge that, whatever the elements, the transmission, running as it does in oil bath chain cases, is working under ideal conditions. The prolonged life of chains, due to their entire protection from outside elements, needs no emphasis. In our trials we have been impressed by the absence of valve clatter; separate timing wheels are employed for inlet and exhaust with their respective cams formed upon them, the cams operating the adjustable headed tappets through rockers.

Once or twice in a rather tight corner, we have raised the left handle-bar lever expecting to operate the valve lifter, forgetting for the moment that the control of the Sunbeam front brake is operated by the left-

hand lever and the valve lifter on the right-but that, after all, is due to custom, and only confirms our opinion that motor cycle controls should be standardised. The brakes themselves are extremely effective and solidly arranged, nothing to get bent or disappear with vibration, the wide guards are a feature to admire, whilst throughout the design bears the mark of the master hand only to be expected when one realises that managers, designer, and testers alike are keen motor cyclists themselves, always out to improve, and having a high standard invariably in mind. In brief, our experience of the machine, extending over several weeks, has been entirely devoid of untoward incident, it has failed at nothing, started easily with wonderful consistency, not even a puncture has marred our enjoyment, and consequently one may justly dub the Sunbeam as a machine of unfailing reliability.



RUNNING REPAIRS & ANDOUSTIMENTS Hints on the Cursory Examination and Tuning Up of a Motor Cycle. At this time of the year, many motor

A T this time of the year, many motor cyclists are either just in receipt of a newly-acquired machine, or are contemplating extended use of a machine which has possibly been laid up during the winter mouths.

To ensure a minimum of roadside

To ensure a minimum of roadside trouble, it is well in such circumstances to overhaul thoroughly all the external adjustments, and to make certain that no part requires extensive repair, as if this is not done early in the year, considerable difficulty and delay may be experienced in getting any work done during the spring and early summer months, when repairers are usually inmutated with work.

A Road Test.

In order to ascertain the general condition and performance of the machine, it is best to take it out on a short run of about eight or ten miles; this is especially advisable when it has not been used for some time, or has only been newly purchased, and the rider is not familiar with it. After covering this distance at an easy pace, some general idea of the condition of the engine and transmission will have been gained, and a stop should now be inade to examine the various parts in detail. It will have been noticed whether the steering is too loose, and whether the forks are inclined to clash or chatter on rough surfaces. If these troubles have been noticed, it is very possible that the steering head or wheel bearings may require adjustment. Wheel bearings are best tested when the bearings are best tested when the machine is jacked up, so that the wheels can revolve freely. In the case of the back wheel, the belt should be removed.

An attempt should be made to rock the wheels sideways, and any shake or looseness in the bearings should be taken out by the adjustment provided. In the case of hubs with the ordinary type of cup and cone bearing, this is quite casily done by screwing in the left-hand cone a little fit must be remembered that the adjusting cone should always be on the near or left-hand side of the machine). The Douglas, P. and M., Zenith, and several other machines are fitted with disc adjusting hubs; in this case the adjusting hubs; in this case the adjusting disc, if on the left-hand side, has a left-hand thread, and is secured by a look ring, which must be slackened before attempting to tighten the disc. The latter process being most easily carried out by using a hammer and punch.

Uncertainty in steering may frequently be traced to faulty adjustment of the steering head bearings. The easiest

way to test this is by standing over the machine, gripping the handle-bars, and endeavouring to lift them vertically against the weight of the machine. Slake in the head bearings will at once be noticed, and the trouble is rectified by loosening the head clip bolt and screwing down the adjusting ring, which is strated immediately above it. A special ring spanner is usually required for this, but in emergencies the adjustment may be effected by means of a hammer and blant chisel; but these tools are liable to cause, a considerable amount of damage

it clumsily handled.

The above adjustments are preferably carried out after the machine has returned from its test, but their necessity can best be ascertained on the road.

Engine Adjustments.

During the test run it will have been noticed whether there was an excessive amount of vibration or whether the engine was not up to its usual standard of power. Vibration, if more than is usually to be noticed, may arise from several causes; for instance, the engine fixing bolts may be loose, or some of the bearings may be worn. The first trouble may be remedied as easily as it is traced, but the second requires more skill and experience.

Loose bearings in any of the engine parts are most readily noticed on machines fitted with outside flywheels. In the case of engines not so fitted, it is necessary to remove the belt, or, if a two or three-speed gear is incorporated, to place the gear lever in the neutral position, then while the engine is still warm hold the flywheel, pulley, or sprocket, and rotate the engine until the piston reaches the end of its stroke, then rock the flywheel backwards and forwards. Any play between the connecting rod bearings and crank pin or gudgeon pin will be felt as a slight vibration. It is this play between the parts which sets up the annoying vibration often noticed when a

Testing the hearings by rocking the flywheel.

y standing over the he handle-bars, and it them vertically. The machine is running "light" on the learning that the vibration is respectively to the machine. Shake gas will at once be obble is rectified by clip bolt and screwting ring, which is above it. A special lity required for this, the adjustment may so fa hammer and sees tools are liable to ride, it will be nearly to have the bearings renewed, this, of course, will mean dismant the engine completely and sending either to the makers or to a compet repairer. Should the machine pull whowever, and only the slightest amo of vibration be noticeable, it may assumed that the internal mechanism the engine is in good order.

Worn Main Bearings.

Small two-stroke engines, especiwith plain bearings, lubricated by "petroil" system, may occasionally a trouble through excessive play in mainshaft bushes. Not only will trouble cause a considerable amount noise and vibration at high speeds, it might account for a certain lack power due to a compression leak betwith the shaft and bush. The condition these bearings can be readily obserby taking hold of the flywheel at top and bottom as shown in the picture of the shaft and bush. The condition these bearings can be readily obserby taking hold of the flywheel sidew only the smallest perceptible amount movement in this direction is persible, but a direct in and out movement in this direction is persible, but a direct in and out movement of the shaft may be allowed up to algain. In the case of all outside flywelock-nut should be kept tightly hammed up into its place, and a special space for this purpose is usually supplied the makers. From time to time it shill be placed over the nut and a few sublows with a hammer given, of wise the flywheel may become loose the which it is fitted.

The engine having been thorous warmed up with its test run, the ris in a position to estimate the compression retaining state of the engine. skick starter is fitted, the compressions are starter in the compression retaining states are starter in the compression and the compression retaining the compress

MOTOR (PCLE

Running Repairs and Adjustments .-

should maintain the rider's weight on the pedals for quite an appreciable time, but if no starting apparatus is provided an endeavour should be made to pull the back wheel round by hand with the top gear engaged, listening earcfully the leakage of compression. It is well to remember when testing compression that the throttle should be almost fully open.
If the compression is noticeably weak,

it is as well to inspect some of the external adjustments before commencing to dismantle any parts. Notice whether the valve caps and sparking plus are tight, or whether they show trace of leakages, and if these appear to be in order examine the clearances of the valve tappets. Although the latter may appear to be in order when the engine is cold, it is quite possible that the clearance is insufficient when the engine is warm.

Tappet Clearances.

and tappet should be such as to permit the insertion of a thin visiting card, as shown in the illustration below.

valve cap in order to find out the internal state of the engine, as regards the amount of carbon deposit in the cylinder head. Should the inner surface of the valve cap he thickly coated, it may be assumed that the engine requires decarbonising,

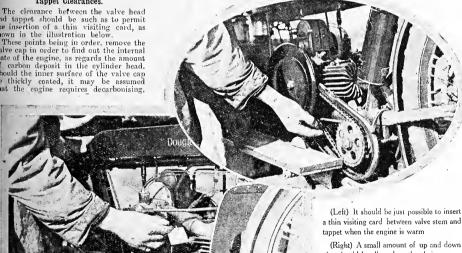
that the gaps are not too closely adjusted. About Join, is a satisfactory gap for the sparking plug points,

Transmission Details.

As a rule, there is very little attention required in maintaining the transmission of a modern motor cycle in good running order. This is especially so in the case of chain-cum-belt or all-enclosed chain drive. The essential adjustment concerns the correct tension of belt or chain as the case may be. Chains should not be run too tight. A short chain, such as that between engine and countershaft, should have about \(\frac{1}{10} \), up and down play midway between the two sprockets, and it is to be remembered that correct alignment has far more bearing on satisfactory results than a small variation in tension.

Should the chain be out of alignment considerable wear will be noticed on the

unite free. After draining off the paraffin it should be immersed in a bath of hot grease in which a quantity of graphite has been mixed, and allowed to remain in this for some hours, when it may be assumed that the lubricant has reached all the bearing surfaces between rivets and bushes of the links. Chain tension should be tested with the wheel in several positions so as to avoid "tight spots." Where the final drive is by belt tho adjustments are much more simple, and it is merely necessary to see that the belt is at the correct tension-that is to say, it should not be possible to depress it midway between pulleys more than about lin. The condition of the ends of the belt should be noticed, and if the fastener shows signs of pulling through it will be as well to cut off about lin, of the belt and refit the fastener again, making up



nd, of course, this must be done in the arage, the cylinder having to be re-loved, and the inside of the head and the iston top being thoroughly cleaned by craping off the deposit.

Grinding-in the Valves.

Granted that all the above mentioned djustments are in order and the comression is still not as it should be, it is ossible that the exhaust valves have ecome burnt, and, if so, they must be moved and ground in with carborundum owder or one of the special grinding astes specially prepared for this purpose. While the valve caps are out of the linder it is as well to examine the barking plugs, at the same time cleaning the points very carefully, and noticing side plates at one side of the chain, and if this is permitted chain breakages may be expected with annoying frequency, therefore make certain that the chain sprockets are in the same line, and that the shafts on which they are carried are parallel. Long chains such as those in the final element of the transmission from countershaft to back wheel may be permitted a little more play, say, gin. mid-way between the sprockets, and here again alignment is the most important consideration. Usually the front chains consideration. Osually the front chains are reasonably well protected, but final drive chains very often run under the most adverse conditions. If the chain is noticeably dry it should be removed when the garage is reached, and should be soaked in paraffin until all the joints are

(Left) It should be just possible to insert a thin visiting card between valve stem and

play should be allowed on the chain.

the length by means of one of the special detachable leather links, which can be fitted to almost any standard fastener.

Carburetter and Lubrication System.

If the engine has performed satisfactorily during its short test, it may be assumed that the carburetter is in order, although it is well to note whether any flooding takes place when the machine is brought to a standstill. Considerably improved consumption may usually be obtained by lowering the petrol level somewhat beyond the setting usually adopted' by the makers. Alterations in level are effected by raising or lowering the small collar fitted on the float chamber needle. In the case of top feed and inverted needle carburetters the level is lowered by tapping the collar, which is a driving fit, further down the needle. Older pattern carburetters, in which the needle is controlled by small balanced

MOTOR (YCLE

Running Repairs and Adjustments .-

weights, are altered by reversing this process, i.e., the collar is raised slightly when the level is to be lowered. Persistent flooding of the carburetter is usually caused by the needle valve seating being holds. ing being badly worn and if a very distinct ridge is found on the pointed end of the needle should be trimmed off with an exceedingly fine file, and the needle should then be slightly ground on

to its scating.

All the carburetter parts should be carefully cleaned, and it is advisable to remove the petrol pipe and notice that it is clear; the same applies also to the jet. Turning to the lubrication system,

machines fitted with ordinary hand pumps or two-strokes lubricated on the petroil system may be dismissed almost at once, as neither of these arrangements requires attention. If a semi-automatic drip feed is fitted, it should be observed that the oil passes freely. In the which utilise crank case suction to induce a flow of oil through a sight feed, it is advisable to run the engine on the stand or in a neutral position, and if it happens that no flow of oil is noticed, the trouble may be traced to defective operation of the small non-return valve which is usually fitted at the base of the sight feed body. This valve consists of a small disc of pen steel, and it should be removed from time to time and cleaned with petrol. Its action depends upon the alternate compression and depression

in the crank case due to the movement of the piston; it closes as the piston descends and opens as the piston rises, thus permitting the partial vacuum in the crank case to draw upon the oil in the tank. This system is perfectly in the tank. This system is perfectly satisfactory, but it is somewhat susceptible to temperature variations; in

engine bolted up directly to a two-speed and reverse gear box, and a tubular frame

form the chief items of specification. The

cold weather the viscosity of the oil prevents a free flow under the influence of comparatively low crank case suction, and the regulator should be adjusted accordingly.

If the engine has fired with regularity on its brief test run, it may be safely assumed that the ignition apparatus is in order; however, make certain that continued satisfaction is likely to be obtained. It is well to inspect one or two details, so that some estimation of their future life is possible. The platinum-points should first have attention, and must be set so that they open .5 mm.; they should close smartly and meet evenly, and may be trimmed with a fine

The fault can be Play in the head readily traced by lifting the may cause handle - bars as uncertain steering shown

file if the surfaces are not smooth and clean. On removing the contact breaker disc a carbon brush will be found behind This should be cleaned with petrol, as also should the track on which it runs, if the latter is oily. The high-tension brushes may also be cleaned in the same way if oil is present, and the slip ring may be cleaned by inserting a petrol-soaked rag through the brush orifice and rotating the engine. Lubricate the mag-neto very sparingly if oil holes are provided.

Final Adjustments.

Having glanced over all these points, and assuming that no troubles have been discovered which demand extensive dismantling or expert attention, it only remains to examine all parts on the machine which could possibly come loose through the effect of vibration. Carefully go over the whole of the nuts on the machine, tightening up everything

securely with a spanner. Cast an eye over the tyres, renewing the valve rubbers if they show any tendency towards gradual deflation, and systematically lubricate with thin oil all moving parts such as controls, brake pedal, wheel bearings, front fork spindles, and, in fact, every point where movement takes place. Adjust the brakes carefully and take up the adjust-ment on all the control wires i the levers show any idle movement before commencing to move the particular part which they operate.

The Secret of Skill.

Attention to all these detail will have familiarised the ride with the state of every part o anything which is in the leas doubtful, he will be able to anticipate the cause of any in voluntary mechanical stoppag

almost as soon as it takes place It may truly be said of those moto cyclists who are so expert, and whos-diagnosis of roadside troubles is almos uncannily rapid; that the essence of their apparent skill is due to their realisation of the saying that "To be forewarned i to be forearmed." WHARFEDALE.

A SPORTING MONOCAR. A Single-seated Model of the T.B. Three-wheele IT has often been suggested that there is a sure market for a monocar built and finished in a first-class manner by firm who could market it effectively. So far, most such propositions have emanated from small firms, and their specifications, with one exception, have not been sufficiently good to make them a commercial success. The machine illustrated is an entirely different proposition. It is a "designed job," produced by a firm of engineers well equipped to make it in quantities. This firm is Thompson Bros. (Bilston), Ltd., who have for some time been experimenting with three-wheelers—the T.B. cycle car described in our issue for The sporting model T.B. monocar, The chassis January 8th being the leading model. Shaft drive, an 8 h.p. hir-cooled V details are the same as the T.B. runabout, a single-seater

> "beetle back" body of pleasing design provides ample room for driver, luggage, guns, fishing tackle, or golf clubs, while at the rear there is an

emergency seat for an occasional pa senger. The body is well upholstered at finished in scarlet and black, and di wheels add to its sporting appearance.

body replacing the standard type.

BUYER'S GUIDE FOR 1920

CONTINUED FROM LAST WEEK (See pages 344-355.)

SCOOTERS,

Alwin.

1† h.p., 1-cyt., 55 × 60 mm., overhead valves. Runbaken magneto. Single-lever carburetter single gear. Whittle belt and final chain.

Kenilworth.

18 X zin. tyres, 18 X zin. tyres, Petrol tor 90 miles, Price £44 zs. Weight 55 lb. BOOTH BROS. Bishop Street, Coventry.

CA.V. magnetic
A.A.V. magnetic
A.A.V. magnetic
Shaft entremission.
Pressed steel. 'Spurg trans.
Solid Tyres.
A.L.WIN MANUFACTURING CO.
Luther Road, Tedelington, S.W.

Autogilder.

at h.p. Union, setroke, 70 × 76 mm., 79 a.c., Petron, Indicator, C.A.Y. magnetic, Amor carboratering the T. G.A.Y. magnetic, Amor carboratering the 47 m. angular bargho vigin. Handle-bar width Langlo vigin. Handle-bar width angular form (sprong) 21m. Partic Raparity to 0.90 miles. Perce 430. Weight 130 h. (approx.) Other model: Service, with coaching to a mile or AUTOCLIDER, I.C. Caparity 3 ember 1. AUTOCLIDER, I.C. Caparity 3 ember 1. Caxton House, Gt. Charles Street, Birmingham.

Autoped.

1. b.p., 4-stroke, 57×53.5 mm, 162 c.c., Flywheel magneto. Floatless carburetter. Multiple-disc chrch.

Autosco.

I D.p., I-cyl., 52.5×54 mm., II7 c.c., automatic inlet valve. Chain-chiven magnete.
B. and B. carburetter.
Single-speed actborycter.
BROWN AND LAYPIELD.
12, Empte Parade, Sydenbam Road, London, S.H. Sump Jubrication.

Kingsbury.

14 h.p., 2-stroke, with detachable head.
Ann carburette.
Ann carburetter.
Disc speed. Clain transmission.
Disc wheels.
LONDON AND MIDLAND MOTORS, LTD.
445, Oxford Street, London, S.W.L.



zł b.p. Union, z-strcke, 70 × 76 mm., 292 c.c. Czain-drive, magneto. Amac carburetter. Single-speed gear. Chain drive, Loin, wneels, Weight 70 lb.

Macklum.

F. MACCALLUM, Guildhall Buildings, Birmingham.

Marseel.



H. Ph. 1-cyl., 5 x 60 mm. 14, 2 cc. overhea.

Valves and detachable cylinder head.

Conventional or thiwheel type magneto.

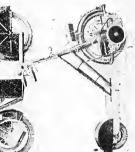
Anns or Stafford Attor-coolers, there is a conventional or thiwheel type magneto.

Anns or Stafford Attor-coolers.

Weight 7.3 H. Weight 5.3 H.

Mobile Pup.

E. 4.7 Tos., complete with lighting set. STAFFORD AUTO-SCOOTERS, LTD., Waveley Road, Coventry,



1.n.p., 1-v.c., automatic milet valve 2.5 × 54 min., 117 v.c., automatic A.V. magneto, gear driven. S.U. excharatter, single-lever. St.U. excharatter, single-lever. Single-speed. Chain drive.

T. AND T. MOTORS, LTD., 52A, Conduit Street, London, W.,

SCOOTERS (Continued).

Skootamota.

13 h.p. A.B.C., single-cyl., 4-stroke, 60×60 mm., overhead valves. Hand pump lubricat on. Ground Amac carbmetter, single-lever. C.A.V. magneto, gear driven.

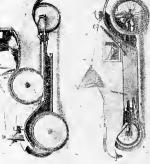
Petrol J gallon. Oil 11 pints.
Price 451 os. Weight 851b.
7 GI.BERT CAMPLING, LTD,
1, Albemade Street. London, W.t. Direct chain drive (10 to 1). Height of saddle 3oin. Wheelbase 48in clearance 4in.

13 b.p., 4 stroke, 56×61 mm., 150 c.c., overhead valves. Splasb lubrication. Counterstall gear (9, to 1) and shork elsewher.
Wheelbase 4.2 in. Hub to saddle bracket 18in
Piero f gallon. (9it i pint. Whippet. Price £49 75.

SUMNER, VAUGHAN, AND CO., 28, Victoria Street, Westminster, S.W.r.



8 h.p., V twin air-cooled J.A.P., or to h.p., Person Stein, 53.5 of ormal indication, semi-aird, M.L. man index of the American contraction, semi-aird, M.L. man index of the American contraction, single-lever, species (100 4 ft or 1) and reverse. Single-lever, species (100 4 ft or 1) and reverse Whire these #L sin, a. 4tt. Gound clearance 7th. Price £23, including spines. Weight 7 over, Other models: Sporting monocar, energetory sext, 8 or 10 h.p., as above, weight 7 over, price £23, michiding spines.



Bradley Engineering Works, Bilston, Stalls

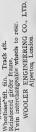
Sturmey-Archer 3-speed countershaft gear. Chain-cum-belt transmission. 8 h.p. Precision, 85×88 mm, 998 c.c. Amac carburetter. Thurlow. Fellows magneto.

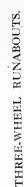


Seat starter, Quarter-elliptic front spring. Coil at rear.

1. THURLOW,

8-10 b.p. Wooler, flat twin, \$5 × 90 mm, 1,022 Ce. monointed across the frame. McDanical lubraciton by chain elevator. McDanical lubracitor statistic type. Mvoler carburetter, sattace type. Infinitely variable geat. Belt and worm trans-





Castle Three.

V twin (50°), 80× 105 mm., 1,055 c.e., side-by-side. Mechanical pump lubrication, pressure feed. Price f.260 complete, fully equipped. COVENTRY PIXEMIER, LTD. Coventry Premier. 3 speeds (top 4 to 1) and reverse.
Wheelbase 7ff fill. Track 4ft.
Tank capacity 5 gallons, gravity feed.
Weight 7 cwt. (approx.) T.B. magneto, bevel gear driven. Cox Atmos carburetter, automatic. Epicyclic gear, 2 speeds torward and reverse Wheelbase 8ft, 6in. Track 4ft, 1in. 4evl., 63 × 88 mm., 1.097 c.c., water-cooled. Automatic lubrication by mechanical pump. Vatford magneto. Zenith carburetter.

Read Street, Coventry. CASTLE MOTOR CO., LTD.,

Kidderannster.

Petrol 5 gallons. Weight 81 cwt. (approx.)

J.B.

L.S.D.

s h.p. J.A.P., twin (50°), 85.5×85 mm., 976 c.c., air-cooled, side-by-side valves. M-L magneto, bevel driven. Amac rarburetter 2 speeds (top 5 to 1) and reverse. Wheelbase 5ft, 9in. Track 4ft. Hand lubrication, direct.

Price f.204 158. SYKES AND SUGDEN, LTD., Spring Place Works, Huddersfield Petrol 5 gallons. Oil 1 gallon. Weight 6½ cwt.

ro h.p. Precision, 2-cyl., 85 x 96 mm, 1.096 c.c., water-cooled. Merrall-Brown. Thomson-Bennett magneto.
2 speeds forward and reverse. Semi-elliptic springs in front, quarter-elliptic in MERRALL-BROWN MOTORS, St. George's Road, Bolton, Lancs. Price £300. rear.

Shaft and chain transmission.

650×65 mm, tyres.

2-speed countershaft gear.
Wheelbase 7tt. Frack 4tt. Ground clearance 71in
Petrol 3 gallons. Oil 4 gallon.
Price (18): to h.p. J.A.P., 2:cyl. (50°), 85.5×85 mm., 976 c.c. water-cooled, side-by-side valves. Amac carburetter. Morgan.

Other models: Same machine, with water-cooled M.A.G.; standard model, with air-cooled I.A.P. or Precision engine, I.Yo. MORGAN MOTOR CO., LTD.,





The Latest Entrants in the Motor Cycle Field.

New Lightweights. Developments in Scooters. A Tandem Motor Cycle. A Miniature Tricycle. A Manxland Mount.



As was to be expected, the demand for motor vehicles of all types is inducting many small firms to introduce motor cycles. These almost invariably take the form of "assembled" lightweights, and the passenger field is left to those who produce most of the parts themselves. This is probably due to the fact that the production of engines of larger sizes is strictly limited, whereas the manufacturers of two-stroke units and the manufacturers of two-stroke units and small gear boxes are in greater evidence, and, owing to the simplicity of the two-stroke engine and the small gear box, fairly large quantities can be produced quickly.

Below we give particulars of some of the new propositions to which we have just referred.

THE WITALL LIGHT. WEIGHTS.

TWO two-stroke lightweights are being introduced by the Witall-Garage, 136b, Tanners Hill, Lewisham High Road, New Cross, London, S.E.8. They are similar in design, with the exception of the power units and petrol tank capaof the power units and petrol tank capa-cities. Model A is a sporting little machine, and employs a T.D.C. engine for the power unit, which, it will be remembered, has a bore and stroke of 70×70 mm. (269 c.c.).

The frame of the sporting model has a diagonal top tube, and the tank a capacity of one gallon of petrol and a quart of oil. The T.T. handle-bars no doubt of oil. The T.T. handle-bars no donor will tempt the younger class of enthusiast to a large degree. 26×2in. Dunlop tyres and Saxon spring forks are at present fitted, but it is possible that a different fork may be substituted at a later date. The Witall model B is a tourist machine with an Arden two-stroke as the nower unit. as the power unit.

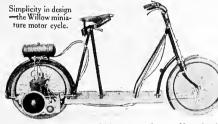
As in Model A, an Amac carburetter and C.A.V. magneto are fitted, the latter

and C.A.v. magneto are ntted, the latter being in front of the engine and driven by an enclosed roller chain.

The petrol tank has a capacity of one and a half gallons of spirit and over a quart of lubricant. Substantial and neat aluminium footboards and Roc two-speed gear boxes are fitted on both models. We are informed that delivery of both models can be made in approximately sixteen days.

THE WILLOW SCOOTER.

ALTHOUGH termed a motor scooter. the machine shown in the illustration would perhaps be better termed a miniature motor cycle employing the Wall Auto-wheel as a power unit. For a machine of this type the open frame has many advantages; the simplicity of its construction, which consists simply of

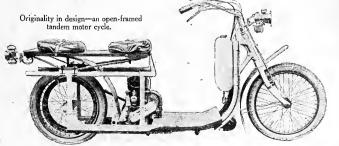


bolting the frame tubes which support the front and rear wheels to a stout ash footboard, renders it suitable for quantity

This construction gives greater flexi-bility than a metallic frame, and it is claimed that the rider's comfort is greatly enhanced thereby.

A single lever carburetter is fitted, and, moreover, the compression release device is operated from the throttle lever.

This machine is manufactured by the
Willow Autocycle Co., Willow Works,
Willow Street, Victoria, London, S.W.1



A NOVEL TANDEM.

THE Jackson motor cycle is the inven-tion of Mr. R. L. Jackson, who has been associated with the motor industry since 1896, and was one of the pioneers of the light car movement, Intended primarily for short journeys, it has an open frame, carrying the engine amidships inside the duplex tubes in such

a position that if the machine falls over the power unit is not damaged.

In the machine shown ' to ns the engine was a 23 h.p. Union two-stroke, driving directly to the back wheel by means of a belt. In future models, however, a two-speed gear and spring forks will be fitted. The petrol tank is carried in front of the driver.

Not the least interesting part of the machine is the method of springing the platform on which the two seat cushions are carried. This is mounted on laminated springs, and it is so constructed that two passengers can comfortably be carried, or,

passengers can comfortably be carried, or, if desired, the after cushion may be removed and a large box carrier fitted. The major part of the weight is below the centre of the wheels, which should tend to keep the machine steady and to reduce the chances of skidding. At present three-ply wood mudguards are

MOTOR (YCLE

The Latest Entrants in the Motor Cycle Field.

fitted, and another interesting feature is the tyres, which are 550×65 mm., as fitted to Baby Peugeot cars.

The machine is handled in London by Messrs. Gastons, Ltd., 212-214, Great Portland Street, London, W.1.

A MINIATURE MOTOR TRICYCLE.

A LITTLE three-wheeler, embodying clutch and hand starter, intended for light delivery, has been placed on the market by the Abbott Ford Motor Scooter and Engineering Co., Ltd., 5, Surbiton Road, Kingston, Surrey. The frame is constructed of strip steel,

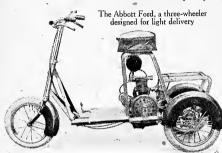
the longitudinal members terminating at the forward end in V shaped supports, which are welded to the steering head, laminated springs supporting the rear clutch, the clutch spring being located between the cone and a flange keyed to the axle. The clutch pedal, which is provided with a ratchet, is connected to the clutch ring by a rod and bell crank lever.

16in. × 23in. tyres and attractive domeshaped mudguards are fitted.

All the components of the scooter have been made as light as possible, resulting in a total weight of under 40 lb.

· During our brief trial of this machine, the engine unit seemed quite satisfactory. It would be advisable, however, either completely to enclose the transmission system or provide an undershield to protect it from the mud and dust. suggestion will, we understand, be carried out in future models. The springing of the rear wheel was good. The seat supporting members, however, are inclined to be weak, which permits considerable side sway when turning a corner. These members are also to be adequately improved.

Undoubtedly there is a potential demand for a light motor-driven vehicle for light de-livery which will give a service showing dea service showing de-cided advantages over the pedal carrier cycle, and which can be handled by a youth of average intelligence. To appeal to small shopkeepers, the price and the running costs must be kept low, and minia-tures such as the Abbott Ford appear to fill the bill.



A MANXLAND MOUNT.

UST as one associates Epsom Downs JUST as one associates Epsom Downs with racehorses, so does a motor cycle produced in the Isle of Man automatically become a T.T. mount. It is therefore, perhaps, not surprising that the new Aurora motor cycle, made by Aurora Motors, of Mona Terrace, Douglas, I.O.M., is a sporting little mount, which should make a strong appeal to the youth of Manxland. The engine is a 3 h.p. Dalm two-stroke, having double exhaust pipes to the silencer, two-speed gear, hand-controlled clutch, chain-cum-belt transmission, 26×24 in. tyres, D.R. handle-bars, E.I.C. magneto, and Amac carburetter. The price of the two-speed model is 75 gns., single-speed 65 gns.

ROADS IN THE MIDLANDS

'HE road information contained below has been compiled by the Birmingham office of the A.A. and M.U., and will be of great assistance to many motor cyclists during the coming holidays: Worcester - Malvern. - Tarmac laying from Powick to Worcester City boundary, duration three months. Roller working at Newlands Common. Widening operation Worcester City boundary to Malvern

Town boundary.

Worcester - Tewkesbury. — Bumpy between second and third milestones from

Worcester.

Birmingham - Worcester. — Bumpy Droitwich, Witton, and Rockhill, Broms-grove. Care should be taken in wet

weather half mile south of Rubery.
Birmingham-Bristol Old Road.—The
portion of the road known as Rosehill,
Rednal, should be avoided; it is used as a test hill for heavy lorries.

Birmingham-Walsall.—Road bad. Birmingham-Wolverh'pton.—Very bad. Birmingham-Wolverhampton (via Willenhall).-Road bad condition.

Wolverhampton - Stourbridge. — Very bumpy between Wolverhampton and Himley. Roller working between third and fourth milestones south of Wolver hampton, full width.

Wolverhampton-Stafford.—Bad between Gailey and Wolverhampton.

Tamworth-Lichfield.—Bumpy, particularly on approaches to both towns.
Erdington-Gailey (Chester Road.)—Chester Road crossing (Erdington) to

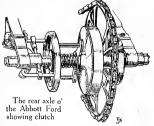
Gailey very bumpy.

Birmingham - Tamworth (via Tyburi and Minworth) .- Bad.

Northampton-Stony Stratford.—Tarma working between laying and roller

Wootton and Collingtree.

Shrewsbury-Ludlow. — Tarmac laying and roller working at Craven Arms, ful width. All clear day and night.



A 2½ h.p. two-stroke engine, having a bore and stroke of 77 mm. ×67 mm.,

and fitted with a Fellows magneto, is

held between the rear ends of the frame

members by two right angled plates.

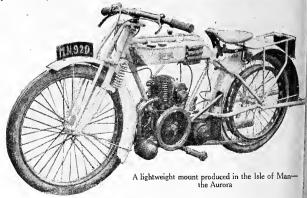
The tank, holding half a gallon of

petrol and oil mixed, is fixed immediately

below the seat, the supports of which are welded to the main frame members.

Attached to the seat support is a skeleton frame for the accommodation of a de-livery box. The drive from the engine

sprocket is taken by roller chain to a gear-reducing sprocket on a countershaft, from which the final drive is taken by chain to the rear axle. Located on the off side of the rear axle sprocket is an external contracting hand brake, operated from a pedal situated on the right of the footboard, and on the near side of the sprocket is a Ferodo-lined





Times to Light Lamps.

		Manney Co.	TIME		
Apr.				8.1	p.m
2.3	3rd	50.0		8.4	"
	5th			8.7	,,
٠,	7th			8.10	,,

The T.T.

Three Blackburnes, at least, will be in this year's T.T., a team having been entered by Messrs. Burney and Blackburne.

A Dangerous Hill.

The Royal Antomobile Club informs us that White Hart Hill, about 1½ miles from Bristol, is under repair, and in a dangerous condition for motoring.

Motor Cycle Dumps.

W.D. open lorries, packed with warworn motor cycles, are to be seen daily on the Dover Road. Some are packed flat on each other; others are dumped in, front wheel foremost, or with the wheels upwards. It is said the machines are arriving via Richborough from the French dumps near Calais.

Graduates' Section of the I.A.E.

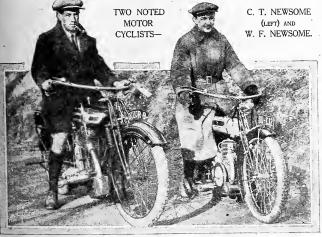
At a meeting of the London Branch of the Graduates' Section of the Institution of Automobile Engineers held recently at 28, Victoria Street. London, S.W.1, Mr. J. Chappell read a paper on "Magnetos." The author described in a very lucid manner the functions of the various parts of the magneto, and the characteristics of the different types. A very instructive and interesting contribution was added by Lt.-Col. Bristow.

Police Activity.

We are informed that the police are active at Epsom, working in the tenmile limit in High Street, also at Leatherhead on the Dorking Road, between the town and the church at the top of the first hill out, working both

ways.

Manchester motor cyclists are warned that a police trap is working daily between Hallowfield Station and the White Lion Hotel, Withington, from 5.30 to 9 p.m., and no fewer than ten riders were stopped within an hour on March 22nd for speed, obscured number plates, or insufficient lighting.



In pre-war days there was much confusion between C. T. Newsome, of the Rover Co., and W. F. Newsome, of the Triumph Co. Both were leading competition men who early joined H.M. Forces when the great call came. Now they are back with their respective firms, and were, oddly enough, encountered together by a *Motor Cycle* photographer.

Special Features.

RUNNING REPAIRS AND ADJUSTMENTS-ROAD TESTS OF NEW MODELS. NEW LIGHTWEIGHTS.

Western Enthusiasm.

Judging by the crowds at the start and finish of the Bath Club trial last week, the sporting side of the game is booming in that district. To run two twenty-four hours trials in a few weeks and to get an entry of about thirty each time at this unsympathetic season of the year is distinctly good.

Second-hand Prices.

There appears to be a further slight rise in second-hand prices with the advent of spring. This, however, seems to be confined principally to high-class outfits, while the single-geared lightweights and two-strokes are the same as last mouth, ranging from £30 to £60.

For prospective riders who find highclass variable-geared machines beyond their means, and who are content to ride entirely solo, there are quite a number of single-geared 54 h.p. to 4 h.p. mounts of good make available at this time for about £50, which, with a little care in selection, would give much enjoyment.

, ,
A J S , 1914, 6 b.p., sidecar
" 1916 and later
Bradbury, 4 h.p., single-speed, solo £35-650
,, 4 h.p., sidecar
B.S A., 41 h.p., 3-speed, sidecar £70-£155
Calthorpe-Jap, 23 h.p., 2-speed
Clyno, 2-stroke, 2-speed
,, 5-6 h.p., 3-speed, sidecar £95-£ 25
Douglas, 21 h.p., W.D
., 4 h.p., 3-speed, sidecar £75-£160
Enfield, 21 h.p., 2-stroke
., 3 h.p., twin, 2-speed
, 6 h.p., sidecar
, 6 h.p., sidecar
Humber, 31 h.p., 2-speed, sidecar
Indian, 1914, 7-9 h.p., 2-speed, sidecar £75-£115
., 1919, 7-9 h.p., 3-speed, sidecar (100-(205
Lea-Francis
Levis, 21 h.p., single speed
" 21 h.p., 2-speed
Matchless-Mag, sidecar
New Hudson, 21 h.p., 2-stroke £40-£58
New Imperial, 2] h.p., 2-speed £40-£69
Norton, 4 h.p., 3-speed, sidecar £115-£130
P. & M., 1919., 31 h.p., sidecar
Rover, 1913-14, 3½ h.p., T.T
. 1014 3 h p., 3-speed, sidecar filo
,, 1918, 5-6 h.p., 3-sp. c/shaft, sidecar £135-£176
Rudge-Multi, 31 h.p
" 5-6 h.p., sidecar £120
Scott, solo £55-£120
" sidecar £95-£160
Sunbeam, 1915-18, 31 h.p., solo [80-£100
,, 3½ h.p., sidecar £110-£175
Triumph, 31 h.p., single-speed £35-{50
3! h.p., 3-speed hub £45-£70
", 4 h.p., 3-speed c/shaft, solo £85-£110
A h.p., 3-speed c/shatt, sidecar, £100-£150
21 h.p., 2-stroke
Zenith, 6 h.p., sidecar



LIKE FATHER-LIKE SON.

The youngest entrant in the London-Land's End event, C. W. W. Cooper (the son of the well-known competition rider). Although only 14½ years of age, this young motor cyclist has much experience behind him, having ridden Harley-Davidsons, Triumphs, Douglases, and a Bradbury and sidecar. His mount on Saturday will be a 2¾ h.p. Douglas.

Easter Awheel.

This Easter promises to see a record number of motor cyclists on the roads, whether on touring bent or in competition. The two outstanding events arranged are the Northern meeting of motor cyclists at Richmond, Yorks., on Good Friday, and the M.C.C. London to Land's End run on Easter Saturday.

Obstructions on the Road.

Both The Motor Cycle and The Autocar have in the strongest possible manner urged that large and heavy road vehicles be fitted with means by which they may immediately be aware of following traffic.

At the recent Royal Antomobile Club General Committee meeting, two matters bearing on this subject were proposed. The Warwickshire County Council suggest making a byelaw, requiring that every locomotive and heavy motor car used on a highway in the county shall be provided with a mirror, fixed in such a position as will enable the driver to observe traffic approaching from the rear.

The proposal was warmly approved, and referred to the Commercial Motor Users' Association, with the recommendation that they would support it.

A Nisbet Award in the T.T.

Appreciation has been widely expressed at the decision of the Anto Cycle Union to award a special prize in future Tourist Trophy contests to the competitor displaying the greatest pluck and endurance in the race. This prize will be known as the "Nisbet" award, and will commemorate the late Mr. J. R. Nisbet, chairman of the Auto Cycle Union from 1914 to the time of his death last summer. The classic motor cycle road race, held annually in the Isle of Man, certainly provides scope for the exercise of the finest sporting instincts, and it is well that these should be recognised by a special prize given in memory of one who was an example of the best type of British sportsman. At the same time the A.C.U. has been wise to rule that any competitor who continues in the race while suffering from injuries will not qualify for the new award.

Annual Elections.

At the meeting of the Auto Cycle Union held in London last week, the Hon. Sir Arthur Stanley was unanimously re-elected president, and the following gentlemen were elected vice-presidents: Lt.-Col. A. E. Davidson, Rev. E. P. Greenhill, Mr.

H. P. E. Harding, Sir Capel Holden, Col F. Lindsay-Lloyd, Lt.-Col. D. F. Nicholl Col. M. O'Gorman, Sir Julian Orde, Mr G. F. Sharp, and Mr. A. W. Torkington At the subsequent annual meeting of Individual members the following gentleme were elected as representatives of individual members on the General Committee: Messrs.-S. L. Bailey, W. Cooper A. Ross, G. Smith, E. B. Ware, and W. H. Wells.

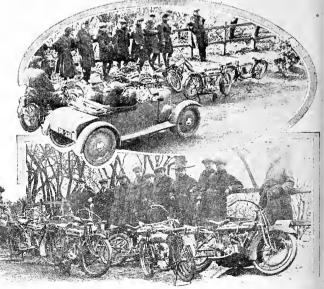
Identification Dates.

In order to protect purchasers of second-hand F.N. motor cycles, the London Concessionnaires F.N. (England) Ltd., have provided us with the number and dates of these popular Belgian machines since 1902. We are glad to give publicity to these figures, and hop British manufacturers will afford usimilar facilities to assist buyers of second-hand machines. The F.N. date and numbers are as follow:

LIGHTWEIGHTS.

1902				Nos.	5,000	to	5,939	
1903				**	6,000	**	9,999	
1904-6				e 22	10,000	,,	14.999	
1907-9					20,000	21	24,999	
1909-10)			**	30,000	**	31.999	
1910-11			::	**	32,000	**	34,999	
1912-13		-		37	40,000.	11	41.999	
1913-14					42,000	"	45,830	
1920		٠.	• •		46,300	"	40,000	
	••			. 12				
FOUR	2-C	VLIND	ER	MAG	CHINES	š	A.I.V.	
Year.						, .		
1905				Nos.	15,000	to	16.999	
1906-7				12 -	17,000	,,	19.999	
1908-9					25,000	27	29,999	

FOUR CYLINDER, 7 H.P., M.O.V.
Year.
1914 Nos. 70,000 to 70,576



The majority of motor cycle manufacturers have during the past few weeks accelerated their output to the utmost degree. The above group depicts testers on the top of Stoneleigh Hill, a gradient of 1 in 9 The little car is the new 8 h p. air-cooled Rover recently described in The Autocar.

An Inspection of the T.T. Course.

Satisfactory Condition of the Roads.

UITE recently we had the opportunity of making a complete circuit of the T.T. course, with the exception of the short cut in Ramsey to the Snacfell Road,

tion of the short cut in Ramsey to the Shacten Road, which is not yet open.

For the most part we found the roads in quite good condition and pleasantly free from the eternal potholes one encounters everywhere in England, the reason being of course, that no lorries are to be found on the Island to hammer the roads which, on the average, are superior to

Our trip had as a starting point the Quarter Bridge Hotel (a mile outside Donglas) from which place towards Union Mills the road is fair and under the steam roller

for half a mile.

From Union Mills to Crosby the surface is moderate, and remains so until the Ballacraine Hotel corner is reached, when the road up the rise improves considerably.

The surface through Glen Helen is excellent all the way.

and particularly beautiful at this time of the year, when the

Manx gorse is in full bloom.

Creg Willey has some rough stretches for the first 300 yards, but signs of repairs are observable by the roadside. From the crest of this hill, for the next four miles, the road is beautiful in more senses than one until the Kirkmichael corner is reached.

The village street is bumpy, but it is good past Bishop's Court for four miles, when the surface becomes bad and continues in this condition, becoming steadily worse all the way to Ramsey. The corner over the bridge before the Ginger Hall Hotel is wide and good, but possesses this distinctional contents.

tinction alone until the town is reached.

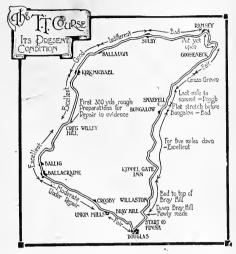
As the short cut to the mountain is not yet available, we made across the level crossing, narrowly escaping annihi-

lation by an incoming electric train.

Up the slope of Snaefell the wild mountain road is, for the most part, in fair condition, being especially good for the first three miles—the hairpin bend has been recently

repaired.

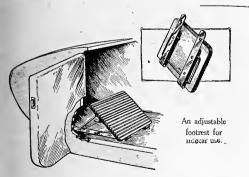
The road becomes more and more grass-grown as one approaches the summit (which, when we passed, was wreathed



in rain clouds), and is somewhat rough for the last mile or

in rain clouds), and is somewhat rough for the last finite or so until nearing the flat stretch before the Bungalow, where the crown of the road is dangerously humped in places. From this point down the mountain to the finishing post is probably the fastest stretch of the course, and for five miles the road is in excellent condition, as far as the corner of St. Nrian's Church, where the road is bad to the top of Brae Hill, which has been newly metalled from top to

The above observations will serve to show that the T.T. course is, with the exception of a few short stretches, in a safe and satisfactory condition for the forthcoming race, and it is evident that these rough places will be attended to by the Manx authorities before the course is opened for practice.



THE LATEST TAN-SAD SEAT.

S a substitute for spring frames and spring seat-pillars, the Tan-Sad Works have now introduced a new motor cyclist's seat. Briefly, it consists of a seat fixed on the ends of two quarter-elliptic springs which are secured to a frame suitable for locking to the carrier. The pivotal point, instead of being placed immediately in front of the rider, as is the case with the majority of saddles, is located as far as is possible behind him. This gives a maximum resilience. The attachment can be instantly

AN ADJUSTABLE FOOTREST FOR SIDECARS.

ECESSITY is a prolific mother of inventions, and no doubt the adjustable footrest for sidecars illustrated is the outcome of experience on the part of sidecar passengers. In the majority of cases, short people are required to use sidecar bodies more suitable for tall passengers, and rice versa, and in the former case a means of easily adjusting the "reach" will no doubt be very

much appreciated.

The device shown is manufactured by Messrs, W. Towell and Co., of Earlsdon, Coventry, and is sold at 21s. It consists of a five-ply wood platform on a hinged frame, which is secured to the sidecar floorboards, three positions being available—flat, and at two augles. It is perfectly rigid when in use, and occupies practically no space when in the down position, and should be specially suited to any sidecar having a roomy front portion.

fitted to carriers. The address of the makers is Freeman Street, Birmingham.



A Tan-Sad seat to replace the saddle of a motor cycle.



194 Competitors in this Year's Easter Long-distance Rur

T midnight to-morrow (Friday, April 2nd) nearly 200 motor cyclists and light car owners will be assembled at Cranford Bridge, Hounslow for the M.C.C. Easter run to Land's End. This M.C.C. Easter run to Land's End. This means, counting one person for every solo machine, two for each sidecar, and, assuming that the light cars will also carry one passenger only in addition to the driver, that about 300 persons will journey to the south-western end of England.

It is a big run-314 miles-with only two intervals of an hour each to break into the 20 m.p.h. schedule, and illustrates the keen enthusiasm of motor cyclists for long-distance runs sans a mass of irritating conditions when so many competitors are forthcoming.

The Jarrott Cup.

The premier award was presented to the M.C.C. by Mr. Chas. Jarrott, O.B.E., and is known as the Jarrott Cup. The run was first held in 1908, when twenty-five competitors journeyed westward, and was won by S. G. Frost (4½ twin Minerva), whose total error was 2m, 22s. Similary 31, whose total error was 2nd 22s. Triumph) secured the trophy in 1909 with a total time error of 2m. 22s.; as in the previous year's contest, twenty-five riders competed.

In 1910 there were thirty-five competitors, and the trophy was won by the late Sir R. K. Arbuthnot on a 3½ h.p. Triumph, his total time error being 2m. 9s. This was the first year the trial was held at Easter, August Bank Holiday being the date of the previous runs.

In 1911 a slightly more difficult route was planned, which included the crossing of Dartmoor. Sixty-nine competitors of Dartmoor. Sixty-nine competitors started, and the winner was the late A. J. Moorhouse (7 Indian). Time error, 2m. 32s.

No fewer than eighty-six motor cyclists entered for the 1912 event, the winner being Harold Karslake (3½ h.p. Rover), whose total time error was only 52s.; and in 1913, out of 110 competitors, P. W. Moffatt (2¾ Donglas) secured the cup. Time error, 1m. 37s.

One hundred and seventy-four competed in 1914—the last event—and the honour of securing the cup went to E. A. Colliver '(7 Indian), whose total time error was Ìт.

All the foregoing trials to Land's End have included the return journey, but this year a change has been made, the trial

being over the single journey only.

The route has been altered, and takes in Porlock and Lynton hills. The number competitors constitute a record, in which connection it is interesting to compare the entries in past London-Land's End trials:

1908		 25	1912		86
1909		 25	1913	۸.,	110
1910	•••		1914		174
1911		 69	1920		194

Firs	t. Competitor's Schedu	le.
		Total
Time.	Place. D	istance.
12. I	Cranford Bridge	_
12.41	Maidenbead	131
1.20	Reading	261
2.11	Newbury	431
2.37	Hungerford	52
3 - 7	Marlborough	62
3.50	Devizes	76 1
4.20	Trowbridge	861
4.47	Frome	951
5.21	Shepton Mallet	106
5.48	Glastonbury	115
6.32	Bridgwater	130}
7.32	Depart after breakfast .	_
8.24	Williton	148
9.6	Porlock	162
9.52	Lynmouth	1731
9.54	Lyuton Hill Top	174
10.48	Barnstaple	191
11.15	Bideford	200}
12.11	Holsworthy	218
12.53	Launceston	2321
1.53	Depart after luncheoo	-
2.58	Bodmin	2541
4.12	Truro	278]
5.28	Penzance	304
5.58	Land's End	314

Below we give a list of the competitors in this year's event:

	SOLO.
	Hugh Gibson (21/2 Clyno),
	F. Notari (4 Triumph).
3.	A. Wooding (4 Sunbeam),
4.	E. Foster (2% Hobart).
5.	H. F. O. Evans (31/2 Sunbeam).
6.	C. A. McKeand (4 Harley-Davidson).
7.	H. W. Glendinning (8 Blackburne).
8.	R. C. Staunton (4 Triumph).
9.	L. T. Gilson (4-5 Zenith).

	Land's End.
10. 11.	V. Gaylord (5 Zenith). M. V. Gaylord (5 Zenith). W. V. Childer, Mord (6 Triumph). W. E. Brough (5 Brough). H. Thorpe (2½ Douglas). A. J. Sproston (3½ Lea-Francis'. W. World (5½ Lea-Francis'). W. World (5½ Lea-Francis'). W. World (5½ Lea-Francis'). W. World (5½ Lea-Francis'). W. World (67 Arrell). F. R. C. Spikins (7-9 Harley-Davidso: W. J. Fleetwood (3 A.B.C.). T. S. Sharratt (4 Triumph). J. Robertson-Brown (8-10 Henderson).
12. 13.	K. V. Chicley (5 Brough).
14.	H. Thorpe (2% Douglas).
15.	W. Cooper (3½ Lea-Francis).
17.	H. Karslake (6-7 Ariel).
19.	W. J. Fleetwood (3 A.B.C.).
21.	T. S. Sharratt (4 Triumph).
23.	H. E. Symons (34 Scott).
25.	J. A. Hilger (3 Rover)
27. 28. 29.	H. F. Edwards (7-9 Harley-Davidson).
30.	E. C. Redvers Johnson (3½ Humber).
32.	A. E. Walker (2% Hobart).
34.	J. Harrison (3 Calthorne).
36.	F. A. Applebee (4 Indian Scout).
30. 31. 32. 33. 34. 35. 36. 37. 38.	P. G. Kennedy (3½ N.U.T.).
40.	G. T. Udall (2/2 Chater-Lea).
41. 42. 43.	L. Pulham (3½ Ariel).
44.	A. G. Battley (4 Triumph).
45. 46. 47.	W. C. Hemy (2½ Metro-Tyler).
48. 49.	G. Wray (3½ Triumph).
50. 51.	A. H. N. H. Hewett (6 Zeaith).
52. 53.	A. E. Kipps (7-9 Harley-Davidson).
54. 55.	J. A. Watson-Bourne (- Blackburne)
56. 57. 58. 59.	S. L. Squires (4 Triumph). F. Mighell (4 Triumph)
58.	H. Cowlin (3½ P. and M.).
60. 61.	H. J. White (4 Triumph). P. Pike (2% O.K. Union).
62. 63.	E. Porter (3 A.B.C.). C. Keith-Robinson (3 A.B.C.).
64. 65.	J. S. Truscott (3 A.B.C.). G. P. Osborne (31/2 B.S.A.).
66. 67.	F. S. Spouse (6 Zenith). A. H. S. Love (2% Douglas).
68. 69. 70.	H. J. Scale (3½ New-Scale). L. S. Pinder (8 Zenith).
70. 71.	J. A. W. Armstrong (8 Blackburne). F. M. Chinn (31/2 Zenith).
72. 73.	M. W. P. Nell (25; Metro-Tyler). J. A. O'Sullivan (Coulson B).
74.	Sub-Lt. H. F. Fellowes, R.N. (31/2 Ru-Multi).
75. 76.	F. R. G. Spikins (7-9 Harley-Davidson W. J. Fleetwood (3 A.B.O.) F. A. Longman (39' Articl), F. A. Longman (39' Scott), H. E. Symons (39' Scott), J. Rohertson Brown (8-10 Henderson), H. E. Edwards (19' Harley-Davidson), J. A. Hilger (39' Rover), H. F. Edwards (19' Harley-Davidson), W. Ford (29' Blackburne), G. A. Reed (39' Scott), H. F. Edwards (19' Harley-Davidson), W. Ford (29' Blackburne), G. A. Reed (39' Scott), J. Harrison (3 Calthorpe), H. B. Browning (39' Scott), J. Harrison (3 Calthorpe), H. W. Bateman (29' Diamond), F. A. Applebee (4 Indian Scott), F. A. Applebee (4 Indian Scott), F. A. Applebee (4 Indian Scott), F. A. Lorden (39' Articl), F. G. Kennedy (39' N.U.T.), F. E. Jones (39' Articl), F. G. Kennedy (39' N.U.T.), F. E. Salter (29' Zenith), A. G. Battley (4 Triumph), G. Gulee (29' Allon), G. Gulee (29' Allon), G. G. Way (39' Triumph), F. J. Esticknepp (4 Blackburne), D. Tilt (4 Triumph), J. S. Miller (4-5 Zenith), A. E. Kipps (7-9 Harley-Davidson), B. J. Sims (4 Triumph), J. A. Watson-Bourne (c) Blackburne), J. A. Watson-Bourne (c) Blackburne), F. Mighell (4 Triumph), H. Gowlin (39' P. and M.), H. Heuben Harveyson (4 Indian Scott P. Pike (29' O.K. Union), E. Porter (3 A.B.C.), G. Keith-Robinson (6 Blackburne), F. S. Spouse (6 Zenith), A. H. S. Love (29' Bouglas), H. S. Love (29' Bouglas), H. S. Love (29' Metro-Typler), J. S. M. Hiller (10' Metro-Typler), H. M. W. S. Nedl (29' Metro-Typler), H. M. W. S. Nedl (29' Metro-Typler), H. H. P. Lucas (5-6 Zenith), C. H. P. Loves (6-6 Zenith), C. F. Plowman (4 Blackburne), C. F. Plowman (4 B
77. 78. 79.	A. E. Carr-Stone (4 Triumph), H. P. Lucas (5-6 Zenith).
79. 80.	L. W. B. Parsons (4 Triumph).
81. 82.	T. Thompson (4 Douglas).
83. 84.	C. F. Plowman (4 Blackburne).
	. 1

The M.C.C. Easter Run .-

85. C. Pearson (2'4 Douglas),
86. F. Washing (3'5 N.U.T.),
86. F. Washing (3'5 N.U.T.),
87. Marking (3'5 N.U.T.),
88. H. M. Barton (3'5 N.U.T.),
89. J. A. Newman (3'5 Numbern),
99. R. E. L. Saunders (2'9 Green-Precision),
92. S. Matthews (5'6 Brough),
92. Capt. A. W. Brittain (3'1g Sunbeam), SIDECARS AND RUNABOUTS (THREE WHEELS). SCARS AND RUNABOUTS (THREE WIFELLS).

S. B. Groen (8 New Insperial).

Reyre (5-6 James).

H. Dale (8 Reyal Ruby).

L. A. Apsey (8 Royal Ruby).

E. J. Pittock (5-6 James).

S. Goodwin (10 Castle Thes).

C. E. Bennett (7-9 Harley-Davidson).

E. T. Elliott (5-6 James).

C. W. Batter (10 James).

C. T. Elliott (5-6 James).

C. T. Elliott (5-6 James).

C. T. Blott (10 James).

T. J. B. G. Vale (10 Morgan G.P.).

T. B. G. Vale (10 Morgan G.P.).

T. J. Baker (10 Morgan).

T. J. Baker (10 Morgan).

C. Chaipman (10 Morgan).

E. Arbuckle (4); Humber).

E. Arbuckle (4); Humber).

D. Bradbury (4 Norton).

W. Pratt (8 T.B.).

W. Pratt (8 T.B.).

F. There (4 Donalas).

R. Carey (7-9 Harley-Davidson). 95. 96. 97. 98. 99. 100, 101. 102. 104. 105. 106. 107. 108. 110. 111. 112. 113. 114. 115. 116. 117.

MOTOR (YCLE

| 120. R. E. Darnton (8 Stanteam), | 121. J. Smith (6 Enfeld), | 122. II. T. Whitty (4 Triumph), | 122. II. T. Whitty (4 Triumph), | 123. G. W. Wilkins (3½; Blackburne), | 124. F. W. Wilkins (3½; Blackburne), | 125. K. de Bernicer-Sinart (6 Zenith), | 126. K. de Bernicer-Sinart (6 Zenith), | 127. R. Richardson (4½, B.S.A.), | 127. R. Richardson (4½, B.S.A.), | 128. W. A. Fell-Smith (7.9 Harley-Davidson), | 129. W. A. Fell-Smith (8-B.S.A.), | 129. Marken (19-B.S.A.), | 129. Marken (19

158. J. B. Blakemarsh (4 Triumph).
169. W. R. Brown (3½ Sunbeam).
160. C. S. White (7-9 Rudge).
161. C. D. Wright (7-9 Harley-Davidson). C. D. Wright (729 Harley-Davidson),
LifelIT CARS,
Lionel Martin (10 Aston-Martin),
Vivian Hardie (10 Donglas),
W. H. Oates (11 Lagenda),
W. H. Oates (11 Lagenda),
W. H. Oates (11 Lagenda),
W. H. Oates (12 Lagenda),
V. H. Oates (12 Lagenda),
V. H. Oates (12 Lagenda),
V. H. Oates (14 Lagenda),
V. H. Oates (15 Lagenda),
V. H. Oates (16 Lagenda),
V. H. Oates (16 Lagenda),
V. H. Oates (10 Lagenda),
V. H. Oates (10 Lagenda),
V. H. Oates (10 Lagenda),
V. G. Harvey (10 Lagenda),
V. G. H. Mocatta (10 Car),
V. J. Myson (10 Singer),
V. J. Myson (10 Lagenda),
V. M. J. Hawken (10 CAN),
V. M. J. Hawken (10 CAN),
W. D. Hawken (10 CAN),
W. D. Hawken (10 Lagenda),
V. Paddon (10-16 Hampton),
V. Paddon (10-16 Hampton),
V. R. Brown (10-16 Hampton),
V. H. Hampton (10 Lagenda),
V. M. H. Brown (10-16 Hampton),
V. R. Brown (10-16 Hampton),
V. H. Hampton (10 Can),
V. M. H. W. M. Hampton),
V. H. W. H. W. M. H. W. M. H. W. H. Hampton),
V. H. W. H. W. W. H. W. H. W. H. W. H. H. H. LIGHT CARS. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 180. 184. 185 185. 186. 187. 188. 190. 191.

EASTER EVENTS.

Trials, Races, Runs, Meets, and Hill-climbs.

N addition to the M.C.C. London-Land's End run, starting to-morrow at midnight, there are several other Easter events of interest. These include:

Easter events of interest. These include:
The B.M.C.R.C. Race Meeting at
Brooklands, Easter Monday.
The Birmingham M.C.C. Trial to Barmonth, April 3rd.
Inter-club Meet of Northern Motor
Cyclists at Richmond, Yorks., April 2nd.
Westmorland M.C.C. Open Hill-climb, Easter Monday.

Staxton Hill-climb, near Scarborough,

Easter Monday. South Wales Inter-club Hill-climb, April 2nd.

Races and Rallies.

The programme of the British Motor Cycle Racing Club meeting, at Brooklands, includes eight events, the first of which commences at 2 p.m. The following are particulars of what should prove very interesting afternoon:

Event 1. 2 p.m.—Victory handicap for solo motor cycles of any class.

Event 2. 2.30 p.m.—The Essex Easter

short handicap for motor cars.
Event 3. 2.50 p.m.—Two-stroke sprint

Event 4. 3.10 p.m. -350 c.c. sprint

Event 5. 3.30 p.m.-500 c.c. sprint Event 6. 4 p.m.—The Essex Easter

long handicap, for motor cars. Event 7. 4.30 p.m.—1,000 c.c. sprint

Event 8. 4.50 p.m.—Three - wheeled handicap for three-wheeled runabouts and sidecars of any class.

The trial is now available for use by members of the B.M.C.R.C., the entrance fee to which is 10s. 6d, and annual subscription £2 2s. for the first 250 members only joining or rejoining the club as from January 1st, 1920.

Brooklands is near Weybridge, Surrey. To reach the track motor cyclists from London pass through Walton-on-Thames, those from the North can travel via Reading or Windsor, and from the south via Guildford.

Richmond, Yorks., where the northern clubs meet to-morrow, is in North Yorkthire, and lies in the centre of scenery typical of the Yorkshire dales. Those Yorkshire and Lancashire motor cyclists who are not attached to any of the clubs participating, and who are at a loss for an objective, may find a run to the meet worth while, as all rallies of machines are interesting, if only for the sake of seeing new models, which may not have been seen before.

The journey is too far, of course, for London riders, and even those in the Midlands will only consider it in connection with a week-end tour, but for those who do not know exactly were Richmond lies, it may be useful if we point out that it is about four and a half miles southwest of Scotch Corner on the Great North Road.

The Birmingham club's Easter event is a reliability trial for the Sangster the course includes the famous Bulchy-Groes, and the trial finishes at Bar-worth where where the course in the course includes the famous Bulchy-Groes, and the trial finishes at Barmouth, where no doubt most of the competitors will spend the Easter weekend.

Hill-climbs.

Orton Scar is the rendezvous of the competitors in the Westmorland M.C.C. open hill-climb. It is about thirteen miles from Kendal, Tebay being the names from Renar, Tenay being the nearest railway station. Sporting members of several well-known Northern clubs have notified their intention of competing, and, given good weather, an excellent competition should result.

Also, in the North, is the Staxton hillclimb—a classic of long standing. It has been organised by the Scarborough M. and M.C.C. for Easter Monday, and will no doubt attract many motor cyclists in that district.

Another important hill-climb is the joint club event organised by the Carmarthen, Neath, and Ystalvfera clubs. This will take place on Saturday, and as quite a large entry has been received, South Wales motor cyclists will no doubt make it an objective for their Easter Saturday run. Mr. J. J. Jenkins, Nelson Hotel, Carmarthen, has the arrangements in hand.

A Scottish Trial.

The Glasgow Western M.C.C. will hold a reliability trial on Easter Monday. The A. J. Stevens trophy will be awarded to the winner. Advantage will be taken in this trial to find the winner of the Palmer trophy, for which twenty-four competitors tied in the recent Glen Douglas-Rest and be Thankful trial held by the Western Club. The course on this occasion is laid Cinb. The course on this occasion is laid through the picturesque districts of Lanarkshire, and some well-known hills, including Monse Lane (Kirkfieldbank), Hartree, and Devil's Elbow, figure on the route. A new hill—at least, new to trials competitions—near Hazelbank is also included, and it is expected that the gradient will prove a pretty severe test even to the best machine.

The observed hills are Mouse Lane, Hartree (both ways), and Hazelbank. There is a non-stop section from Tweedsmuir to Innerleithen, where lunch will be served. There is also a non-stop section from Hazelbank to Glasgow. On Hartree, going out, there will be a fast hill-climb, and on the journey back a slow hill-climb. After the lunch stop an easy starting test

will be made.

Most clubs have events of their own for this Easter, and altogether, given fine weather, the roads of this country will be well frequented by riders of all possible types of two and three-wheeled motor cycles.

Burnley and District M.C.C.

It was decided at a general meeting to change the name from "Burnley Motor Gipsy Club" to "Burnley and District Motor Cycling Club."

Dorchester M.C. and L.C.C.

Much local interest was aroused on the occasion of the opening run to Bourne-mouth on March 18th. Despite un-favourable weather, about thirty members turned out, testifying to the keen spirit prevailing in the club.

North London M.C.C.

A slow hill climb in the neighbour-hood of Northaw has been fixed for April 3rd, and on Easter Monday the April ord, and on Easter Montagy are captain's run will take place. Members will meet at headquarters at 10.45 a.m. for both events. The club membership has now reached 55, including two lady members.

Cardiff M.C.C.

A trial run of forty-seven miles, over a difficult course, took place on March 20th. Competitors started at Kingsway, and followed a route through Ely, Llantrisant, to Upper Boat, where a wide detour was made, including Groesfaen, Nantgarw, returning to the starting

East Midland Centre Challenge Trophy.

A meeting of club representatives has now been fixed for April 10th, at the "Mallet and Tool," Chesterfield, at 3.30 p.m. The North Derbyshire Club is making arrangements for tea, and all visitors are invited. Any new clubs desirous of attending should communicate with Mr. J. Simmonds, 10, Cranmer Street, Nottingham.

Dublin and District M.C.C.

Silver medals were awarded to the following competitors, who took part in the lowing competitors, who took part in the trial on St. Patrick's Day, having lost no marks: A. Wayte (7.9 h.p. Harley-Davidson sc.), P. H. Hurse (4½ h.p. B.S.A.), C. W. Johnstone (3½ h.p. Sunbeam sc.), S. G. Smith (4 h.p. Norton sc.), H. McAllister (7.9 h.p. Indian sc.), D. Allen (2½ h.p. Sun), T. Redmond (7.9 h.p. Indian sc.), and B. Smith (4 h.p. Trimmel) Triumph).

Liverpool M.C.

A successful impromptn team trial was held on March 21st over a short sporting course near Llangollen. Each team consisted of three competitors, who had to complete the course three times. Quite a number of the old members are back again, and the attendance was good.

The result was a win for C team, comprising H. P. Richards (Harley sc.), A. Mosses (3½ Sunbeam), and J. C. Walker

(2! Edmund).

·Several short reliability trials are being organised for the Easter week-end, beginning from Friday, April 2nd. Full particulars will be posted up daily at the club's headquarters, the Commercial Hotel, Kendal. In addition to other prizes, the President's prize will be competed for during the week-end. Secretary: Mr. E. E. Holloway, 36, Sandown Lane, Wavertree, Liverpool.



Week-end Club Events.

Week-end Club Events.

Apr. L.-Harrogate and District M.C.C. Opening Run to Richmond.

Apr. M. R. Restourne and District M.C.C. Four mouth.

Apr. L.-Eastbourne and District M.C.C. Four Days' Tour.

Apr. 2.-Norwich and District M.C. Opening Run.

Apr. 2.-Plomath and District M.C. Opening Run.

Apr. 2.-Plomath and District M.C. and L.C.C.

Reliability Trial. Pensonee and Return.

Apr. 2.-Munocht and C. Reliability Trial.

Apr. 2.-Likeston and District M.C.C. Opening Run.

Apr. 3.-Norwich and District M.C.C. Opening Run.

Apr. 4.-Norwich and District M.C.C. Opening Run.

Apr. 3.-Norwich and District M.C.C. Opening Run.

Apr. 4.-Norwich and District M.C. Grinishawe

Shield Competition.

Apr. 2.-Carmaethen M.C. and C.C.C. Hill-climb.

Apr. 2.-Normaethen M.C. and C.C.C. Hill-climb.

Apr. 3.-Normaethen M.C. and C.C.C. Hill-climb.

Apr. 3.-Normaethen M.C. and C.C.C. Chill-climb.

.—N.M.C.F.U. (Barrow:n-Furness).—Oyening Run. 2.—MEETING OF NORTHERN MOTOR CYCLISTS AT RICHMOND, YORKS. 2.—Ikley M.C. and L.C.C. Social Run (Rickmand). 2.—Scarborough M. and M.C.C. Run to

Apr. :-Hitley M.C. and L.C.C. Social Kun
Apr. :-Scarborough M. and M.C.G. Run to
Richmond.
Apr. :-Scarborough M. and M.C.C. Run to
Apr. :-Dorchester M.C. and L.C.C. Run to
Apr. :-Dorchester M.C. and L.C.C. Run to
Apr. :-Dorchester M.C. and L.C.C. Run to
Apr. :-Dorchester M.C. Tour Lake District
Apr. :-S.—Stallyridge and District M.C. Week-end
Social,
Apr. :-Birmingham M.C.C. Reliability Trial for
APR. :-Bagger Cup. Don.LAND'S END RUN.
Apr. :-Run. in And District M.C.C. Opening

Run. 3.—Bedford and District M.C. and L.C.C.

Apr. 3.—Brdford and District M.C. and D.C., Run., Apr. 35.—Edinburgh and District M.C. Run to Westmouland Hill-climb. Apr. 6.—Rochester, Chatham and District M.C., Run to Hastings. Apr. 4.—Scarborough M. and M.C.C. Gipsy Meet-

Apr. b.—Rochester, Chatham and Learner and Learner and M.C.C. Olpsy Meet-Apr. b.—Scarborough M. and M.C.C. Olpsy Meet-Apr. b.—Scarborough M. and M.C.C. Opening Run. Apr. b.—Winter M.C.C. Opening Run. Apr. b.—Winter M.C.C. Opening Run. Apr. b.—Scarborough M. Opening Run. Apr. b.—Scarborough M. Striet M.C.C. Run to Runch and District M.C. Run. Apr. b.—Scarborough M. and M.C.C. starton Hill-Apr. b.—Rochester, Chatham and District M.C. Run. Apr. b.—Scarborough M. and M.C.C. Starton Hill-Apr. b.—Rochester, Chatham and District M.C. Apr. b.—Nondon M.C.C. Opphin's Supprise Run. Apr. b.—Nondon M.C.C. Opphin's Supprise Run. Apr. b.—World M.C.C. Starton Hill-Apr. b.—William M.C. Run to Holton Sear. Apr. b.—William M.C. Run to Holton Sear. Apr. b.—William M.C. Run to Holton Sear. Apr. b.—Bitched and District M.C. and L.C.C. Spahanne. Apr. b.—William M.C. M.C. Starton Hill-Apr. b.—William M.C. Run M.C. Starton Hill-Apr. b.—Bitched and District M.C. Starton Hill-Apr. b.—Bitched and M.C.C. Starton Hill-Apr. b.—Bitched and M.C.C. Starton Hill-Apr. b.—Bitched M.C.R. MEETING.

Apr. S.—Scholman.
Apr. S.—Scholprough M. and M.C.C. Staxton Hillclimb.
APR. S.—B.M.C.R.C. MEETING
APR. S.—B.M.C.R.C. MEETING
APR. S.—M. M.C.F.C. (Barrowin-Furness).—Run
to Huston Scar, Barrowin-Furness).—Run
Apr. S.—M. W. M.C.F.C. (Barrowin-Furness).—Run
Apr. S.—M. W. M.C.F.C. (Barrowin-Furness).—Run
Tiol.
Apr. S.—Durberted (Launceston) and District M.C.
Non-stop Run.

new members were present, and the futu programme was decided upon. Rochester, Chatham and District M.C

Provided Brooklands Track is rea Provided Brooklands Track is rea in time for the opening race meeting Easter Bank Holiday, a run has be arranged, starting from Esplanade at a.m., to view the racing. Should i race meeting not materialise, arran ments are being made to attend a gij meeting, if one is being held within ereach. Failing these, an impromptu will be organised.

N.M.C.F.U. (Birmingham).

The opening run will take place Newtown Linford, near Leicester, the Easter week-end, starting from "Fox and Goose," Washwood Heath, 3 p.m. on April 3rd.

For those unable to take part in week-end event, a day run has barranged for Easter Monday to the abplace, starting from the "Fox a Goose" at 10 a.m.

North Wilts M.C. and L.C.C.

April 2nd is the date selected for opening rnn, starting from the Squ Corn Exchange, at 2.45 p.m., the stination being the "New Inn," Le lade, where members will be entertai to tea. The captain of the club is F. G. Attwood, 13, Park Terr Swindon, and the secretary, Mr. A. Norris, 26, Kent Road, Swindon. He quarters are at the "King's Arn Świndon.

Kidderminster M.C.C.

In ideal weather the opening run the place on March 20th, starting from a "Red Lion," Kidderminster, at '.0 p.m. The first real test was the wknown Flagstaff Hill, where several fail. and a certain amount of haulking a experienced. Good climbs were madey B. Janis (23 Viper), A. Weles (Roy), H. Perks (Levis), and F. Adam (7 Incasc.). The results were as follows: 1,3. Sc.), The results were as follows: 150 Janis (Viper); 2, W. A. Lawson (Noui sc.); 3, H. Perks (Levis). A further fall is arranged for April 3rd. Hon. sec., F. R. J. Prichard, Eastbourne Lore, Chester Road, Kidderminster.

Club News .-

Stourbridge M.C.C.

The club is now in full working order, and an attractive programme is being arranged for 1920. Particulars of the Easter run can be obtained from the secretary, 111, High Street, Stourbridge.

New Tredegar and District M.C.C.

A new club, with the above title, has A new club, with the above title, has lately been formed, and the following officers appointed: President, Mr. E. J. Draper, M.P.S.; vice-president, Mr. L. Lloyd; treasurer, Mr. P. Carozzi; hon. sec., Mr. M. Jones, Commercial Street, New Tredegar, with whom interested local motor eyelists should communicate.

Harrogate and District M.C.C.

A good programme has been arranged by the club for 1920, starting with a run to Richmond, which will include a speedjudging competition. The following offijudging competition. The following officials have been appointed: President, Mr. J. E. Brooke; vice-presidents, Mr. W. N. Fawcett, Mr. W. L. Rutland, Mr. W. Hill, and Mr. R. Spencer; captain, Mr. J. Baxter; and hon. secretary, Mr. H. W. Fortune, St. James's Chambers, Cambridge Rd., Harrogate.

MOTOR (YCLE

Purley and District M.C.C.

Saturday, the 17th inst., is the date selected for the opening run to Leith Hill Hotel, starting from Purley Corner at 3 p.m. All motor cyclists are invited, at 5 p.m. All motor cyclists are invited, and should send in their names to the hon, secretary, Mr. S. J. Tayler, 19, Clifton Road, Wallington, Surrey, not later than the previous Wednesday. Officers will be elected at a meeting to be held after tea.

Sunderland and District M.C.

A very successful hill-climb was recently carried out at Tunstall Hope. The weather was fine, and a large crowd of spectators were present. Much interest was displayed in the fine performance of Miss Holland, who made two complete ascents on a Skootamota, winning a gold

Medal.

Awards were given for least variation in time in two ascents: 1, F. Turvey (B.S.A.), §s., gold medal; 2, R. Hudson (P. and M.), E. Wade (Douglas), and P. Bell, §s., tied, bronze medals. Fastest time: F. Turvey (B.S.A.), 30s., gold medal.

Fastest passenger vehicle: R. Drewry (Harley sc.), 35½, gold medal; and slowest complete non-stop: Miss Holland (A.B.C. Skootamota), 2m. 34½s., gold medal.

Manchester M.C.

A large crowd of spectators watched the start of the initial run of the club on March 21st. The trial was a great

success, there being 100 competitors.

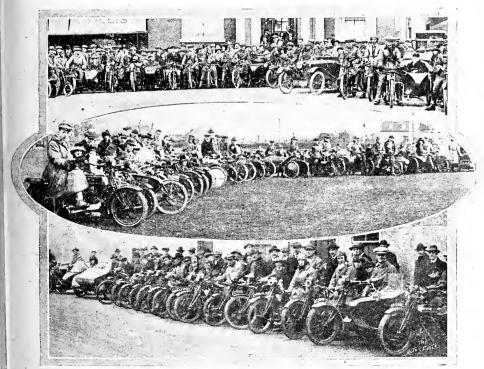
Three prizes were awarded, and the Three prizes were awarded, and the successful riders were: 1, H. Andrews, jun., total error 3m. 45s.; 2, H. Killick, total error 3m. 50s.; while Blakley and Chadderton tied for third place with a total error of 5m. 57s.

The hon, sec., Mr. W. H. Cottrell, 75, Broad Street, Pendleton, Manchester, would be glad to bear from the winners.

would be glad to hear from the winners.

The Northern M.C. (Newcastle).

About thirty riders started in the club's opening run to Rothbury on March 21st. The weather was fine, and the "Queen's Jlead," Rothbury, was reached about 12.15, where members had lumb of the remaining the started about the started was reached about the started with the starte lunch, after which a speed-judging test lunch, after which a speed-judging test was held on a hill near by. The best performance was put up by Mr. C. Travers (Henderson sc.). Bell (3 h.p. A.B.C., also made a fast ascent. Unfortunately, there was some difficulty in ascertaining the winners owing to one of the watches refusing to function. Members returned home after tea, and all enjoyed the day's outing.



CLUB ENTHUSIASM.

The crowds that assembled at the opening run of the Kidderminster M.C.C. (top), Bedford and District M.C.C. (centre), and the Hull Motor Cycle (bottom), augur well for the future of these "live" clubs. All classes of vehicles were represented, from the scooter to the four-wheeled cycle car.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address. TAXATION.

Sir,-I hope you will use your power in every way possible to enforce a fuel tax as the main means of raising revenue. It is indeed the only fair way and one by which, generally speaking, the man whose vehicle does most road damage—i.e., in broad terms the user of the heaviest vehicle—pays more

towards the upkeep of the roads.
"Single and twin" refers to the varying petrol consumption of different types of engine, and anticipates in consequence unequal shares of the burden. But, sir, it would be a sheer impossibility to devise any scheme which did not appear unfair to some section of the motoring community; and the fact that the two-stroke engine is more extravagant than the four-stroke would perhaps prove a blessing in disguise by forcing the manufacturers to pay more attention to this point, and produce two-stroke engines considerably less rapacious than at present. ARTHUR GOUGH.

THE MACHINE FOR SPORT.

Sir,—I notice in your valuable paper of March 18th a letter from "Reg. A. Green," and I really do not know whether to take his letter as a joke or seriously. Being a rider of a T.T. Norton (B.R.S.) myself since 1915, I happen to know something of its capabilities, and very much doubt what "R.A.G." tells us as regards the three miles per hour. I quite agree with him when he says he can do sixty miles per hour; so can I, quite easily; and I also agree with him when he claims the T.T. Norton to be equal with the decimal the LT. Notion to be equal to a twin 5-6 h.p. machine. But when he talks about three miles per hour it makes me smile, as surely will other Norton T.T. owners. Anyway, I should like to hear, what other Norton T.T. riders have to say. I have no connection with Nortons, Ltd.

C. B. FRYER.

Sir,-With reference to Mr. Felix B. Sladden's letter re "Machine for Sport.

He says that to obtain acceleration from a high compression T.T. machine is a very fine art indeed. He has obviously neither seen, heard of, nor ridden any model Norton. If he had he would not make the assertions he

Again, Lt. T. H. Lewis stated that the all-belt drive on T.T. machines is an abomination in snow and wet weather. I ride my Norton in all weathers, and am afraid I do not by any means agree. In snow, perhaps, he is right. I live in the South, where snow is a luxury, but where it rains nine-tenths of the year! I should like to know what T.T. machines he has ridden. Since he has an idea that singles are not in the running for acceleration, I would ask him to try a T.T. Norton. He should tie a soft cushion on the carrier leads to be sheet believe to be it! a T.T. Norton. He should lest he is shot back on to it!

Chichester. MERELY AN ENTHUSIAST.

Sir,—I was exceedingly interested by "T.T.'s" letter in your issue of February 12th. I am all with him up to a point—the 500 c.c. single-cylinder being my ideal for solo work; also the rigid frame, T.T. handle bars, etc., but the single gear mount is a bit too "sporting" for my liking. Medium geared machines are my pet aversion, and I cannot stand starting a 3½ to 1 geared bus in traffic, so nothing remains for me but the variable gear machine.

Having a dislike for gear boxes, I do not consider them, and so we come to the variable pulley gear, and nothing is nicer. Its extra weight can be ignored, even on the lightest of lightweights, and if a free engine position is

incorporated, you are as comfortable as can be, even in the thickest of traffic. A gear for every grade, no chains to looked after or to help you to skid on a greasy day, and extra weight on the rear part of the machine.

My present machine is a 3½ h.p. Zenith-Gradua single and with its J.A.P. engine, once you master the oiling, is all that can be desired, ninety being the average m.p. thanks to a sensible top gear, and ready to pop along qui

as fast as I wish on these present-day roads.

I am hoping that Zenith Motors will start making the model again soon.

What do other readers think about the subject of variabulley gears?

C. B. NOTLAW. pulley gears?

THE T.T. AND TRADE.

sur,—as we understand the Tourist Trophy Races we held, although a few firms are declining to enter, whave definitely decided to compete in the Junior Race. No nuly does the sporting side of the event strongly appeal one, but we also feel it our duty to defend our title present holders of the Junior Trophy. In arriving at the decision we are not unmindful of the preparatory we already done by the A.C.U. and the Isle of Man authoritie and for this reason alone we consider the races should have Sir,-As we understand the Tourist Trophy Races w and for this reason alone we consider the races should ha all possible support from the trade, and so make the even

all possible support from the trade, and so make the success they have always been.

The difficulties brought about by the moulders' stril are ours also, but no effort will be spared on our part have the A.J.S. ready to compete on June 15th.

A. J. STEVENS AND CO. (1914), LTD.

GEO. STEVENS, Managing Director.

COMPETITIONS.

Sir,—You say, quite truly, that it is unsportsmanlike rail at the conditions of a trial or the decision of the judg after the trial has been held. Every competitor by enterior has agreed to abide by the conditions of the trial and accept the award of the judges. He has no ground of cor plaint, provided that the conditions have been observed. the other hand, there are one or two points in regard to which the competitor may have a grievance after the trial. In the first place, the organisers of the trial should prevent, as a sathey possibly can, the publication of unofficial "results." as they possibly can, the publication of unomcal "results. glaring instance of this was the telegram of a press agent in the case of the Paris-Nice, but the same thing is unknown in English trials. Secondly, they should not themselves publish incomplete or "provisional" result Few people take any notice of corrections. Lastly, results of the provisional that are sometimes awaited with much interest, out are three or four weeks the interest evaporates. Of course, I a quite aware of the difficulties. On the other hand, I remer her trials in which the results have been known the san night or early the next day. Elaborate formulæ and intrica calculations take time. They should be avoided.

Whilst I am grousing (I have never had the painful experence of having to make out results in a hurry), may I sugge that two old bogeys which one hoped were dead—the sp second and the secret check—seem to have revived. Bo are acknowledged to be quite useless as a test of the rid and his machine, and both go far to spoil his enjoyment whether he wins or loses. A cup won in this way shou not be considered an advertisement of somebody's mot but of somebody's stop watch. I wonder that no watchmak has seen his opportunity. I wonder that no watchmak H. GEORGE MORGAN.

GOOD SERVICE.

Sir,-I have noticed at various times in The Motor Cycle, of which I am a regular reader, letters from motor cyclists who have had occasion at some time or other to submit their machines to a firm, and have received satisfactory treatment at the hands of the firm.

I should be very much obliged if you would allow me to recount the treatment I received from a well-known firm

of magneto repairers.

Some few weeks ago the armature winding of my U.H. magneto gave ont, and I immediately took it to Messrs. Gumbrell and Co., of 43, 45, and 47, Derby Road, Lough-

The fault was located and the repairs effected in a very short time, and at an extremely reasonable cost to myself, and I, might add the repairs were extremely satisfactory, the magnete working far better than it had done previously. I wish to point out that I have no interest in this firm except as "A very satisfied customer."

ARTHUR DOMONEY.

PROMPT DELIVERY.

Sir,-Can any of your readers beat this for business-like treatment? A short time ago I wanted a certain make of two-stroke machine, rather scarce in the market at that time. I telephoned the agents, Messrs. Tilley, The Esplanade, Weymeuth. Nothing doing at the moment, but they expected one soon, and would ring me. Four days later they telephened to say they had a new 1920 model, just arrived, at list price. Would I have it? I said yes, and asked them to paint my numbers on the plates, adding I would call for it the next day. On calling, I found the machine with the plates properly painted, and enough oil and petrol for fifty miles. I paid for it, and was loaned a Skootamota to play with whilst my receipt was being made out. Judge my surprise on receiving my change to find no charge for painting plates, delivery, or the petrol and oil—just the list price of the machine; that was all. I was informed that this was the usual treatment given the purchaser of a new machine. How different from paying for the carriage of a machine from the werks, etc. Of course I purchased a well-known machine. I am a stranger to Messrs. Tilley. R. C. STONE.

PROVISIONAL PRICES.

Sir,-With reference to the letter by Mr. W. A. Pechey in your issue of March 18th, I notice that your correspondent has discovered the date 1914 on the fork of a 1919 machine, and consequently accuses the makers of pro-

I venture to suggest to Mr. Pechey that this represents the date of design rather than the date of manufacture. for example, last July I purchased a new machine from a irm who supplied many thousands of machines to the Army. Yet the forks of that machine bear the date 1914. Now, it is beyond my power to believe that, after the mmense quantity of machines turned out by that firm luring the war, it should still have a stock of parts manu-actured in 1914!

The design, of course, as everyone knows, is virtually he "1914 model"—a jolly good model, too!

I have no connection with any manufacturing firm.

C.McG. S. Norwood.

Sir,-May I be permitted to reply to Mr. W. A. Pechey e his suggestion that some firms are using pre-war material nd charging post-war prices?

This is really not such a reprehensible case of profiteering s it would appear at first sight. The firm in question is loing what is called following the market, and is probably naking a hig profit on these machines.

We now come to the other side of the picture. The firm s presumably now buying raw material at very inflated

rices. In the dim future, or perhaps sooner, and who is o say, raw material will drop in price.

The firm will again have to follow the market and bring heir prices down, although they are using material for hich they have paid a big price. Their goods may even have o be sold at a slight loss. The directors now take the big rofit which they have made in the first case and square hings up, the net result being that they have made a bit n the whole deal, but not too much.

This is the way nearly all manufacturers who have to buy raw material work, and that is why sensible firms often put by what would appear excessive sums into their reserves, instead of paying larger dividends.

I may add that I have unfortunately no connections with

any firm, and am replying to Mr. Pechey in order to show that the profiteering question is very complex, and I believe there is very much less of it than one would think from the outcry made about it.

F. W. M. VAUGHAN.

SPEED WOBBLE.

Sir,-I have followed with considerable interest the discussion on speedmen's wobble which has appeared in your columns during the past few months. As to the Rudge Multi being immune from this peculiar defect, as stated by Mr. Walter Hare, I should like to point out that this is water hare, I should like to point out that this is not the case; in fact, the letter which caused the discussion was written by the rider of a Rudge, who stated that he "was riding a brand new Rudge-Nulti, which I have never ridden before, down an incline at 65 m.p.h. when the machine commenced to wobble," and went on to say that he was precipitated in the dust, etc.!

It hink that one of the most probable causes is a "period" of engine vibration at high speeds. I do not say that this is the only cause, but I have not heard of a two-stroke wobbling, nor yet a Douglas.

With regard to the centre of gravity being placed too far forward or too far back, I may say that I know of a specific which we have the work of a specific work of the second o

machine which wobbles at all speeds when the weight is carried forward, but which does not wobble when a pillion passenger is carried, which contradicts the argument that the centre of gravity should be well forward. TECHNICAL. centre of gravity should be well forward.

Sir,-Having seen many letters in your valuable paper re the above, I think my painful experience may prove of interest to your numerous readers. I have just been out with the express intention of getting a wobble or knowing

with the express intention of getting a wobble or knowing the reason why. (Yes; I was successful, thank you!) The machine, a 3½ h.p. Rover, will not wobble on a smooth road at 65 m.p.h.; but on a moderately rough road the saddle first of all bounced up and down, then this gave place to a slight sideways motion, which was conveyed to the handle-bars via myself. (Exit me through hedge, myttering.)

Am I right in saying that the Reading Standard saddle springs have telescopic rods in the middle? If so, it might be interesting to hear if that machine ever wobbles. London, N. NEARLYDONEIN.



RETRIEVING THE ODD DROP OF PETROL. Petrol has reached an exorbitant price. We may expect to see motor cyclists armed with syringes for collecting spilt spirit in the near future.



One of the charms of the motor cycle is its ability to go anywhere—even down to the waters' edge, where al-fresco meals may be taken.

NORTH LONDON ROADS.

Sir,—May I, through your columns, warn those readers of The Motor Cycle who anticipate using the main roads to the North-west during the coming holiday carefully to avoid the Edgware Road between Cricklewood and Edgware. Between these two points the road is composed of mnddy gravel, with a wood block centre upon which, after rain, the tramlines float as on a raft!

It is practically impossible for a solo machine to negotiate this stretch of road after dark, unless its rider is thoroughly acquainted with the few places where the lines may be crossed with a minimum of danger. I should mention that in places, particularly in the region of the "Welsh Harp," the road has sunk so considerably that the trans enjoy (yes, they do!) a permanent (?) way quite six inches higher than the read! than the road!

To finish, I walked from Cricklewood to Hendon a few days ago, and in the space of one mile picked up the following articles from the road: One car crank case inspection plate, one leather drive for car lighting dynamo, and one bent Douglas footrest, from which you may draw your own conclusions. Perhaps had I continued further I could have obtained sufficient parts to assemble a complete 'bus.

STANLEY J. BAND.

DETECTING AIR LEAKS. Sir,-I note that "Ixion" is bewailing the fact that he does not know of a reliable method of detecting air leaks in the induction system. There is one method which I have used for many years, and which I thought was fairly widely known. The modus operandi is as follows: Revolve the pulley or back wheel till the piston is at the top of the compression stroke. Open the compression tap. Open the throttle and air slides of the carburetter to the full extent, and insert a cork into the induction pipe-so as to make an airtight fit. (If you want to test the carburetter also, leave the cork out and close the air and throttle slides fully.) Take a freshly lighted cigarette (one that is perfectly dry at the end is necessary. Do not use one that has been well licked or the engine will not "draw" properly) and press the unlighted end gently but firmly into the cup of the compression tap.

Revolve the engine gently backwards (all valves are closed). The cigarette should thus be stimulated to a fierce rate of burning, and one knows that the engine is drawing well. When the bottom of the stroke is reached, remove the When the bottom of the stroke is reached, remove the cigarette, and close the compression tap. Now revolve the engine gently, still barkwards. The inlet valve is now open and the piston ascending. It is wonderful the number of places the smoke issues from, in most cases. I have never failed to make an engine run slowly without missing after using this method, provided everything else is in order. The elimination of air leaks is about the most important of all things in inducing a big twin to be docile. Once the induction system is advited to any good carburetter.

Once the induction system is airtight any good carburetter

will give really slow running, and it is not necessary to he an umpteen-jet carburetter. The carburetter I have no and which has been in use on several machines, is a If B. and B. variable jet, which gives me an average of m.p.g. riding solo on a 6 h.p. twin on long rides throughly districts. I have tried many carburetters, but I he never found one to beat it for slow running, flexibility, a power.

GRADUATE power. High Wycombe.

Sir,-In your issue of March 11th "Ixion" enquires for method of detecting air leaks in the induction system. think you will find the following usually avails:

Put a little engine oil on the suspected spot, then op the throttle and turn the engine till the piston is at the bottom of the inlet stroke. The cylinder is now full of Close the throttle and give the engine a sharp turn in reverse direction. The inlet valve will, of course, open, a the resulting compression in the induction system will car bubbles of air to exude at any faulty joint and betray leal A little vaseline smeared on the slides of the carburetter whelp to increase the compression.

C. MACHEN. help to increase the compression.

GOOD SERVICE.

Sir,-I recently had some slight trouble with an E.I. magneto on a new Douglas combination. I wrote the firm brand new magneto, and a letter, stating that if I won send the faulty one to them they would pass me a cree note for the account enclosed. I sent no money, and dureceived the credit note.

LEO. E. POOLE.

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle.

MOTOR CYCLES AND HOW TO MANAGE Price By THEM." The standard bandbook on the motor cycle; its care and management. It deals with every part of the machine, and with all types of machines, 266 pages, 400 illustratious. Twentieth edition 2/6 2/10

2/3

2/3

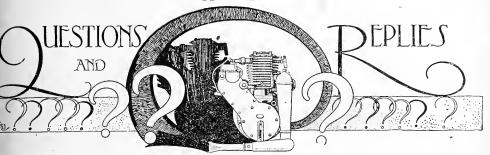
"HINTS AND TIPS FOR MOTOR CYCLISTS."
Containing over 400 useful "wrinkles" and helpful
hints in regard to motor cycles. Seventh Edition
Just published. ...

Edition

THE MOTOR CYCLE." ROAD MAPS

England and Wales, Scotland. London (showing roads into and out of London and avoiding London), Mounted on linen. Set of three, complete in case.

Obtainable by post (remittance with order) from ILIFFE & SONS Ltd 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and no none side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Lack of Power.

I have a 1914 2\(^3\) h.p. twospeed Singer motor cycle, on
which I can only attain seventeen miles per hour. When
riding all out the engine gives
a nice healthy note, and gives one the
impression of travelling at about 30
m.p.h. The timing appears correct,
the petrol pipe is clear, and the oiling
system is in good working order; moreover, the compression is good. The belt
when pressed down in the middle gives
about 2in. The carburcter is an Amac,
and the jet in use is No. 28. I have
tried Nos. 23, 25, and 26, but they
make no difference. The petrol feed is
at the top of the carburcter. Please say
what is wrong, and would a difference?—
W.H.

Without actually seeing the machine, it is very difficult for us to say what is the natter with it. We are inclined to hink that the belt is rather on the slack ide, and the trouble may be largely due o belt slip. The petrol level may be a rifle too high. The existing carburetter hould be satisfactory.

Four-cylinder V Engines.

(1.) If two 50° twin engines were coupled together with crank pins set at 180° should I get the same even torque and even firing intervals as a four-cylinder line ahead engine? (2.) Would it be necessary to use two magnetos, or could one magneto and a distributer be used? (3.) If the answer to No. I question is yes, if the cylinder were set at any other angle would it make any difference?—H.N.B.

.) Even torque cannot be obtained by yarrangement of two standard V twin gimes coupled together. (2.) It would a cheaper to use two magnetos, as a ecially designed model, with suitable stributer, would have to be made. (5.) sing Jour cylinders, it is necessary to opt the line-ahead system for even ing, the cranks being set at 180°, or the linders might be horizontally opposed the cranks at 180°. No arrangement two coupled V type engines could be vised to give even firing if the connect; rods of each engine work on a common mk pin. '

A Hub Gear Trouble.

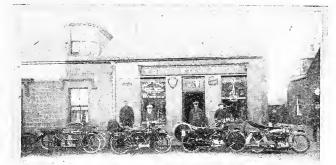
My 3½ h.p. motor cycle is fitted with a three-speed gear. The clutch and gears are perfect, also the adjustment, but when changing from second into top gear there is a whirring noise in the hub, and the gear does not engage until the machine is practically stopped. All the other changes are instantaneous. Perhaps you will suggest a remedy.—G.L.P.

If the adjustment of the hub is correct, as you state, it is evident that the slow engagement of the second gear is due to wear of some part in the hub itself. Probably the extremities of the teeth on the sliding sun pinion are damaged, and it will be necessary to dismantle the hub in order to ascertain if this is correct Before doing this, however, you might endeavour to screw up the adjustment a little more, although this should not be done at the expense of missing the correct neutral position, at which the back wheel should revolve quite freely while the belt drum is stationary. A slight grating noise may be disregarded, but not so pronounced grinding sounds.

Lubrication of Two-Stroke.

I have recently had my Villiers two-stroke engine overhauled, and have had a new Amac carburetter fitted. My motor cycle is fitted with a Best and Lloyd sight-feed lubricator, and the oil used to enter the engine through a hole drilled in the side of the carburetter immediately above the jet. With the new carburetter this will not be possible, as a gauze air filter surrounds the only position possible for drilling a hole to fit a union. Apart from this, the idea scems to me to be crude. Can you suggest a position on the engine where I could drill a hole and fit a union to connect with the oil-feed and obtain most satisfactory lubrication? I do not want to revert to any "petroil" system.—P.H.C.

The latest type of Villiers engine is fitted with a special engine bolt which incorporates the oil pipe union. You should write to the makers, and ask them if this bolt can be used to replace the existing top front engine bolt which passes through the engine bearer plates on your machine.



The ever extending scope and popularity of the motor cycle is best illustrated in small out-of-the-way towns where one might expect to find the sale of motor cycles achieved by catalogue and enamelled signs. The photograph depicts the dcpôt of Mr. W. Dickie, of Turriff, a Scotch town of approximately 2,340 inhabitants, and shows some of the new machines in his stock a few weeks ago. Among the machines in the group are a Bat, three Sunbeams, B.S.A., and several Douglas mounts, from which it will be gathered that motor cyclists in Turriff are discriminating in their choice.

Type of Sparking Plug.

My machine is a 23 h.p. A.J.S., with a hot high compression engine and special cams built for speed work. What is the best plug to use?—L.A.H.

Several plugs are specially made suitable for hot high compression engines. We would suggest the mica single point pattern made by the leading makers.

Reliability of Electric Lighting.

I have a 5-6 h.p. Clyno and sidear, chain drive. I am thinking of fitting it with a dynamo and accumulators for electric light. Do you think the conversion will be satisfactory?— W.A.J.

The modern dynamo lighting systems which are on the market are quite reliable, and will, in most instances, ontlast the machine to which they are fitted.

RECOMMENDED ROUTES.

HUCKNALL TO MANCHESTER.-E.G. Hucknall, Chesterfield, Baslow, Stony Middleton, Tideswell Road, straight on to Chapel-en-le-Frith, Glossop, Mottram, Hyde, Denton, Manchester.

KIRKBY (NOTTS) TO NEWMARKET .- A. H. Kirkby, Blidworth, Farusfield, Eding-ley, Southwell, Newark, Grantham, Stan-ford, Wansford, Stilton, Huntingdon, Godmanchester, Cambridge, Newmarket. Approximately 95 miles.

LONDON TO WORCESTER.—A.W.F.R.
London, Brentford, Honnslow, West
Drayton, Slongh, Maidenbead, Henley,
Benson, Dorchester, Oxford, Woodstock,
Chipping Norton, Moreton-in-the-Marsh,
Bourton-on-the-Hill, Broadway, Evesham,

Wyre Piddle, Worcester.

BIRMINGHAM TO LLANDUDNO.—S.L.
Birmingham, Sutton Coldfield, on to Byramiguam, Sutton Coloneia, on to Watling Street, which follow through Weston, Crackley Bank, Shrewsbury, Ellesmere, Wrexham, Mold, Trefnant, St. Asaph, Rhuddlan, Abergele, Colwyn Bay, Llandudno. Approximately 130

HECKNALL TO GLASGOW.—E.G. Hacknall, Clowne, Whitwell, Work-sop, Tickhill, Doncaster, Ferrybridge, Brotherton, Micklefield, Aberford, Bramham, Collingham, Harewood, Arthington, Otley, Ilkley, Skipton, Settle, Clapham, Kirkby Lonsdalc, Kendal, Shap, Pen-rith, Carlisle, Longtown, Lockerbie, Beattock, Abington, Hamilton, Glasgow.
(A break of the journey at Ilkley is recommended)

TRURO TO SAXMUNDHAM .- W.A.P.H.

Truro, Tresillian, Ladock, St. Dennis, Goss Moor, Lanivet, Bodmin, Liskeard, Callington, Gunnislake, Tavistock, Two Bridges, Moretonhampstead, Exeter, Honiton, Ilminster, Ilchester, Wincan-Honton, Immuster, Helicster, Wincanton, Hindon, Amesbury, Andover, Basingstoke, Hook, Hartley Row, Bagshot, Staines, Uxbridge, Rickmansworth, Watford, St. Albans, Hatfield, Hertford, Bisbop's Stortford, Great Danmow, Braintree, Celchester, Ipswich, Woodbridge, Saxmundham



Welding Facilities.

Special licences are being granted by Messrs. Barimar, Ltd., to selected engineers and garage proprietors to operate their new process of welding.

A Retirement.

An interesting ceremony took place re-cently at the offices of the Triumph Cycle Co., Ltd., the occasion being a presentation to Mr. R. A. Rotherham, by the directors, on his retirement from the secretaryship of the company. The new secretary is Mr. Arthur Wright.

Catalogues Received.

We are in receipt of a beautifully got-up and copiously illustrated publication from Messrs. Phelon and Moore, showing the original design of the P. and M. in 1900, and giving the fullest particulars of the latest model.

A New Address.

The Klaxon Co., Ltd., in conjunction with their sister company, the O.S. Speedometer Co., Ltd., have moved into new premises at 38, Blandford Street, Marylebone, London, W.L. Their works remain at Landor Street, Birmingham.

The Beldam Tyre Co., Ltd.

We are informed that the Beldam Tyre Co., Ltd., of Windmill Road, Brentford, Middlesex, have appointed the Universal Export Co., Ltd., 43a, Rathbone Place, London, W.1, their sole agents for British East Africa.

A.B.C. Motors (1920), Ltd.

This concern has recently made an sue of 250,000 10% - participating cumulative preference shares of £1 each. These shares, after a payment of 10% on the ordinary shares, are entitled to one-third of the balance of any surplus profit which it shall be determined to distribute in any one year. The company acquires the business and undertaking of A.B.C. Motors, Ltd., of Walton-on-Thames.

Review.

"Planes and Personalities: a Pot Popriti" Capt. A. Cunningham Reid, D.F.C.; Philip Allan, Quality Court, Chancery Lane, London, W.C. A very charming little book written by a distinguished flying officer who loved his work and loved his corps, if the R.A.F. can now be called a corps.

It starts with an introduction by that It starts with an introduction by that distinguished airman, Lt.-Col. W. A. Bishop, V.C., D.S.O., M.C., who begins by saying, "Capt. Cunningham Reid in this book gives the public something which has been badly needed for some time." In Col. Bishop's words, "the author describes fully the complete work of our Air Force, and with a rare touch of humour gives a general outline of his of humour gives a general outline of his own career step by step through the many different jobs to which a pilot in the

R.A.F. had to turn his hand. Some of these brought him in close contact wit the Prince of Wales and Prince Albert and he describes their activities in the air for the first time, and gives a new and charming insight of the two splending the s characters.

One of his most interesting stories wa in connection with ground straffin appropos of which he says, "The on satisfaction you can derive from the work was to discover a moving body of troops and actually to see the result of troops and actually to see the result. It is the middle of them, or, as once happened to one of our pilots, chasing an einem motor cyclist despatch rider. Pan stricken, the Hun soon got up a transdomer speed, the while keeping his ey more behind than in front, with the control of the contro more behind than in front, with it result that he suddenly came to a wa straight in front of him, the robranching left and right, and the la our man saw of him he was literall diving through a door in the wal motor bike and all, just like the hot trick at a country circus."

The glossary at the end of the box is also worth investigation many its also worth investigation.

is also worth investigation, many the definitions being delightful. "gadget," we learn, "is any sort contrivance the name of which y cannot for the moment recollect," which it is interesting to note that the ter "conked" has been borrowed by the ai men from the motor cyclist's glossar Readers of the book will find much interest and amuse them.

Reliable Plugs.

It is interesting that both Kaye Do who obtained the highest marks in the Paris-Nice Trial, and Eric Williams, the winner of the Colmore Cup, used Apol

Speedometers in the Paris-Nice.

We are informed that the winning Scott-team in the Paris-Nice Trial d scott team in the Panis-Nice I and untropy to the convey speedometers, as previously stated. We understand that Y L. Guy used a Jones, while both C, and H. O. Wood used Bonniksen instruction. ments. 'Premier'' Motor Policy Enterprise:

A fully equipped breakdown lorry; now garaged at the Highfield Garag Golder's Green Road, and is at the posal of policy holders in the event of accident within a twenty-mile radi 788.

A Newcastle Sale.

On behalf of the Disposals Boar Messrs. Cooper, Ltd., of Newcast recently sold a number of P. and motor cycles at prices ranging from £ to £60. We understand that, althou incomplete and of somewhat dilapidat appearance, the engines were in eve case practically new and in good or dition.

Ariel Reliability.

Mr. L. Newey, on a 6-7 h.p. An sidecar outfit, made the second best p formance in the Colmore Cup Trial, c of 111 entries. He also made the berformance in the sidecar class machines over 750 c.c. Five Ariels we entered. All made non-stop runs a scenered wards and also tears with secured awards, and also team prize.

MISCELLANEOUS ADVERTISEMENTS.

PRICES.

IDVERTISEMENTS in these columns irst 12 words 3/-, and 3d. for every adonat word. Paragraphs of under 8 words charged double rate. Each paragraph is reged separately. Name and address must counted. Series discounts, conditions, and that terms to regular trade advertisers will ueted on application.

ostal Orders and Cheques sent in payment for ertisements should be made payable & Co. LIFFE & SONS Ltd., and crossed & Co. isury Notes, being untraceable if lost in

sit, should not be sent as remittances. I advertisements in this section should be mpanied with remittance, and be addressed to offices of "The Motor Cycle," 20, Tudor et, London, E.C.4, or 19, Hertford Street, intry. To ensure insertion letters should asted in time to reach the offices of "The r Cycle," by the first post on Friday ning previous to the day of issue.

l letters relating to advertisements should a the number which is printed at the end of advertisement, and the date of the issue

hich it appeared.

te proprietors are not responsible for clerical rinters' errors, although every care is taken roid mistakes.

NUMBERED ADDRESSES.

the convenience of advertisers, letters may be advertisered. The sum of 6d, to delray the cost of action and to cover postage on replies must be added a alvertisement charge, which must include the Box coo. cfo "The Motor Cycle." Only the number spars in the advertisement. All replies should be set No. coo. cfo "Aistor Cycle." 201, Tudor Street, Replies to Box Number advertisements containing was shoulded to make use of the Deposit System. It is care of motor cycles offered for sale under a box r, as it is unusual for these to be sold without first appeted by the intending purchaser, advertisers will be business by embodying in their advertisements mention of the district in which the machine may be seen and tried. may be seen and tried.

DEPOSIT SYSTEM.

par DEPOSIT SYSTEM, naw who heals to send money to unknown persons all in perfect safety by availing themselves of our, the system. If the money be deposited with "The Cycle," both parties are advised of this receipt, time allowed for a decision after receipt of the sthree days, and if a sale is effected we remit the to the seller, but, if not, we return the amount depositor, and each party to the transaction pays a one way. For all transactions up to fio, a fee of 1/ is charged; on transactions word fato of \$5,0 the fee is \$16\tau\$, over \$5,0 the feet \$5,0 the feet \$5,0 the feet \$1.00 the posit System. Other advertisers may be equally s, but have not advised us to that effect.

SPECIAL NOTE.

litr: who reply to advertisements and receive no as to their enquiries are requested to recard the on a ran indication that the goods cevertised have the ben disposed of. Advertisers often receive so assumptions that it is quite impossible to reply to the by post.

MOTOR CYCLES FOR SALE.

A.B.C.

C., delivery April, what offer option?-Lewis, Daerllysi, Peneced, Glam. [1887]

C., 3h.p., just delivered; wire best offer over 2140.—Lowe, Chemist, Bristol. [2057]

C.—Early deliveries of ear and motor cycle A. J. Young and Co., Ltd., Newmarket. [0] C. Electrically Equipped Combination, third Lonon agent's list; £5 deposit paid March, 1919; deony day now; highest offer secures.—Write, E.S.T., awell Ar., N.10. WAUCHOPE'S ACCESSORIES.

LAMPS & GENERATORS.

	No.		£s	. d.
P. & H.	127 H.B	 	3 15	0
P. & H.	128 H.B	 	3 (0 (
P. & H.	145 H.B	 	2 15	5 0
P. & H.	120 H.B	 	1 17	76

REAR LAMPS.

P. & H. 1	31			10	6
P. & H. 1	35			5	9
Aluminium	Torpede	> R. L	amps	6	6
	**	,,	W	7	6

GENERATORS.

Small Bla	ick Gene	rators	• • •	• •	- 4	6
P. & H.					2	6,
P & H.	121				10	6
P. & H.	122				15	0

HORNS, etc.

Volta Mechanical	Horn	ıs		1	7	0
Victa "	,,			1	8	6
Bulb Horns				1	4	0
Cowey Horns				3	0	0
Lucas Horns				1	7	6
Second-hand Car	Hom	s froi	n		15	6

SPEEDOMETERS.

Cowey Speedomet	ters (Trip)		6	10	0
Cowey Speedomet				5	10	0
Watford (Trip)			٠.		10	0
Watford (Speed)		٠.		4	15	0

MISCELLANEOUS.

Cameo Wind-	Lycett Saddles
screens	Tyres, new and
Cameo Aprons	second-hand
Sidecar Hoods	Discs for Douglas
Sidecar Carriers	and Triumph
Petrol Tin	Machines
Holders	Knee Grips
Sparking Plugs	Tan-Sad Seats
XL-All Saddles	

Wauchope's

9, Shoe Lane, Fleet Street, London, E.C.4.

'Phone: Holborn 5777.
'Grams: Opificer, Fleet, London.

MOTOR CYCLES FOR SALE.

A.B.C.

3 h.p. A.B.C., brand new, fitted with P. and R. lamps, Jacas horn, etc.; best offer secures. Beck, Thornbill, Hoole Rd., Chester. [2063

A.B.C.—Book early and prevent disappointment. Specification and full particulars will be sent on application.—The Spalding Motor Co., Ltd., Spalding, distributing agents for Lincolnshire.

Abingdon.

Abingdon.

A BING DON 1916 6-Th.p. Twin Combination, 3-pect counter-butt, chain-sum-belt; £110.—Freeman, Brighton Rd, Redhill.

A BING DON 3½h.p., Bosch, B. and B., good condition, tion, ride away; £40, or exchange combination; eash adjustment.—3, Ashwood Rd., Well Hall, [2135]

A J.S.-Good deliveries from John Aldrich and Co., Diss, Norfolk. 16632 A.J.S. 6h.p., 3-speed, with Mills-FnHord coachbuilt sidecar, accessories.—Moss, Wcm. [X8021

Jack Healt, Cork, official A.J.S. agent.-Rotational delivery. No premiums accepted. [6485

CROW Bros., High St., Guildford, A.J.S. agents since 1912, accept no premiums. [X7943

A.J.S., 25th.p., 1916 model, like new; £60, no offers.—County Garage Co., Gerrards Cross.

19²⁰ A.J.S. Combination, brand new, in structured at 248.-2, Nightingale Rd., Lower Clapton

19 19 A.J.S. Combination, as new, all lamps and accessories; '£240.-2, Nightingale Rd., Lower Clapton. [1594]

Clapton. Clapton. Lawrence and Combination of Clapton. Lawrence and Combination, in perfect condition only wants seeing; \$115,—Hidderley, Creswell Farm, Statlord. [1731]

A. J.S. Combinations; early deliveries; orders booked in rotation.—A. J. Young and Co., Ltd., Newmarket.

A J.S. Combination, spare wheel, and complete accessories; £155.—Grimes, 18, Bruton Place, Bond St., W.1

LATE 1919 6h.p. A.J.S. Combination, lamps, etc., as new; £215; seen any time.—29, St. Leonard's St., Bromley-by-Bow.

A.J.S., 1914, spare tyre, hood, wind screen, Lucas accessories, splendid order; £120.-161, Camberwell Grove, S.E.S.

A.J.S. 6h.p., 3-speed, all-chain, Amac. Bosch, hand clutch, overhauled and enamelled; £80.—15, Bar-rack Rd., Stoughton, Guildford. [1533

1918 Military Model 6h.p. A.J.S. and coachbuilt sidecar, Lucas lamp and accessories; £160.—Winn, Bentham, near Lancaster. [1892]

19 (September) 6h.p. A.J.S. Combination, Swan sidecar, lamps, etc., under 1,000 miles, everything excellent; £185.—Lee, Wendover, Bucks. [1940]

A J.S. Specialists, The Walsall Garage, Wolverham-ton St, Walsal, Tel. 444. Can give favourable deliveries of these grand combinations. Book early for your apring outh. [7215]

Jour spring outh. [7215]
1916 6hp. A.J.S. Combination, Lucas dynamo, electric lamps, electric horn, hood, screen, spare
wheel; absolute bargain, 1210.—Crow Bros., Guildront,
A.J.S. 1914 6hp. Combination, hood, screen,
tric lamps, overhauled, new gears and hawbeel, car redecorated; any test.—77, Nova Rd., Crowdon. [1885]

A.J.S.-Exeter Motor Cycle and Light Car Co., Ltd., Bath Rd., Exeter, and 28, Tavistock Rd. Ply-mouth. Sole agents. Now booking for carliest do-

1916 A.J.S. and Coachbuilt Sidecar, spare wheel Lucas born and lamp, beautiful condition; £135, —National Drug Stores, 13, Prince of Wales Ind. Kentish Town.

19 20 A.J.S. Combination, delivery promised middle Max, unable to take delivery, will transfer contract for £10 rlus £5 denosit paid; Leeds district.—Box 421, clo The Motor Cycle.

J.S. Combination, 1919, condition as new, lamps, speedometer, born, backrest, luggare carrier, wind screen, spare wheel and extra tyre, superb outfit; £235-17, Claremont Rd., Blackpool.

M OTOR Cycle, A.J.S. Combination, 1916 model, 4-5 h.p., lived, screen, spore wheel, all wheels inter-changedlie, lanns, in first-class condition: £120.—Fity-Hugh, Enston Rectory, Thetiord, Norfolk. [1875 Hugh, Enston Rectory, Lucture, Social A.J.S. 1914 6hp, Combination, 3 speeds, K.S., hand Clatch Lucas lightine, Tan-Sad, numerous sparestools, etc., been little used, absolutely as new 2130.—Bramall, Cottage, Creswell, Gt. Bridgeford, Stafford, [1730]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B17

A.J.S. 6b.p. Military Medel (delivered April, 1919), and Miliford best sidecar, spare wheel Lucas lamps, horn, tools, etc., price £170,—A.B., 59, Westbourne Ter., N. Paddington, W.2. "Phone: Padd. 3418, 1218.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London-able wheels, spare wheel, 3 speeds, free engine, kicl starter, accessories; £185; also another 1919 model

19 (July) A.J.S. 6h.p. Combination, mileage generators, horn screen, storm apron, etc., 65 m.p.g., beautiful condition; £200; any trial.—Pickson, East Cliff, Sidmouth.

Cliff, Stamouter.

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MOTOR Cycle, Calthorpe-Jap 1914 model, 29, 22, Abbey Rd., N.W.8. 21.6h.n.

22, Abbey Rd., N.W.8. [1995]
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CLYNO 6h.p. Combination, 3-speed, K.S., intercha-able wheels, one spare wheel and tyre, bood, va-screen, speedometer, hunps, born, luggage and p-tin carrier, good condition, 5 tyres nearly new; £W Hirst, Sandymount, Thombeld Rd., Lockwood, Hud Connaught.

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COULSON B.—The ideal spring frame.—Em invited by J. Blake and Co., the motor experts of Liverpool and Manchester.

COULSON B, 1920, 23/h.p., 2-speed, spring free Blackburne engine, delivery from stock; 95 g extended terms if desired. — Elce and Co., 18 Bishopsgate Av., Camomile 8t., E.C.3.

F.O.C.H. have new Coulson-B models 25/h.p. 4h.p.; list price.—Fair Offer Car Honse, 5, H. St., Hampstead (near Hampstead Tube Statiou). Phy Humpstead 3752. Hours 97, including Saturdays

COULSON Model B. 4h.p. Blackbarne engine, A Lagred gear, spring frame; may be obtained Harrods system of extended payments.—Harrods Showrooms, 11-118, Brompton Rd. (opposite Building), London, S.W.1.

Coventry Eagle.

COVENTRY EAGLE 2%h.p., 2-stroke, 1916 m
periect condition; £35.—89, Queen St., Rank

P.O.C.H. have a Coventry Eagle Mudel 7, brand I list price.—Fair Offer Car House, 5, Heath Hampstead (nr. Hampstead Tube Staiton). 'Phe Hampstead 3752. Hours 9-7, including Saturda

Dalm.

19¹⁸ Dalm, 3h.p., 2-speed countershaft, mechan horn, P. and H. lump set, very fast; gen bargain, £45.—31, Palamos Rd., Church Rd., Ley

Diamond.

DIAMOND 2½h.p. 1920 2-stroke, brand new stock.—Moss, Wem.

DIAMONDS.—Al models; immediate deliveries, J. Young and Co., Ltd., Newmarket.

DIAMOND, new. 2½h.p., single-speed, ir £56/10.—Birch's Garage, Wolverhampton. CYRIL WILLIAMS, for early delivery of all monages.—I hapet Ash. Wolverhampton. [X8]

JACK HEALY, Cork, official Diamond agent-tational delivery. No premiums accepted. [6] BEDFORD Garage, Walsall, official ngen Diamonds; delivery from stock; makers'

19²⁰ Model Diamond-Jap, 2-speed, just delire at list price.—The Central Garage, 12, Bridge Jordan's Yard, Cambridge.

DIAMONDS.—23(h.p. J.A.P., Enfield 2-speed, # Villiers 2-stroke single-speed, #56/10; sev in stock.—T. Stevens, 248, Gooch St., Birminghe

LATE 1919 Diamond-Jap, 2Mh.p., Enfield 2-8 all accessories, heavy Dunlops, mileage under unscratched; £65.—Beaulieu, Avenue Rd., St. Al

10 20 Diamond-Villiers, single-speed, £56/10; 10 Diamond-Jap, Enfield 2-speed, and clutch, 1920 Diamond-Jap, Enfield 2-speed, and clutch, boards, £77/12/6.—Taylor's Garage, Wednesburg

Douglas.

IVIAN HARDIE and Lane, Ltd., Douglas Special h.p. Combination, 1920 model: £155.

3h.p. Solo, 3-speed Model W.; £90.

JE Stock Everything you require for your Douglas

4. Woodstock St. (off Oxford St.), Bond St., W.1 Phone: Mayrair 6559.

h.p. Douglas, 2-speed, 1916; £60.-2, Macelesfield Rd., S.E.25, [9470]

9 20 Douglas 4h.p. Combination, new; £155.— Grange Rd., Ramsgate. [17] OUGLAS, 4h.p., 1918, perfect condition; £85.— Ul. Loughboro' Park, Brixton. [2264

OUGLAS 1920 251h.p., 3-speed, brand new; £98, -Box 2,376, c/o The Motor Cycle. [1967 OUGLAS 23ab.p. Standard Model; £95.—Particulars, Loonard Wilson, Loughton, Essex. (155.

)16 Douglas, 25 h.p., splendid condition; £60. 29 Norlington Rd., Leytonstone. [20]) 20 Douglas 23 h.p., 3-speeds, brand new; £96.-2, Nightingale Rd., Lower Clapton. [1595]

OUGLAS, 1916, new condition and running; £65.— Hunt, 46, Holly Rd., Chiswick, W.4. [1782] 16 Douglas 4h.p., 3-speed, C.B. ontfit; £105.— 109, St. Leonard's Rd., Mertlake. [X7860

OUGLAS 234h.p., 1915, just overhauled; £68.— Chuter, The Garage, West Hall, Byfleet. [1939] OUGLAS 254h.p., lamp, footboards, just overhauled: £42.—103, Clork House Rd., Beckenham. [1540 OUGLAS 1915 25th.p., perfect, new tyres, accessories; £55.-42, Hamlet Rd., Cheliusford, [1910] OUGLAS 2 h.p., good tyres: £25.-H.J.S., 15, Sparricks Row, Weston St., London, S.E.1. [1952 OUGLAS, 25th p. (late), racing model, mechanically perfect; £58.-165, Church Rd., Mitchan.

OUGLAS, T.T., 1914, 2-speed; £45; just over-bauled.—Moon, Little Heath, Potter's Bar.

ATEST 1916 Buffer Forks 254h.p. Douglas, a new; £65.—374, Grove Green Rd., Leytonstone)20 Donglas 4h.p. Combination, brand new; offers?—Hazelmere, Earlsdon Av., Coventry

OUGLAS, 2-speed, engine 29027, not done 50 miles, new tyres; bargain, £58.-108, Meadvale Rd., ng. ng.
OUGLAS 27/h.p., 2-speed, brand new, beautiful ma-chine: 67 gns.-60, Wallingford Av., North Kun-[217]

ton.

OUGLAS 1911. less rear piston, otherwise complete; what offers?—Box 2,378, c/o The Motor [1969]

UGLAS 254.p., kick start and clutch model, in perfect order, any trial given; £70.—Reid, Bal. Orkaey. UGLAS, 2-speed, lamps, speedometer, new Dunlops; bargain, £55.—202, Munster Rd.

am. 120. Douglas Combination, brand new, unregistered; £167/10.—2, Nightingale Rd., Lower [1596]

iton. DUGLAS 254h.p., 2 speeds, excellent condition, tyres as new, fully equipped; £32.-14, Melbourne Av., t Esling. [1917]

t Esting. 15 25hp. 2-speed Douglas, W.D. overhauled, rms well; first £52 secures,—Box 2,746, c/o The [2295]

h.p. Donalas, 2-speed (three), specially tuned; £48, £55, £65.—Marks, Boot Stores, 121, Acton Lane, wick, W.4. (2308) OUGLAS 1916 2-speed, buffer forks, just over-hauled, perfect; £55.-Dairy, 106, Church St., sea, S.W.3. [2167

OUGLAS 1914 31/5h.p., 2 speeds, kick starter, Empire sidecar; £105.—Maudes', 100, Gt. Port-St., London. [2144

16 Douglas 234h.p., overhauled, as new; £60; alter 6 o'clock.—Fox, 41, Greencoat Place, minster, S.W. (2058)

h.p. Douglas, 2-speed, just as new, only used few times; bargain.—31, Claremout Rd., Alexandra , Mauchester. [X6775

OUGLAS, 1915, overhauled, fast, very smart, complete with lamps and horn; £75.—Bale, 126, 1 St., Croydon. [2233]

h.p. 2-speed Douglas, kick starter, complete with lamps, horn, speedometer; £60. — Taylor's ge, Wednesbury. [9969

19 4b.p. Douglas Combination, like new, all accessories; any trial; £140.—Meech, Wander-Kridport, Dorset. [X7298]
15 (f) Douglas 25\(^2\)h.p., T.T., 2-speed, in good condition, and red last; £58, or nearest.—Mitchell. s. Less, Oldham.

Call & See Us

THE MOTOR CYCLE.—Supplement.



THE FIRM FOR QUICK DELIVERY.

AUTHORISED AGENTS FOR DOUGLAS LEVIS ZENITH **MATCHLESS**

G.L. V.H.L. Sidecars

 $W_{\rm S}$ shall be pleased to receive enquiries for the new "V.H.L." Sidecar (registered, design), which is now on view at our Showrooms. This Sidecar is constructed of best quality 3-ply wood, it beautifully insubed, and luxuriously upholsered. It is, without doubt, one of the most confloctable and smartest Sidecars ever designed.

Price £20

We are now able to quote definite delivery dates for the famous 6 hp. "6.L." Combination, fitted with latest type overhead valve MA.G. engine, detachable wheels, spare wheel and tyre, internal expanding rear brake, external contracting transmission brake, and many other attractive and up-to-date features. Only one of these machines was entered in the 1919 A.C.U. Six Days Trial, and was awarded the silver medal and special mention in the judge's report. If you are interested, call and see a "6.L." Combination at our Showrooms. Price, 210 guineas, including D.A. Outfit, Klaxon Horn, Spare Wheel, and Tyre, etc.

P. and H. Lamps, Douglas fitting. P. and H. Lamps, Douglas Mung. Douglas Agares. Douglas Aduminium Chain Guards, 12/6. Douglas 2²₃ h.p. Instruction Book, 1/3. Polished Aluminium Wheel Discs, £3 18s. per Set. Polished Aluminium Wheel Discs, £3 18s. per Set. Tan-Sad Pillion Seats. Bowden Controls. A.M.A.C. Carburetters. W.S.R. Jet Adapters, for Douglas A.M.A.C. Carburetters, £6. E.I.C. Magnetos, for flat twins Cowey Speedomelers. Cowey Mechanical Horns. Dunlop and Hutchinson Tyres. Black Enamelled Under Trays, for 4 b.p. Douglas. £1.

las, £1.

Deeds, not words.

London. February 18th, 1920.

To Vivian Hardie and Lane, Ltd., Woodstock Street, W., Dear Sirs,—Yours of the 17th inst to hand. I intend having Disc Wheels fitted to my machine. Could you obtain these for me, and have them fitted? . . . Thanking you for the promain descreedingly good treatment I have always and exceedingly streetived from you.

I remain,

Yours sincerely, H.S.E.

24, Woodstock St. (off Oxford St.). BOND ST., LONDON, W.1.

Telephone: Maylair 6559. Telegrams: IVHARDILAN, WESDO, LONDON.

MOTOR CYCLES FOR SALE. Douglas.

1916 25th.p. Douglas, 2-speed, Lucas lamp let, toolbags, complete as new; £68.-125, High 2223

1918 4hp. Douglas Combination, new trees and the depth of tables, excellent condition; 100 gas.-107, frey hould file, Fullant.

SMITH'S -Douglas 1914 2 Jap., very little used; £50, Smiths, 10-16, Haver-tock Hill (opposite Clark Farm Tabe Shitten).

DOUGLAS, 25th.n., 2-speed model, mechanically professionate, Brashrawgate, Bolton, fully equipped, Parker's, Braddrawgate, Bolton, (X8019)

1915 2 h.p. 2-speed Donglas motor cycle, in excel-lent condition.—Stevenson Garage, Tumbridge Wells. 'Phone: 425.

DOUGLAS 2) h.p., fully equipped, perfect running order; hist £52/10 secures.—Gray, Fiona, Bromley Rd., Shortlands Station.

DOUGLAS 2°4h.p., 1913, ridden about 2,000, buffy equipped, splendid condition; 55 gns.—Fowler, Stanley Rd., Bracknell. [2201

James Moffat, Douglas Agent, Yeovil-25th.p. combination, £155.—Thome: 50. 1014 T.T. Donglas, acetylene and electric lighting, ia perfect running order, very tast; £65.—Cooksun, 118a, Finchley Rd., N.W.3.

23h.p. Douglas, 1916, unused, Douglas colours; £65,-55, Piccadilly, W.1. Tel.; Gerrard 7711, after hours, Sydenham 1284.

DOUGLAS 234h.p., clutch, kick starter, as new, perfect, lamps, horn, spares, etc.; £80.-C., 12, Station Parade, Muswell Hill.

DUGLAS oh.p. Combination, lamps, born, dasc wheels, like new, seen by appointment; £135,—95, Bostall Lane, Abbey Wood, S.E. [1924]

DOUGLAS (Late 1919) 4h.p. Combination, perfect, fitted complete; £175, bargain.—H., 27, Wood-Berry Crescent, Muswell Hill. [2318

DOUGLAS 4h.p. Combination, new tyres, belt, lamp, mag., carburetter, sidecar, etc.; £105, bargain.—322, Whitehorse Rd., Croydon.

DOUGLAS 23/h.p., 1915, excellent condition, with accessories; £65, or nearest.—Mitchell, Strawberry Field, Woolton, Liverpool. [1883]

berry Field, Woolton, Liverpool.

34h.p. Douglas, delivered March, 1919, absolutily a company of the property of the property

SMITH'S.—Doughas 1916 2³dh.p., in excellent condition; £60.—Smith's 10-16, Haverstock Hill (opposite Chalk Farm Tube Station). [0143

1915 254h.p. Douglas. Baby Klaxon, new mudguards, new lamp set, P.H., full T.T. bars, very fast.—30, Riggindale Bd., Streatham, S.W. [1545]

DOUGLAS 254h.p., 1915-16, 3-speed Colonial model, Bosch mag., Jamps, fast, ready for Easter; #55.— F. Hodsoll, Mill Honse, Orpington. [1689]

 $2\frac{3}{4}$ h.p. Douglas, very late 1916, makers' colcurs, excellent order, mechanically perfect; £65.—Owen 59, Schofield Rd, Upper Holloway. [X80]6 DOUGLAS 4h.p. 1918 Combination, new C.B.

Car, smart appearance, fully equipped; £120. Stoncleigh St., N. Kensington, W.11. [2

DOUGLAS 254h.p., 2-speed, uncrated December, 1919, absolutely perfect, exceptionally smart; 62 gms - 60, Wallingford Av., North Kensington. [2115

19 17 25th.p. Douglas, mechanically perfect, ready for Easter, exceedingly smart; 55 gns.-10.
Bonner Hill Rd., Kingston-on-Thames. [2255] W.D. 2%h.p. Douglas, used only few months, enamel excellent, new tyres; ride 20 miles to purchaer; £55.—Beaulieu, Avenue Rd., St. Albans. [1957]

GIBB, Douglas Specialist, Gloucester, gives personal attention to all orders. All spares at makers prices stocked. No profiteering.—'Phone: 852.

DOUGLAS 4h.p. Combination, 1919, Easting wind screen, lamps, horn, in splendid condition; £140.

Dawe, 19, Heathville Rd., Gloucester. [2150]

1915 2%h.p. Dougas, heavy Dunlops, footboards, long exhaut, Lucas lighting set, Klaxon; £57/10.—66, Perry Vale, Forest Hill, S.E. [2149]
1920 Douglas sh.p., Combination, £155; 23h.p., Combination, £155; 23h.p., Moffat, Douglas Agent, Yeoril. "Phone; 50. [1103]

DOUGLAS 25th.p., 2-speed, uncrated July, 1919, perfect and unscratched; bargain, £62/10.—174, Barcombe Av., Streatham Hill, S.W.2. [2206] DOUGLAS, 254h.p., 1916, exceptionally smart, low mileage, tyres and enamel as new lamps, etc.: £62.-295, Latimer Rd., N. Kensington, W.10. [2258]

19 19 (Nov.) 4h.p. Douglas Combination, Liu hamps, disc wheels, mudshields, miles 350; £150

-Leonard, Westover Collonade, Bournemouth. 125 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B21

MOTOR CYCLES FOR SALE. Douglas

19¹⁶ 25/h.p. Donglas, on road, 1919, 2-speed, Binks carburetter, lamps, just overhauled, perfect; £80. -25, Thornfield Rd., Heaton Moor, Stockport. [1808

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—
New Donglas machines for early delivery, 2% h.p.
model, 3-speeds, 250; 4b.p. combination, 2155, 11425

DUULLA'S 2% h.p., W.D. model, 2-speed, hatest
best offer over £75.—77, Borough Rd., Middlesbrough,
[X7899]

19 Douglas 4h.p. Coachbuilt Combination, 3-speed,
RS., chiela, speedometer, lange, accessories, as
new, £140, ao ofters—174, Victarge Rd., Leyj' (1794)

19²⁰ Douglas Combination, tools, lamps, born, all complete, as new, run 100 miles; first cheque £176 secures.—Leonard Jones, High St., Malmeshury. [1845

DOUGLAS 234h.p. 1915, electric lighting, Bosch, mechanically perfect, Colonial shields, blue aluminium tank; 51 gns.-43, Brailsford Rd., Brixton.

19 16 21(h)p. Dougks, lafe-t mudguards, new central willingly, £52(10,—Newton, Ash Vale, Surrey, DOUGLAS 1915 23(h,p., 2-speed, new chain, and latest Amac, mag, just overhauled, tip-top condition; £55.—31, Drakefield Rd., Balham, S.W.17, DOUGLAS (2008)

DOUGLAS 2%h.p., 2-speed, an exceptionally and smart machine, makers' clours, uncrated 1919.—Hillier, 216, Portobello Rd., Notting Hill, W. [1089]

1089

1991 Douglas 2%h.p., 2 speed model, large lamp set Lucas horn, rear lamp, all tools, guaranteed perfect, almost new; £69.—Box 2,734, c/o The Motor Cycle.

DOUGLAS 1915 234b,p., W.D., good condition, £45; B65; bargains.—18, Marlborongh Rd., Old Kent Rd., S.E. [2129

19 20 Donglas 4h.p. Combination, just delivered, complete with lamps and horn; first offer over £180 secures.—55, Avondale Rd., Croydon. Phone: 1882.

4 h.p. Douglas, 3-speed, clutch, kick, combination, acreen, lamps, low mileage, £150; another, inlly equipped, any trial, £95.—Wall, Aldenham Rd., Bushey. [1523]

£63 and £68, W.D. Donglas selected machines, some makers colours,—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Tel.: Kens.

1016 4h.p. Donglas Combination, W.D., 5-speed, chutch, looks almost new, very little used, horn, pump, tools, spares; £110.-67, Little Heath, Charlton, S.E.7.

Douglas, 234h.p., 1915, single speed, Bosch mag., Lets. – Wilson, 492, Kingston Rd., Raynes Park, (1476)

DOUGLAS Combination, 1919, electric lighting, anteed; 150 gns.—Bonglas, 2, Queen's Av., Woodlord Green, basen,

Green, Essex.

DOUGLAS 23(h.p., late model, tyres as new, makers' coloris, long exhaust, engine overhauled, very fast; owner going abroad: 64 gns., offers.—Read, Aston Chinowner going. Tring.

1915 Douglas, 2-speed, 25th.p., in splendid condition, not W.D. finish, horn, pump, etc., £62: 1914 ditto, with clutch and kick start, £55.-67, Little Heath, Charlton, S.E.7.

DOUGLASES 23th.p. always in stock at competitive prices, open till 7 p.m. week days, 5 p.m. Saturdays.—Smith's, 10-16, Haverstock Hill (opposite Chalk Farm Tube Station).

LATE 1912 Douglas 25(h.p., single speed, splendid condition inside and out, Dunlop tyres as new; any trial or examination; £48/10, or near offer.—Meer Hill, Loxley, near Warwick.

1917 4h.p. Douglas Combination, fully equipped; £115; or easy terms of payment arranged.— Kirkdale Motors, 88-90, Kirkdale, Sydenham, S.E. Phone: Sydenham 739.

1919 Douglas 2° hp., uncrated 1920, 2-speed, T.T., mileage 300, front and undershields, Pedley grips, heavy Clinchers, tools, condition perfect; 78 gms. -156, Nantwich Rd., Crewe. [1805]

BRAND New 27th.p. 2-speed Douglas, W.D., iner uncrated, unridden; seen by appointment; cash offers, or exchange 4h.p. combination, cash adjust-ment.—H., 32, Triangle, Bath.

ment—H., 5c, Franger, Bath.

DOUGLAS 4h.p. Combination, October, 1919, 5-speed, 184-st, 184-st

⊋ 3 l.p. Douglas W.D. Model, new, unused, just un. ⊋ 4 crated; £78.—The Commercial Rd. Trunsport Co. (Birmin;ham), Ltd., 461, Bearwood Rd., Smethwick, Birmin,ham. Thoue; Edgbaston 724



CALL AND SEE

the interesting selection of New and used MOTOR CYCLES AND SIDECARS we have on view at our new and additional Showrooms situated at

52 & 53, SUSSEX PLACE. South Kensington S.W.

or if it is inconvenient to call, drop a p.c. for list of machines available for immediate delivery.

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USEFUL ACCESSORIES.

KNEZ GRIPS, the most satisfactory obtainable (postage 44, 8/- pr. MECHANICAL HORNS, very efficient (postage 6d.) 17/6 ea. RACING HELMETS Tan leather fleece lined REPAIR OUTFITS, Special offer: motor cycle s'za at

(Postage 3d.) MOTOR CYCLISTS' TOOL KIT.



Genuine /b'ngdon, fitted with 10 King Dick Tools, complete in canvas case (postage 6d.) . . . £1 9 6 FROM ACETYLENE to ELECTRIC S.B.C., adapters make such a change in your lighting system quite a simple matter. Fits in place of gas jet, double-ended ard complete with cird grip (postage 3d.) 2/6 each

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All enquiries and correspondence relating to Cars and Motor cycles should be sen' to our Sussex Place, address. All communications concerning Access ories and Repairs to Store Street.

H. TAYLOR & CO., LTD.

SHOWROOMS: 21a, STORE STREET, W.C.1 52-53, SUSSEX PLACE, S.W. WHOLESALE:

38, ALFRED PLACE, W.C.1

Garage - Tottenham Cenrt Read Fhone - Museum 1240. Kensington 7260 Telegrams -Dynametro Westcent, London,"

MOTOR CYCLES FOR SALE.

Douglas.

STANDARD 23th.p. Douglas (uncrated 19/2/20) scratched, faultless, very fast, specially guarded, lamps, etc.; approval; 64.—Appoint 288, Plumstead Common Rd., S.E.18.

READY to Ride Away.—Douglas 1916 combins 5-speed, clutch, kick start, lamps, born, someter, perfect condition, excellent climber; £115 any time.—7, Recreation Rd., Sydenham.

24, -191 23th.p. Douglas, T.T. bars, alumi footboards, P. and H. head lamp, just overh nad repainted makers' colours, go anywhere mach 50, Manor Park Id., Harlesden, N.W.10.

FOUR 1916 W.D. Donglases, mechanically pand indistinguishable from new; £68, eech worth £75; real Easter saips.—B.P. Garace, 40, M. Mews, Murray St., Cainden Town. See Harley.

DOUGLAS 4h.p. Combination, 1919, lamps, speedometer, special torpedo sidecar, periect forpedo sidecar, periect ming order: burgoin, £110, no offers, no dealers.—Warwick School Motoring, Warwick Rd., London. DOUGLAS 23(hp., 1914 T.T. medel, engine 14287 lamps, horn, tools, sundry spares; seen by appointment Saturday afternoons or any Sundays.—Jones, Wynthorpe, Koutsford, Cheshii

23h.p. Douglas, 1916, 2-speed, new tyres, ben a nachine, and heen ridden with care; 65 gps, gain; seen by appointment only; no dealers.— Cole, 107, St. Mark's Rd., St. Charles Sq., Loador

IT Appears Ridiculous to Advertise when you no stock, but we are giving deliveries to the birds. Place your order it once if you wan livery.—Eli Clark, Donglas Agent, 196, Cheltenham

F.O.C.H. have a 1919 Douglas 234h.p., exc. order, small mileage.—Fair Offer Car Hour Heath St. Hampstead fur. Hampstead Tube Star Phone: Hampstead 3752. Henrs 9-7, including

DOUGLAS, 25th.p., 2-speed, W.D. mudols, reimachines, in guaranteed sound order; \$65 undoubtedly splendid value for money; only a leit.—Eice and Co., 15-16, Bishopsgate Av., Cam St., E.C.3.

DOUGLAS 23th.p. 1917, W.D. model, comports \$\frac{1}{2}\$ overhanised, guaranteed perfect condition the oil; \$\frac{2}{2}\$ fs; another, 1916; \$\frac{2}{2}\$ Seen, Dollis dille Co., Finchley, Church End Station. Princhley 2356.

199 (Sept.) 4h.p. Donglas Combination, e 9155, latest clutch, fully equipped, sparse extras, mienze 1,500, retuned makers, abso sound; £143.—Banister, Heath Bank, Viac Kersal, Manchester. Tel. 33 Higher Broughto

DOUGLAS 1914 4h.p. Combination, with v pillion seat, 2-speed, kick start, mechan perfect, will take 3 anywher, 2 new heavy Dussare cover, tube, chain, valve, springs, links, £90; trial.—265, fligh Rd., Kilburn. 3011 F. stead.

10 18 Bouglas 4h.p. Combination, 3-speed, thoroughly overhanded, now indistinguis from new, special sidecar, disc wheels, fully conjugation, perfect, any trial and exation; bargain, £125.—W. Penning, 3, Addison J Brixton, S.W.9.

Brixton, S.W.S. 29 Sh.D. Pouglas, 1919, 2-speed, touring model, del A makers end October, new accessories include H battery lighting, speedometer, Klaxon, fortbourds, shield, handle-lar mutls, tocls, triden about 500 owner obroad during domany, February, Marchy by appointment near London; bargain, 285, 2686, cfo The Motor Cycle.

2,688, c/o The Motor Cycte.

DOUGLAS 2'(4)-D., completely renovated, and anteed mechanically perfect, cnamelled in colours, standard tank and the het, appearance condition as new, complete with toolbugs, pump. 265; a machine that work let you down at E Our usual 3 months' guarantee—Hibbert Turne Co., 45, Crawford Passage, Ray St., Farringdon. Duzmo

DUZMO 31/sh o. Single and 8h.p. Twin. Order Strict rotation. Deliveries commence 17-All Langushire and Cheshire enquires to Leadure Seed, 16, Juliu Dalton St., Manchester.

Eagle.

E AGLE 7-9h.p. Twin, a good sporting 'bus; & 485 -21, Oxford Rd., Gunnersbury.

Edmund.

EDMUND-J.A.P. 294h.p. 2-speed Model, now in the Model, Wern.

 $2\frac{3}{4}$ h.p. Edmund, spring frame, 3 models,—List from Gourlay's, Fallowfield.

23 h.p. Edmund, spring frame, 3 models.—List references from Gourlay's, Fallowfield.

Elswick.

ELSWICK Precision 4hrp., 2-speed, splendid der throughout: £42.—Speechley, 1, Gunner und Lane, Acton Hill, W.3.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE. Enfield.

)20 Enfield 2-stroke (unregistered); £73, or offer.— Weights und Measures Office, Swindon. (X7994 i.p. Enfield, 2-speed, Bosch, Binks, overlanded: tide away: £42.—76, Westom Rd., Southall, W. [1856] 20 Enfield 2-stroke, mileage 20, lamps, horn; £75. -£9, Oak Lane ('phone 2190), Bradford, [2178

)20 Enfield 6h.p. Combination, mileage under 20; £185.-46, Gladstone Av., East Ham, London. £185.—46, Gladstone Av., East Hum, London, ISFIELD Twin, 25h.p., 2-speed, splendid condition, tyres nearly new; £45.—87, Truo Rd., Wood m.

Wilkins, Simpson, and Co., opposite Olympia, ion. [2205]

son. [2205]
[VIELD 2-stroke, 1918, condition almost now, hamps, etc.; best offer above £50,—47, Hamilton Reading. [2203]
[OKI-3h.p. twin Emiteld, 1915, 2-speed, Bosch, Amar: nearest £55,—Young, Kitsbury Garage, hamsted.

p. Emfidd, late 1915, K.S., 2-speed, lamps; after 6, oll day Saturday; £60.—17a, Lytchett Terrace, mond, Surrey. [1542] FIRLD Combination, 1916, 6h.p., fully equipped, splendid outilt; £138.—Confectioner, 222, (Wildiam Faiswort), Manchester.

p. Royal Enfield Combination, 1917, in good run-ning order; offers solicited.—The Fife Coal Co., Survey Dopt. Leven. [1999]

p. Enfield Combination, late model, overhauled and rebushed, lamps, horn, luggage grid; £130.— mgbby, Merstham, Surrey. [1983]

TAL ENFIELD 23th.p. Twin, 2-speed gear, just overhauled, lamps, tools, good condition; £52.—
ragg, 53, Conduit Rd., Stamford. [1669] FIELD 1920 2-stroke, 2-speed, delivery ex-stock, at list price; £68, plus carriage.—Elce and Co., Bishopsgate Av., Camomile St., E.C.5. [0072

16 Enfield Combination, 6h.p., dynamo lighting, fully equipped: £146.—Smith's, 10-16, Haver-Hill, opposite Chalk Farm Tube Station. [0126] Hill, opposite Chair, Faim Labor Statics.

FIELDS.—Place your name on our list without delay, rotational delivery strictly adhered to, no ams.—Bedford Garage, Walsall. Phone: 270. [5306]

18 Eafield 3h.p. Twin, 2-speed, kick start, lamps, horn, etc., small mileage; first £70 secures; 8 p.m.-2, Noel Rd., Edgbaston, Birmingham.

8 pm.-2, Noel Rd., Edgbaston, DHambara, TAL ENFIELD 1915-16 Sh.p., 2-speed, K.S., ac-scotles, nochanically perfect, like new; 270, or direr-306, Kingston Rd., New Molden, Surrev, Other-306, Kingston Rd., New Molden, Surrev, T.T. uars, footrests, -innused this winter; Wotson, Edizabeth House, Borekam Wood, Herts, University of the Computer of the Co

9 6h.p. Enfield Combination, 3 P. and H. lamps, Wattord speedometer, horn, practically new con-; £150; N.W. district.—Box 2,681, c/o The Motor

TELD Combination, 6h.p. J.A.P., just over-nucled, complete with lamps, wind screen, apron, ares; £105; splendid condition.—Bowen, 41, Cole-Shrewsbury.

IELD 1916 Combination, new tyres, wind screen, ull kit, speedometer, mileage guaranteed under practically unscratched; £145.—Phone; Gril-Brixton 286,

3 Enfield Lightweight, under 600 miles, com-plete, speedometer, horn, etc.; reasonable offer, nange combination, cash adjustment.—73, Holme tast Ham.

last Ham.

IELD 5b.p. Twin, 1917, in perfect condition;
70, or exchange with cash for 6b.p. combination odd).—Wrife, Blacher, 50, Hillaries Rd., Gravelly lumineham.

UND, Oct., 1919, 25(h.p. J.A.P., Enfield 2-seed, not ridden 30 miles, bought by lady who ing lady's machine; £76.—Miss Clyn, Thistle-Dalston, Cumberland.

Enfield Combination, 6b.p., fitted with 700,800
yres, Lucas dynamo lighting set and horn,
and extra piston, all fibe condition; £150.—
Aima Rd., Clifton, Bristol.
Enfield Combination, engine just eversauled by J.A.P. at cost of £12/10, new chains,
art yres; £120; owner medically advised not
--Child, Shoe Works, Colwyn Bay. [1472]

(March) 8h.p. Royal Enfeld Combination, Lucas magdyno lighting set, Best horn, luc-id, mat, Palmer cord tyres, not run 100 miles; 14, South Bank Rd., Bury, Lancashire. [2249

JCHOPE'S, 9, Shoe Lane, Fleet St., London.— h.p. Royal Eufield combination, 1917 model, 180 1916 b.p. Royal Enfield combination, and oyal Enfield combination, ready for the road

ELD 6b.p. J.A.P. Combination, 1914, large mily sidecar, all-chain-driven, handle start, nipped, unusually good outfit, any inspection 102 gas.—S.R.L., Fairview, Gordon Rd., S. td.



Batteries. NEW SPECIALITIES FOR 1920 ENTIRELY NEW MODEL MOTOR CYCLE HEADLAMP.

Genuine

Hellesen

Dry

Adjustable Focus Fig. 878

Fitted with arms, clips and bolts for handlebar fixing,



Double ended bayonet holder showing large milled locking ring for adjusting focus.

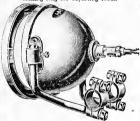


Illustration showing detachable front and method Hustration showing detachable front and method of fixing, with draw screws each side.

Fig. 818 in black plated finish . 55/- each.

818 Nickel-plated or brass finish 54/- each.

S.B.C. electric bulbs for this lamp . 3/- erch.

S.B.C. electric builts for this lamp . 3/- ezeh, carriage extra.

NOTICE TO THE TRADE,

DELIVERIES—Special efforts have been made lately to speed up deliveries, and already a great improvement is apparent. Owing to the very farge number of orders on hand, it is impossible to give delivery by return, and all present a signit delay is unavoidable. Cuslomers are therefore thanked for consideration and indulgence already extended and assured that every possible effort is being made complete orders on hand in affrict rotation of receipt. NEW SPECIALITIES & ACCESSORIES FOR 1920.

Many new lines are in course of production, and customers should therefore ask for their name to be added to the mailing list for new Catalogues

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CROYDON 2225 & 2226.

Telegrams: "KEYAGE." CROYDON.

MOTOR CYCLES FOR SALE, Enfield.

ENFIELD 1916 3hp. Twin, 2-speed, clutch, lock start, all-chain, lamps, hoin, speedometer, mirror, etc., has been cinerally used, and is in almost new condition; 266; my final given.—R. Watson, 132, Hinch St., Aldebungh, Suffolk.

8t. Aldebnigh, Suffolk.
ENPER.D 1916 Tem Combination, 6h.p., just over-landed by makers, first class condition, Lucas clertric lighting outilt. Enfield hood and serven, Secarat hom, clare parts: £180.—White, 200.
Reb., Petulingten, Michielecte. Them: Molesay Conditions of the Condition of the C

ENFIELD 3h.p., 1919 (July), specially selected en-landisburs, horn, hooked grips, Palmer cond tytes and tytes are selected entangles of the selected en-series, complete set of tools, spire ever and these fast, reliable and economical, in persect condition throughout, £85; electric lighting set, £5; Watford trip spectometer, £4—Box 533, (c) Tre Motor Cycle.

Excelsior.

19²⁰ American Excelsior, just delivered; at list price.

—The Central Garage, 12, Bridge St., Jordan's
Yard, Cambridge. [1771

1919. British Excelsior, 2-speed model, lamps, horn, tools, as new: £57.—The Central Garage, 12, Bridge St., Jordan's Yard, Cambridge. [1773]

LANCASHIRE. Cheshire, North Wales, Isle of Man only,—American Excelsior; enquiries,—J. Blake and Co., Official Dealers, Liverpool-Manchester. [6586

THE New 1920 American Excelsior represents the best value for money on the market. Book now for early delivery. Fitted with Swan de Lane sidecar.—Edwards and Pairy, 4, Bleaheim St., Boad St. Mayriar 2666.

für 2666. [2262

EXCELSIOR-BUILT 2-secter Sidecar Combination.

S-6h.p. Condor eugine (single), 5-speed, handlestart, lamps, speedometer, all spanes, first-class condition; trial given; 285.—Mr. A. Gregory, II. Upper
North St., Feplar, E.14. / [1772

Gb.p. British Excelsior Combination, 1915, 5-speed
countershaft, all chains, new screen, 3 new lumps,
countershaft, all chains, new screen, 3 new lumps,
returned from makers (all renewed), usual spares, excellent condition; first 2130; any trial by appointment,
owner buying car.—Burton, Builder, Cheam, Surrey,
(1954)

Fafnir.

FAPNIR, 5h.p. Brown-Barlow, very fast; barsain, E22.—Geo. Braithwaite, Bainbridge Rd., Sedbergh Spiles, Fiz., mag., excellent conditions of tion; £26/10.—1, Clifton Terrace, Liskard, Conditions and Conditions of the Conditions o

31h.p. Fafnir, Grado gear, wicker torpedo sidecar, wind screen, perfect tyres, lamps, sandries; ride away; photograph: £27.—29, Cherhill, Calne, Wilts.

Fleetwing.

FLEETWING 1915 51/th.p. Combination, cane side-car, free engine, kick starter, Mabon variable gear, in thoroughly good condition; £70.—70, Yalding Rd., Bermondsey.

31h.p. F.N. single gear, mag., tyres good, horn; price 2 £25.—Roberts, Four Firs, Lepton, Huddersfield. [1676]

[1676] F.N., 25th.p., Druid forks, coil, needs overhauling; £15, or nearest.—P.D., 2, Thorold Rd., Chathau

F.N. 4-cyl. 1914, hand clutch, 5-speed; £40, or near offer; good condition.—King, Borough, Farsham. F^N. 2½h.p., 2-speed, h.c. clutch, shaft drive, mag., lamp set and horn; £35.—Bracey, Bennington, [1829]

CROW Bros., Guildford, F.N. agents for the 7h p

F.N. 4-cyl. drop frame, new, Dunlop, sound condition; £30, no offers.—Greenfield, Adyar, Shorncliffe Rd., Folkestone. [1818]

F.N. 5-6h.p., 4-cyl., shaft drive, 2 speeds, kick start, hand clutch, as new; £70, or offer.—Manderson, Woodbush, Dunbar, N.B.

5-6h.p. F.N., newly enamelled, in good running order, fast and powerful; £30.—Coleman, 14, Elderberry Rd., Well Hall, S.E.9.

Rd., Weil Hall, S.E.9.
 5 h.p. 4-cp, F.N., 2 speeds, short drive, overhousled, from the fine order, many new parts, Apply, Reid, Grantown-ors-Spey.
 6219.
 625. Belt-drive F.N. 23-h.p., perfect condition, good appearance; will ride 100 miles to purchaser.—51a.
 Compton Rd., Keneal Green N.W.10.

F.N., 4 cyls., 2 speeds, hand clutch, just spent £30 in overhanl; £55, or exchange for lightweight.— Buckner, 1, Tarver Rd., Manor Place, Walworth. [1993 Duckner, J. Thyer RG., Major Piace, Walworth, 1993

10 14 4cyl. Sspeed F.N., speedometer, clock, Lucas horn, lamps, Gloria sidecar, hood, screen portmanteau, sparse, tools, perfect order—Philiptics, Elsham Rd., Kensington, London.

12 Speed, Canchmitt Combination, else the lighting, and powerful; any trial; 75 cms, bargain; arter 5 clock—1, Pirtotia Ar., Walthamstow, E.17. [1702]

F.N.

4 CYL. F.N., Bosch, B.B., footboards, dropped frame, sound but needs adjusting, £27: another, less unit and tyres, £7; carburetter and controls, 15;; consecting rods, exhaust vipes, flywheel, and few other spares, cheap, offers.—Heath, Winteringham, Doncaster, Time. F.N.

Forward.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London 21/h.p. Forward motor cycle, £27/10. [14

Gien.

CLEN-VILLIERS Lightweight Motor Cycles, 1920
O'models, delivery from street; single speed 53 gas,
2-speed 60 gas, 2-speed, fluttly, lick statiet, 88 gas,
Agents wanted.—Adams, Motor Depot, Fighting Cocks,
CY863 Agents wanted. Wolverhampton.

Harley Davidson.

JACK HEALY, Cork, official Harley agent. Retational delivery. No premiums accepted. [6488] HARLEY-DAVIDSON.-Book now for early delivery -Official Agents, The Motor Cycle Mart. Stafford St., Walsall.

HARLEY 2-speed 7-9h.p., hand, foot-controlled clutch, 3 lamps, new sidecar; appointment.—Taylor, 25, Barlby Rd., W.10.

HARLEY DAVIDSON, 1918, 3-speed model, as new: £120, or offer.—Littlewood, c/o Brown, 385, Garrett Lane, Wandsworth, London. [2035]

HARLEY-DAVIDSON 1915-16 Model 7-9h.p. Combination, pertect machanical condition, all accessories; £120,—101, Church St., Croydon. [1872]

Harley-Davidson (1917) Combination, new tyres, spare chain, valves; £135.—Carter, 29, Heathway, Northumberland Heath, Erith. [1736]

19¹⁵⁻¹⁶ Harley-Davidson Combination, 7-9h.p., 5-speed, overhauled; £115, or exchange for recent combination.—Box 2,741, c/o The Motor Cycle. [2288] T-9h.p. Harley-Davidson Combination, 1916, electric model, just overhauled, new tyros, fast; £130.— stonehouse, Manor House, Highley, Kidderminter, 5tonehouse, Manor House, Highley, Kidderminter, 1918, hom, spare tyre, tibe, etc., perfect order, incurance; ride to purchaser; £165.—Box 428, c/o The Motor Cycle.

HARLEY 7-9h.p. Combination, 1915, Mills-Fulford sidecar, good tyres, lamp, splendid order, too last for owner; £148.—Richardson, 108, Eastgate, Worksop, Notts.

HARLEY DAYIDSON Combination, 1915, complete with lanns, both, higgses carrier, tools, complete, meter, spare cover and nimer those; best offer over £130; by appointment,—Griffith, 90, Newman St., Lon-don, W.1.

POUR 1918 (guaranteed) Mag. Model Hailers, me-chanically pertect, but rough; £100 each; abso-lute snips.—B.P. Garago J.A.P. specialists!, 40, Murray Mews, Murray St., Canden Town, N.W. pr., N.L. Rail-way. See Douglas.

HARLEY-DAVIDSON 1920 Mag. Model, aretylene lighting, electric horn, speedometer, all accessories, new January, done a few hundred miles only, new condition; £175, or with new sidecar, 200 gms.—Roberts, Bleneathra Gange, Kewick

Haber Lary DAVIDSON 1018 7-2h.p. Combination as even nearly new Multord sideon with bond, the whole in excellent condition; 2165, or nearest offer; only reason for selling, new A.J.S. just received.—T. H. Drinkwater, Sandhuist, near Gloucesten.

Hazlewood.

1920 Hazlewood (delivered Jan.) Combination, 6h.p., JA.P. 3-speed C.S., clutch, K.S., Canoelet siderar: list price, £185; accept nearest to £170.—Saumlers, Cycle Co., Chatham. [9576]

5 -6h.p. Hazlewood Combination, standard equipment, etc.; may be obtained on Harrods system or easy rayments.—Harrods Motor Showrooms, 116-118, Brompton Rd. (opposite Main Building), London, S.W.1. [1617

ton Rd. (opposte Man Biniang), Admion, 63-13.

HAZELWOOD Sh.p.- Combination, brand new, immediate delivery; price 2186, pins delivery charge; first cheque secures machine.—The Shotton Motor and Cycle Co., 85, Chester Rd., Shotton, near Chester.

H.B. Blackburn 2 hp. 1920 2-speed Model, as new; £85.—Moss, Weln. [X7685

H.B. 2¹4h.p. Blackburne engine, 2-speed, kick from Joseph Devey and Co., 50, Darlington St., Wol-verhampton. Phone: 606.

Henderson.

1920 Henderson 10h.p., brand new Nightingale Rd., Lower Clapton. new; £200.

1920 Henderson, dynamo lighting, 3-speed, kick starter, brand new, unused; what offers? private owner.—J. Wilson, West Hall, Byflect. [1484]

ANCASHIRE, Cheshire, North Wales, and Isle of Man - Enquiries for Henderson 4-cyl, wanted,-J. Blake and Co., Official Dealers Liverpool-Man 1658

THE COVENTRY Motor Mart Ltd. London Road, Coventry.

"Selection, Coventry

NEW MACHINES FOR

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All in Stock at Time of Going to Press.

LIGHTWEIGHTS.

Alldays Allon, 2-speed, kick-start, hand clutch.

Omega Jap, 2-speed, kick-start, hand clutch.

Excelsior Jap, 2-speed, kick-start. Calthorpe Jap, 2-speed.

Calthorpe, 2-stroke, 2-speed. Connaught, Standard model, single

Connaught, Miniature model, 2-speed, kick-start, hand clutch.

lvy, all purpose model, 2-speed, kickstart.

lvy, all purpose model, 2-speed. Hobart Jap, 2-speed, kick-start. Hobart, 2-stroke, 2-speed. Clyno, 2-stroke, 2-speed. (2) Metro-Tyler, 2-speed discs. Metro-Tyler, 2-speed.

Sun, 2-stroke, 2-speed, kick-start. Dot Jap, 2-speed.

COMBINATIONS.

New Imperial, 6 h.p. all chain drive, Cancelet, mm. 4 sidecar.

Hazlewood Jap, 6 h.p. Acme, 6-8 h.p. with spare and interchangeable wheels.

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Cancelet, Mills-Fulford, Grindlay, Montgomery.

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THE COVENTRY MOTOR MART LTD. ROAD, COVENTRY

"Selection. Coventry Telegrams:

MOTOR CYCLES FOR SALE.

Henderson.

HENDERSON 10h.p., 2-speed, torpedo coacht sidecar, lamps, horn, speedometer, etc., first-condition; £145.—Clay, 35, Topsfield Parade, Crr End, N.8.

10 17 4-cyl. Henderson, Campion sidecar, hig carrier, lamps, horn, h.b. watch, Watford sy meter, kneegips, tools, spares, recently overlaperfect condition; 2150.—Williams, 161, Upper Pront St., Liverpool.

HENDERSON 10h.p., 4-cyl, used for deman tion and road test only not done 1,000, cently examined throughout, complete with accu-lator electric lighting. Sunbeam sidecar, Easting va-screen, efficient leg shields, and all necessary a sories; £230,—Batten, Hope Park Lodge, Pet N.B.

Hobart.

19²⁰ Hobart-Jap, 2³4h.p., Sturmey-Archer 2-s kick starter, brand new; immediate delivery; -Clarke and Co., Queen St., Louth.

Humber.

HUMBER 2h.p., new belt, lamps; ride away; Allen, Clayton St., Skelnrersdale. TUMBER 31/h.p., Bosch; £45, no offers.-53, North Side, S.W.18.

BEDFORD Garage Walsall, d Humbers; rotational delivery. district agents

HUMBER 312h.p. Twin, lamps, mechancial tools, ride away.—Hall, 25, Venue St., Pop

© 38.—Humber 31/2h.p., B, and B., Bosch, fast throughout, lamps.—Swinford, Minster, I Thanet.

HUMBER Lightweight, perfect condition; even £25.—Westbury, 7, Raleigh Rd., Richn

23h.p. Humber, 3 speeds, clutch, nearly new condition as new; 248.—Smith, Great Gi Peterborough.

19 19 Humber Combination, flat twin, mileage lamps; horn; £140.—89, Oak Lane ('phone 2 Bradford.

Humber 34h.p.; Bosch, 2-speed, clutch, excondition; 235, or near offer; any trial,—41; Rd., Leyton, E.10.

H UMBER 31/h.p., late 1919, not ridden 200 owner selling owing to ill-health; £90.-163, Rd., Bermondsey.

Humber Combination, 31/26.p., handle start, mag., 2-speed, wicker sidecar; £65.—Medcal The Wash, Hertrord.

HUMBER 31/2h.p. Single, T.T., low built, l tyres good, Bosch, ride away; £37; offers. Highland Rd., Chiswick. HUMBER 31/h.p. Combination, 2-speed, e handle start, lamps, good running order; 4 King, Egrove Farm, Oxford.

HUMBER Combination 31/2h.p., 2 speeds, 3 start, wicker S.C., good; any trials; 265, no -55, Green Walk, Crayford, Kent.

HUMBER 2%h.p. 1914, 3-speed, clutch, full a ment, excellent condition; £45.—Kington King Edward Parade, Norbury, S.W.

HUMBER 3/2h.p. 2-speed, mag., handle star cently overhanded, owner purchased lightwood.—Evans, Tynant, Llantwit Major.

HUMBER 31/2h.p., sidecar Watsonian, Bosch splendid condition; £50; first cash secure offers.—Baxendale, 20, Mordaunt Rd., Harlesden.

HUMBER 6h.p., horizontal opposed, w.c., 3 combination, Millford sidecar, just overhetyres good; 100 gns.-115, Geinshorough Rd., Cr

EARLY Delivery of the Celebrated Humber may from the accredited agents.—The Lankester gineering Co., Motor Cycle Dept., 63, Brighton

L ATE 1919 Humber Flat Twin, mileage 1,500 dition as new, Millford sidecar, spring chand luggage hoard, Cowey speedometer; £140.-30, Gunterstone Rd., W.14.

HUMBER Lightweight, 3-speed, clutch, splendig uing order, tyres perfect; any trial; ride £35; seen by appointment after 3 o'clock Satu -R. Green, Elmswell, Suffolk.

Indian.

19 14 Indian 7-9h.p. Combination, new cond have trial; £100.-H. Wright, Arlescy, Be

1920 Indians; prompt deliveries.—E. Brown, Janes, Brown, Janes, Brown, Janes, Brown, Janes, Brown, 1944.

INDIAN Combination, 7-9h.p.; £105; 2 new t

Ph.p. Indian and Mills-Fulford sidecar, 1913, 2 delut h model, Lucas lumps and horn, good non order; £70, or nearest offer.—Boucher, Redbourg.

Bb4 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Indian.

"ATE 1919 Indians Combination, 7-9h.p., dynamo; A £190; seen any time.—29, St. Leonard's St., Hrom-g-bg-Row. [1914] NDIAN 7-9h.p., 2-speed, clutch, speedometer, lamps, harn, tools, new appearance; 265.-16, St. Mary bbotts Terrace, Kensington. [2156]

9 15 5-6h.p. Indian Combination, complete, good condition, hid up 1916 and 1917; price 190.32 2,732, clo The Motor Cycle. [1963]

NDIAN 7-9h.p., 1913, 2-speed, clutch, in good run-aing order; £55, or offer to clear.—Broom, I, Mon-que Mews, N. Crawford St., Baker St., London. [1945]

ang conter; 250, at Combination, coachbuilt, clutch model, 25peed, kick slart, except him as new families, 25peed, 25p

-sh.p. Indian Combination, spring frame, clutch, 2-speed, K.S., hood, W.Sc., pillon, electric horn; 05; appointment—F.K., 92, King's Cross Rd., C. [1752]

D 20 Powerplus Electric Condination, disc wheels, mileage 400, fully insured, open expert examinate, perfect; £210, cr near.—Indian, 63, St. Heerge's (X8017

15 7-9h.p. Indian Combination, 3-speed, kick starter, electric lighting, hood and screen, utilnl condition; £120.—Anthony, 64, Dync Rd., ondesbury.

VDIAN Combination, late 1914, not used during war, kick start, clutch, 2 speeds, fast, good; offers, haare 2 J.h.p. Pouglas ca-h.-4, Fenwick (1809)

916 Powerplus Indian, electric light and horn, kick start, hand and foot clutch, new heavy alop tyres; bargain, £135.-374, Grove Green Rd., toustone.

920 79h.n. Indian Combination, electric lamps, specifoneter, spare valves (2), landle-bar muffs, is, done 2.500 miles; £190.—Craze, 9, Alum Chine, Bournermont.

EADY to Ride Away.—Indian 7-9h.p. 1913 combination, 2-speed, clutch, kick start, all on, condiguation is speed, clutch, call any time, 7, Recrea Rd., Sydenham.

a do., Sysuamun. Ji 61 Iodian 7-9h.p. Powerpins Combination, elec-trically equipped, 3-speed, hand and foot chirch don. Gerrard 1004, 62 Schippen, 8, Arg. [2120 DIAN 7-9h.p., 2-speed, 1914, replated, enamelied, and thoroughly overhalled, heavy Duolops, all 5 improvements, really as new; price £85.—374, we Green Rd., Leytcastone.

DIAN Road Racer (1915), 7-9h.p., chutch model, not used till 1918, in perfect running condition, plete; nearest offer £90; see by appointment.—8. hell, The Lindens, Farnham, Surrey. (1929)

1920 7-9h.p. Indian Combination, dynamo, elec-tric, speedometer, Sterling mud shields to match, afrium disc wheels, little used and unpunctured; t offers?—Rodber, Richmond, Yorks. [1478

Offers (-Rouner, Renmond, 1978).

OIAN 5-6h, p. 1915, S-speed, chitch, K.S., tyres almost new, mechanically perfect, lovely sporting machine; 285 for quick sale; trial by appointment, en, 154, Lower Addiscombe Rd., Croydon. "Phone:

OIAY 1915-16 5-6h.p., new Swan Caucelet sidecar, disc wheels, 3-speed, kick start, enamel and plating ew, lamps, nuctor cycle horn, Binks carburetter; examination; £120.-2, Fortune Gate Rd., Harles-W.10, W.10,

W.10.

JIAN 1916 Conchbuilt Combination, 5-6h.p., 3speed countershaft gear, recently overhauled, in
ct rubning, tyres perfect, new heavy Dunlop
; £100, or near offer.—Beech Hill, Mayford,
[2210]

15. Indian 7-9h.p. Combination, 3-speed, clutch, kick starter, lamps, etc., baentiful coachbuilt ar, everything in splendid condition; £125.—er, 499, High Rd., Wood Green. Phrue: Parmars

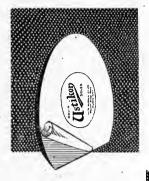
20 Indian Powerplus Combination, with Indian ballbous back sidecar, numerous accessories and 5 apr examination, perfect condition; £220.—sbury, 52, Woodbourno Av., Streatham, S.W. 1874. s, any sbury, 52, Wood ie; 169 Brixton.

MAN 7-9h.p., 1916, in perfect condition, hardly used owing to liness of owner, new batteries set, for lamps, otherwise complete; seen near North-ho, Yorkshire; 100 gns., or hear offer.—Box 2,744, Me Motor Cyde.

No. Moor Cyce.

O.B. fave a 1915 Indian 5-6h p., 3-speed, clutch, K.S., overhauled by mulers, indly equipped, extended for the station. Those is stead for Hampstad Tube Station. Phone: stead for Hampstad Tube Station.

29 Indian 7-9hp. Combination, latest bulbous back sidecar, dynama lighting, including sidemp, electric horn, speedcanter, absolutely new, ge only 250, magnificent outfit, ready for Easter; seen any time.—Indian, 1, Blenheim Grove, ann. S.E.I.5.



THE MOTOR CYCLE.—SUPPLEMENT.



HOME **BOOT REPAIRING**

THESE soles are specially prepared with sol-fix WE GUARANTEE THEM WITHOUT SOLES OF THEM WE GUARANTEE THEM SOLES OF THE WE SOLE

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Complete with Solfix and full directions



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Please cuote Dept. C.

MOTOR CYCLES FOR SALE.

Indian

N.O.H. have a 1915 Indian 5.6b.p. Combination.
Supeo, clutch, kick start, overhauled, reenamelled, plated, as new, electric lights.—Fair Older
Car House, 6, Heath St., Hampstead (nr. Hampstead
Tube Station). "Phone: Hampstead 3752. Hours
7-7, including Saturdays."

Invicta.

INVICTA Lightweight, fitted with Villiers 2 left p 2 stroke engine, 23m, and 25m, wheels; may be obtained on Harneds spectru of easy payments. Harneds Motor Showreens, 116-118, Brompton Rd. dependent Main Buffding, London, S.W.I. [17-15]

lvy. IVY.-The Walsali Garage, Walsali, can supply at early dutes. [7218

IVY 2-speed 2-stroke. Olders booked for early de-livery.-Rothwell and Milbourne, Cowleigh Garage,

MMEDIATE Delivery of all lvy models, the acknow-ledged finest lightweight.—Full particulars, If. 6. Henly and Co., London and District Ageots, 91, 6t Portland St., W.I. Maytair 4084.

19 16 Ixion 2½h.p., 2-streke, Villiers engine, feet-boards, leg shields, in perfect running cried; £35, lowest.—44a, Wakeman Rd., Kensal Riss, NW, [2066]

1 2013 10 17 25(hp. Ixion, inst eventualed, excellent condi-tion, Dualog tyres and belt, practically new, Lucas hungs; £36; antisfaction guaranteed; owner going abroad, - Dutton, Austreston, Austwich.

THE Walsall Garage, Walsall, for good deliveries of all James models. [7220] JAMES.—All models; carly deliveries.—A. J Young and Co., Ltd., Newmarket.

3 h.p. twin James, 1915, 3-speed model; £75-204, Holdenhurst Rd., Bournemouth. [X7864

5 -6h.p. James Combination, practically new; £165.—
Sparks, Patk Farm, Wootton, Surrey. [176]
JAMES 4/h.p., believed 1914, 2-speed, powerful £55.—Griffith, 6, Gipsy Hill, Norwood. [892]

JAMES 1920 5-6h.p. De Luxe Conflication, just de-livered; what offers'— Young, Misterton, Someisst, JAMES 2-stroke, 1920, brand new, not riddeu; first offer list price, 270.—47. Hamilton Rd., Reading,

5-6h.p. James and Sidecar (July, 1919), lamps, winds screen, etc.; £155.—Creswell, Barnfield Rd. Exeter. [1463

19 16 James 2-stroko, 2-speed, C.S., good condition, lamps, horn; £50.-125, High St., Werton, S.W.19. [2222 S.W.19.

JAMES Big Single Combination, P. and H. lamps, tyres and condition perfect; £110.-193, Francis Rd., Leyton. [2011]

19 19 James Combination, 6h p., mileage 400, Lucas lamps, Klaxon; £160.—89, Oak Luce ("phone 2190), Bradford.

19¹⁶⁻¹⁷ James 4¹(h.p. Combination, electric lamps, Watford trip, in good condition; £110.—Edwards, 27, The Borroughs, Hendon. [1781

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.-1920 5-6h.p. James combination, twin cylinder, includes accessories; offers. [1427]

JAMES 2-speed, 2-stroke, lamps, horn, new Dunlors, perfect running and appearance; £46/10.—Seen at 151, Kingston Rd., Teddington. [1487]

JAMES 1920 5-6h.p. Twin Combination, nearly new de laws sidecar: £185. — Elce and Co., 15-16. Bishopsgate Av., Camemile St., E.C.3. [0076]

JAMES 4'4h.p. 3-speed, enclosed chain drive, Binks carbuitter, lamps, horn, very powerful; any examination; £70-44, Camden Rd., Tambridge Wells.

A DVERTISER Requires someone to take delivers of 5-6h.p. Model de Laxe James combination.

Easter or before, at listed 'price.—Box 2,745; c/o The Motor Cycle.

[2292]

4 1h.p. James 3-speed Combination, fully equipmed, 44 discs, valves euclosed, spares, lamps, top-hole condition, ready to ride away; £140.-83, School Laue, Didsbury, Manchester. [2239

JAMES 5-6h.p. Continuation, 1519 (Aug.), unridden this year, electrically equipped, Klason, insurance, squee, etc.; £175.—Dentist, 162, High St., Waltamistow, Phono: Walthamstow 547.

1914 James, 4h.p., and sidzear, 2 speeds, handle start, discs, Bosch, recently overlanded, paint of Dreadnought grey, very smart: 465; seen any thee-Pine View, Maybury Hill, Woking.

19 20 James 44th p., big single combinemen, really for denivery, catalogue force; exchange ontertained; deferred pagments, half down.-Bunning. Motor Exchange, Westastone. [2124]

JAMES 1916 5(2) n. and Venns sadecar, spiendar condition, lamps, horn, speedom ter, chatch, 5-speed, all chain drive, not done 4,000 miles, kink start; 25 gns -12, Elm cardens, Haumersmith, 1273

James. 19 18 3½ a.p. Twin James, discs, 110 m.p.g., lamps, horn, excellent condition, tyres good, T.T. very fast and sporty; 85 gns.—Scanes, c/o Greenwood Pros., 74-5, Arches, Putney Bridge, London. [9713

5 -6h.p. James Combination, twin engine, De Laxe adcear, extra heavy tyres; may be obtained on Harrods system of easy payments.—Harrods Motor Shlow nooms, 116-118, Brompton Rd. (opposite Main Building), London, S.W.1;

J.A.P.

19¹⁴ c.h.v. J.A.P., 4h.p., fest condition, perfect: \$255; Friday.-9, Lanercost Rd., Tulse Hill, S.W. J.A.P. 1920 6h.p., new, unregistered, conneterbaft: £120.-45, Lawden Rd., Bordesley, Birminghem.

4 h.p. J.A.P., good running order, Bosch, B.B., new engine; £30.—Mace, The Court, Dagli worth, Cironcester

J.A.P. Motor Cycle, 2\(\frac{1}{2}\),p., in Omega frame, 2-speed, discs, T.T. bars, excellent condition; \(\frac{1}{2}\)45.—Smout, 28, Radford, Coventry. [X7580

19 13 J.A.P. 3½h.p., Binks, Bosch, lamps, etc., new tyres, tubes, perfect running, new appearance: £46; after 6 week-end.—Long, 59, Gartmoor Gardens, Southfields, S.W. (2003)

19 15 4b.p. J.A.P. Twin P.V., 3-speed gate, engine just overhauled and rebushed, spring frame, Bruks 3-jet, roomy C.B. sidecar, new tyres back and side, excellent running order, take 3 anywhere, Miller laungs 275.—Edwistle, Gauage, West Haddon, Rugby, [1832]

` J.E.S.

E.S. Motorcyclette, better than a scenter, economi cal, reliable.—Enquiries invited by J. Blake and Co., Liverpool and Manchester.

J.E.S. in perfect order, just overhauled by makers, Vattle bett, automatic confurretter, almost dew bunches and the state of the state

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 7-9h.p. J.H. and sidecar, 1915, M.A.G. engine, Sturmey-Archer 3-speed countershaft gear; £115.

K ERRY 2½h.p., requires adjusment, brand new Amac, Dixie; £18,-8, Telford Rd., Hendon, N.W.9. (After 6.)

KERRY 2%h.p., just had £10 spent on Bosch, other parts, and complete overhaul, Amac, spring forks, tyres excellent, low and sporty, good going order; £21/10 lowest.—Herbert Talbot, 8, Darington Rd., West Norwood.

K ERRY Combination, 3! h.p., Palmer tyres, Best and Lloyd drip feed, Bosch waterproof, Brooks saddle, B. and B., lamps and horn, very powerful, ride away: &45, or exchange for lightweight and cash.—7, David's Rd., Forest Hill, S.E.

Lea-Francis.

19²⁰ Lea-Francis, just delivered: offers.—A.B., 39, Westbourne Ter., N. Paddington, W.2. 'Phone: Padd. 3418.

L EA-FRANCIS, 1920, new, not used, Mag engine, ton Rd., Reading. [9976]

LEA-FRANOIS 1919 Combination, all-chain enclosed drive, excellent condition; £135, or nearest.-3, Regent St., Rugby. [X8048]

L EA-FRANCIS, 4h.p. J.A.P., latest improvements, delivered November and stored, unsoiled; £120.—49, Kendrick Rd., Reading. [X8015]

L EA FRANCIS, 1914-15, 31/h.p., 2-speed, free eagine, chain drive, in good condition; £70.— H. Kimpton, Somersham, Hunts. [1469

LEA-FRANCIS, 1920, -Place your name no call waiting list for delivery of these aristocratic mounts, -A. J. Sproston, Ltd., 198, Gt. Portland St., W.1.

Levis.

L EVIS.-Popular models, in strict rotation.-A. J. Young and Co., Ltd., Newmarket. [0120]

CYRIL WILLIAMS for early delivery of Levis.— Chanel Ash Depot, Wolverhampton. [X8626

LEVIS 2Mh.p., 1916, full range fitments, lovely order: £45.-109, St. Leonard's Rd., Mortlake, [X7942 23h.p. Levis, 2-speed countershaft, £50: 2½h.p. Levis, single, £44.—Hunt, Ehn House, West Wickhar Beckenham.

19¹⁶ 2½h.p. Levis, engine perfect condition, tyres good, enamel slightly shabby; £38.—Inglewood, Reigate Rd., Leatherhead. [1519

L EVIS, 234h.p. 1918, Enfield 2-speed, clutch, perfect mechanical and external condition; 60 gns.—Hayward, 54, Kingsmead Rd., Tulse Hill, S.W. [1671

L EVIS.—We strongly recommend, and can samply early, this famous 2-stroke.—District agents, The Walsall Garage, Wolverhampton St., Walsall. 'Phonb: 17219

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L EVIS 24h.p., engine 2972, re-enamelled, complete overhauled, Lucas, Stewart, horn, apares, tor ride away; £45 nett.—Tagwell, Chemist, Higheli Haats.

LEVIS 214h.p. 1920 Popular Model.— Hardie end Lane, Ltd., authorised agent Woodstock St. (off Oxford St.), Bend St., W.1. 'I Mayfeir 6559.

Mayiair 6559.

LEVIS 1820 2½b.p., complete with head-and thights, horn, and tools, tyres, tubes, and belt neumew; pair £60, selling 45 gns.—Apply, Box 2,743, The Motor Cycle.

LEVIS Populars convertible into 2-speed med with the addition of the Roc countershaft ge Apply, Roc Gear Dept., A. W. Wall, Ltd. [0]

LEVIS, guaranteed 1916, mileage 2,000, k grips, mechanical horn, B.B., E.I.C., condit throughout as new; snip, £47/10.—322, Lords! Lane, E. Dulwich, London.

19 20 2½h.p. Levis, mileage 550, been carefully 1 in, 130 m.p.g., lamp Lucas horn, etc., eventhing guaranteed; £57.—Wall, side door Victuchab, Wellington St., Strand, W.C. Opposite Lyce LEVIS, single speed model, in perfect order and c dition, new Charler tyre, complete froat and r lamp sets, horn and tools, enrefully need, and as a serve 245.—Marshall, Ten Gables, Bridge Witham, Essex, Lincoln Elk.

Lincoln-Elk.

L'INCOLN-ELK 3h.p., Dixie, variable jet, tyres cellent, aluminium footboards, spring forks, Frei grey, good horse; £20.—Morgan, Winston, Stourmari

19 20 6-7h.p. L.M.C. and Millford Skiff sidecar, of £160.-22, Sackville Rd., Bexhill-on-See. [17]

19 19 41/h.p.-L.M.C., 3-speed gear box, K.S., h new condition, about 1,500 niles, accessories; £ -26, Galpia'e Rd., Norbury, S.W.16.

MARTINSYDE-NEWMAN.—Barnes -Motor Gar having been appointed special authorised age can promise earliest possible deliveries commence next mouth.—Secretan and Mallet, Ltd., 149, Low Parade, Barnes, S.W.13. Phono: Hammersmith M.

MARTINSYDE-NEWMAN Combination, the sea to tion of Olympia.—Book your order now for at rotation delivery with J. Blake and Go., the motor of experts, 110-112, Bolt St., Liverpool, Britain's prem motor cycle saloon; also at Blackritars St., Manchel

Matchless,

E GERTONS, Northgate St., Ipswich, can of carly delivery Matchless if ordered now. [76] CROW Bros., Guildford, West Surrey ngents this first-class outfit.—Matchless in oame.

MATCHLESS Combination, 8h.p., overhauled repainted; £125.—Bale, 126, High St., Croyd Phone: 1882.

19 Matchless, lamps, hora, wind screen, spi wheel, luggage carrier, Tan-Sad, perfect; thi £165.-183, Moulsham St., Chelmsford. [17]

MATCHLESS 1919 Victory Model, Auster sere spare wheel, lamps, good condition; £165; at 7.-F. Towers, 182, Kew-Rd., Richmond, S.W. [98]

MATCHLESS 1915 Combination, 3-speed, ki starter, full equipment, excellent condition; £1 -Kington, 2, King Edward Parade, Norbury, S.W.

MATCHLESS 1914 6h.p. Combination, 2 speeds, lit start, J.A.P. engine, coachbuilt sidear, ell accordes; £90.—Dr. Seerle, 67, Bridge St., Cambridge

5 6h.p. Twin Matchless-Jop Coachbuilt Combination countershaft gears, kick starter, requires magneto complete: £40, to clear.—Marks, see under Dougle

MATCHLESS 8h.p. Combination, J.A.P., Bose speedometer, lamps, spare belt and tubes, in prect order; 295.—Dimond, Bootmaker, Sutton at Horkent.

M ATCHLESS Combination, Model H, 1920, dynamics of lighting, legshields, Cowey horn and speedomet done 500 miles; \$2245.—Bolton, 11, Oakfield E, 200 thgate.

MATCHLESS 8h.p. Conchuilt Combination, wi Mercen, 2-speed, kick starter, chain drive, firsted condition; £100.-Haiues, The Valley, Glass Mill Land Bromley, Kent.

MATCHLESS Victory Model, May, 1918, combin tion, spare wheel, in perfect order throughor plating and enamel unscratebed; £158.—175, T Grove, Denmark Hill, S.E.5.

M ATOHLESS 4h.p. Combination, 3-speed kick sta ohain-cum-belt drive, new Dunlop tyres just fitt lamp and necessories, £75, or nearest offer.—Dred 125a, Lupus St., Pimico, S.W.1.

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Are Motor Cycles to be Taxed Off the Road?

E understand that the Committee appointed by the Ministry of Transport is on the eve of submitting its report, and that, in spite of all argument to the contrary, it will propose that motor cycles under 200 lb. in weight shall bear a tax of 30s., and over 200 lb. one of ± 3 . Also it is recommended that a tax of ± 4 shall be imposed on a motor cycle with sidecar. The Committee recommends that the present system of annual licences should be abandoned in favour of quarterly, halfyearly, and yearly licences-a point urged by The Autocar and The Motor Cycle—at the option of the user, which option will afford some measure of relief by enabling motor users to escape taxation during the bad weather season. It is also suggested that the tax of sixpence per gallon on petrol should be abolished, and that this will prove to be a mitigation of the higher scale of licences, and in some quarters it has even been argued that the removal of the petrol tax will so level up matters that motor cyclists will not pay any more than at present.

Our opinion of the new taxation has already been stated, and is well known to our readers. The remarks about mitigation can be taken as so much rhetoric. Either it is proposed to obtain greater revenue from motor cycles, or it is not. If it is, why talk about mitigation, and suggest that the removal of the petrol tax will balance the increased payment? If it is not, why alter the existing state of affairs?

Abolish the Rebates!

Presumably it is desired to get rid of the petrol tax on account of the difficulty and expense, not so much of its collection as of returning the tax, or a part of it, to those who are excused payment. The obvious remedy is to make all pay alike, and collect the tax at its fountain head. We entirely fail to see the sense of fairness in a man who would

tax a scooter at 30s, and a horse and trap at 15s. in spite of the relative damage to

A Concrete Example.

Referring again to the removal of the petrol tax, let us consider how this (with the proposed higher taxes) will affect the driver of a sidecar machine capable of 60 m.p.g. The difference in the tax is \pounds_3 . This is the amount payable on 120 gallons of petrol, which, at 60 m.p.g., will take the driver 7,200 miles. The long distance man will, therefore, not be adversely affected. This means that the man of leisure, the man who can afford to pay, will not have his tax increased. But what of the majority of motor cyclists? Motor cyclists, as a class, are not men of means and men of leisure, but an industrial class who have to work hard for their living, and their riding time is largely confined to the week-ends and public holidays, when they take the welcome opportunity of getting some fresh country air into their lungs to invigorate them for the work of the following week, often taking their wives and families with them on these little excursions. Such men do not average a half of the 7,200 miles which would even up their tax, possibly they do not get out on more than half the week-ends in the year, and average something about 100 miles per week-end-or a total of 2,500 miles for the year, and their tax amounts to £4 instead of £2 1s. This can hardly be called mitigation.

We hold that the principle of taxation should be to place the highest taxes upon those who can best afford it. In this case the opposite principle seems to be applied, and many a hardworking man will be compelled by harsh taxation to give up his health-giving motor cycle.) Again the man who can get all his riding into one quarter of the year will pay, presumably, one quarter the tax of the man who covers the same distance but spreads his riding over the whole twelve months. Does he do only one quarter the

damage? We pause for a reply,



A Boom Amongst Artisans.

S I anticipated when the wages of a scavenger began to surpass those of a head draughtsman, the agencies are experiencing a very keen demand from artisan buyers. I rejoice that it is so. Motor cycles for the million are an integral part of an England fit for heroes to live in, and will make for more happiness than taking over a small holding with a small capital and a sublime ignorance of agriculture. It is interesting to note that the artisan novice is concentrating on one type of machine, and with comparatively few exceptions on half a dozen makes of that type. He will have next to nothing to do with anything but the three-speeded single-cylinder tourist machine of 500-600 c.c., and he is a shrewd judge of the best values in that line.

Easing the Spinal Column.

CORRESPONDENT rightly urges that when we walk the flexion of our legs protects our spinal column from shocks. After suffering from backache in, and after, long motor cycling trips, he altered the riding position so as to shift a good deal of weight on to his arms, and he proclaims this as the best remedy. When a machine is delivered, the rider will usually suffer from either backache or wristache or both after a very long run, and he is a lucky man who can adjust the riding position to eliminate both forms of pain. A weakly or elderly rider will find that there are two cures for these aches, and only two. One is to buy a good spring frame; the other is to use a super-saddle in conjunction with big tyres, inflated on the soft side. The latter expedient is just about as good as a spring frame. Neither the hams nor the wrists can be expected to sustain high-speed shocks for ten hours in a day without complaining, since neither portion of our anatomy was designed to cushion innumerable bumps.

Air v. Water.

THERE are two narrow limits in water-cooling. Water freezes at 32° F., and boils at 212° F. The former limit is not important in England, though I have to drain the radiator and jackets of my Scott on some sixty nights during a typical Midland winter. The higher limit is a nuisance in England, and a still greater nuisance in the tropics. Prior to 1914 most small British cars steamed freely on hills of the Sunrising calibre. The cooling limits with aircooling are much wider. At the lower end of the scale there is no limit at all. The engine can be started and run in Arctic temperatures, and needs no protection in storage. At the higher end of the scale the limit varies with the design of each engine. A first-class air-cooled engine of modern design will produce its full efficiency at 500° F., and probably at

600° F. A second-rate engine will distort at a lo temperature, varying according to the seriousness of distortions. But if the design is so good that cooling limit is principally determined by the temp ture at which the oil can continue to lubricate, an cooled engine is 250% better cooled than a war cooled engine.

Two-stroke v. Four-stroke.

T would be great fun if some club would orga a comparative test of baby two and four-st machines during the ensuing summer. I wand round Olympia with the idea of selecting a machine for my 1920 pottering jaunts. I am not whole-hearted convert to the scooter, and I hesit long between such handsome wee four-strokes as Omega—there was a very jolly little fellow finishered and black with disc wheels—and those jie which I conceived to be the pick of the baby stroke basket. For quite extraneous reasons I fi placed my order for a two-stroke; but when t extraneous motives have evaporated, I shall cert have a go at an Omega, or something like it. some enterprising club pit a team of, say, ten four-strokes against ten baby two-strokes during ensuing summer, and draw up a comparative tab their respective merits? Of course, the two hun miles which they could cover in a day is not an cient distance to be conclusive, but the trial w arouse interest, and, given a representative entry o little ans, the A.C.U. might carry on the good in its next Six Days.

Roughing it Daily.

TE have had some very patchy weather la including a good deal of east wind, and very cold storms. I go out practically day, sometimes for long distances; and each w makes me realise afresh that the motor cycle is most exposed vehicle extant. In a car one is absol screened. In an aeroplane you are housed in a cock-pit, and can use electric heating if you war In a trap you can bury yourself under a pile of . On foot you can keep warm by increasing the The two least comfortable vehicles at this time of are the push-bicycle and the motor cycle. On former you cannot wear a lot of clothes without ge moist and sticky beneath them. On the latter extraordinarily difficult to keep dry and warm. the motor cycle develops its utilitarian aspects, its yearn more and more for winter comfort. I some fancy that the only solution is the cycle car-a ve on Morgan or Tamplin lines; and I sometimes that the trade will yet evolve a two-wheeler of lines once sketched by Mr. A. V. Roe. One this certain-I shall not rely on a two-wheeler of

ccasional Comments.-

resent type for many more winters. It will become question of using a better protected 'bus for the evere months, or of ringing the changes on cycle and yele car according to the weather. The latter solution, ntailing the keeping of two separate mounts, is apt 5 prove expensive.

Handle-bar Finish.

T is a mistake to suppose that all the commercial "black finishés" for handle-bars and suchlike bars are preferable to nickel plating. I have machine in my garage at present with a black andle-bar. At various times the bolts securing its ooter and lamp have slacked back on the road, and have been either too lazy or too unobservant to ighten the parts promptly. The result is that the lack has been chafed off, and the bar is greatly isfigured. Had it been plated, there might have een a little rust, but this disfigurement would be omparatively easy to remove. I can only restore to black bar to a decent appearance by returning to the factory. Touching it up with enamel will take a patchy job.

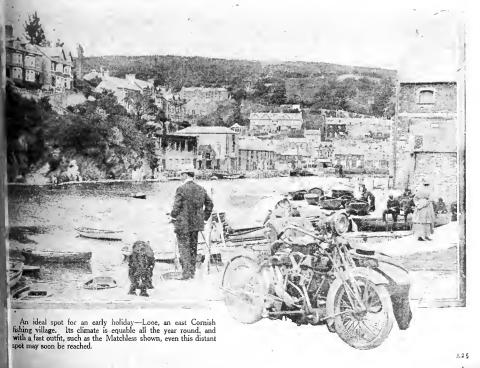
Finding Induction Leaks.

ERE is a Leatherhead correspondent's prescription for finding leaks in the induction system. Disconnect the carburetter, and plug the inlet with a tight-fitting cork in which a short tube is been fitted. Light a pipe and blow smoke into

the tube with as much pressure as possible. It is said that a man with a 5cin. chest, smoking pure shag, can obtain wonderful results by this method. Another disgruntled correspondent complains that he tried this tip with a two-stroke engine. It took 2 lb. of shag to fill the crank case with vapour, and he had to beat a hasty retreat from internal motives just as dark blue smoke commenced to pour from every joint in the engine. Seriously, I question whether it is easy to procure the requisite pressure from the human lungs; but if any smoke-producing chemical were burnt in the barrel of a suitable tyre pump connected to the aforesaid tube, the smoke test should prove very satisfactory.

Another Way.

T.T. winner recommends quite a different method of tracing induction leaks. It consists of squirting petrol on the suspected joints whilst the engine is running in neutral or on the stand. Should the beat of the engine be affected by these external applications, it is obvious that the joints are faulty. An ex-D.R. forwards an E.F. tip on similar lines. Open the throttle, shut the air, and revolve the engine forwards a few times until the induction pipe is swimming with petrol. Then close the throttle, and turn the engine backwards, when petrol will be blown out at any leaky joints. A Scott rider inoculates a piece of fine wire gauze with French chalk from the repair outfit, shakes off the surplus, and applies the gauze to any suspected leak, bending it to fit the piping where required.



A ROTARY VALVE ENGINE.

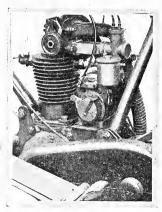
The Gri 3 h.p. Motor Cycle with Detachable Engine Head. A Chain-driven Rotary Distributing Valve is fitted

T is not always that an experimental machine involving drastic departures from standard motor cycle practice is presented to us for inspection in its completed form. The one we are about to describe, however, incorporating an engine designed by Mr. G. R. Inshaw of 55, Cecil Street, Hill Head, Glasgow, is an exception to the above generalisation. Although the machine itself is on standard lines, its claim to notice lies in the novel arrangement of valve mechanism, and many special features are claimed for the construction adopted, including simplicity and over-all efficiency. The engine works on the normal four-cycle principle, but, in place of the conventional type of valve mechanism, the flow of gases is controlled by a rotary distribution valve in con-junction with a single overhead poppet valve.

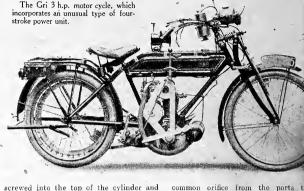
Overhead Valve and Cam Gear.

The valves are in a separate casting, screwed into the cylinder head, and they are driven by a roller chain from the engine shaft. This chain also passes over the magneto sprocket, so that the one drive serves a dual purpose. By moving the magneto on its platform, the tension of the chain may be maintained or adjusted when necessary. It will be noticed that this construction eliminates cam gear in the crank case itself, and the cam gear in the crank case itself, and the latter is correspondingly simplified—in fact, the two halves of the case are perfectly symmetrical. The cylinder also is of a simple harrel shape, and can be machined internally and externally throughout its whole length, with the exception of the sparking plug and decompressor besset at the tar. pressor bosses at the top.

The valve housing, which is a casting constituting the cylinder head and containing the inlet and exhaust ports, is



A detachable head, screwed into the cylinder, houses the chain-driven rotary valve and cam.



screwed into the top of the cylinder and held in place by a lock ring. Both the top surface of the cylinder and also the top surface of the cylinder and also the under surface of the ring are ground flat in order to secure a perfectly gastight joint. The rotary valve, which is of cast iron, is carried transversely in the detachable head in which it runs with a small clearance. It is mounted at each end on annular ball bearings, On one end of the rotary valve spindle is a cam operating a poppet valve through the medium of a roller-ended rocker.

Cycle of Operations.

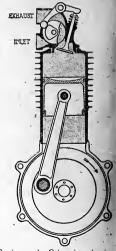
The action of this valve will be most readily understood on reference to the diagram of the engine in section. It will be seen that the inlet port is placed immediately beneath the exhaust, and that both passages through the head are in communication with the combustion chamber, through the common orifice sealed by the poppet valve. The rotary valve places alternately one or other of the two passages in communication with this orifice. It will facilitate matters to consider the cycle of operations from the beginning of the firing stroke rather than from the beginning of the induction period, since the action of the poppet valve is common to both exhaust and inlet strokes. During the firing stroke the rotary valve commences to uncover the exhaust passage, the poppet valve being closed. As the piston nears the bottom of the stroke the cam also comes into operation, and the poppet valve is lifted. piston then rises, and the exhaust gases are expelled. The poppet valve remains open, and the rotary valve now uncovers the inlet passage, and the piston, again descending, induces the fresh charge in the ordinary way. Before the compression stroke commences both valves close, and the cycle of operations is then reneated.

Among the advantages claimed for this system of valve construction and operation are: (1.) That the rotary valve is not called upon to hold compression; it merely acts as a distributer so that the common orifice from the ports to cylinder may be used.

The poppet valve is responsible maintaining the compression, and or light spring is needed in order the shall work satisfactorily. Indeed, engine has been run without the spring the control of the spring of the control of the contr eigine has been run without the signat all, as the compression and explicate pressures tend to keep the valve of when it is not depressed by the cam.

(2.) That the life of the poppet valvery long, as it operates under conditions for a valve of this type, I have a long as a valve of this type, I have a long as a valve of this type, I was a valve of this type.

placed in an exposed position on cylinder head, and also being cooler the passage of the incoming charge.



Section o. the Gri engine, showing ! valve gear; the exhaust stroke is near completion.

MOTOR (YCLE

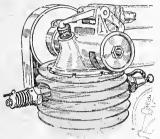
Rotary Valve Engine .---

5.) That a very efficient combustion muor design may be used. Is this type of valvo gear does not a lise! to the adaptation of an exhaust we lifter for control purposes, a small pression release, similar to those emiyed on two-stroke engines, is fitted the front of the cylinder.

Normal Valve Timing.

my desired timing can be arranged, in the model we inspected a certain in the model we inspected a certain unit of overlap between the exhaust inlet periods was allowed. In sing, it may be mentioned that no titing of the gases occurs with this gn of rotary valve, as the flow is by easy curves from the cylinder to respective ports; also, the rotary a uncovers the ports before the state of the rotary of the

bet valve opens. e machine to which this ongine will itted is to be known as the "Gri," the specification includes a normal type of frame, with aluminium foot-boards, Brooks saddle, Brampton Bi-flex forks, 26in. × 2in. tyres, and a two speed gear box, with clutch and kick-



The poppet valve is operated through a rocker from a cam on the ball bearing rotary valve.

starter, and chain-cum-belt drive. The cinging is to be rated at 3 h.p. (83 × 79 mm. bore and stroke = 427 c.c.). A C.A.V. magneto is fitted, and a Brown and Barlow carburetter,

The exhaust gases are discharged rearwardly, and carried to the silencer at the front of the engine through a flexible metallic exhaust pipe. The chain drive to the valve gear and magneto is com-pletely and neatly enclosed in an aluminium case.

Satisfactory Power Output.

We had a short trip on the machine, and although an abnormally high gear was fitted (4.1 to 1), the engine pulled remarkably well, and the valve gear was extremely silent in action.

In broad outline this form of valve gear is not entirely novel, but it is claimed that the chief disadvantage of the type, i.e., deflection of gases, has been climinated by this particular design of rotary valve.

TWO-STROKE IMPROVEMENTS.

A Re-designed Villiers Engine with Many Refinements included in the Specification.

OTOR cyclists who are familiar with the Villiers engines will be in-terested to learn that the new [11]. model, which will eventually lant the existing patterns, possesses detail modifications making for

ement and efficiency ement and efficiency. the issue for March 25th, p. 363, we thed the Mark IV. engine, fitted with the leel magneto, and the Mark III. is ical, except that it is fitted with a lard flywheel and a conventional ordivan horse-shoe type magneto.

sentially the difference between the engine and the previous model lies the modified cylinder casting, which derably enhances the external ap-age. Observation will show that arburetter is attached almost at the of the cylinder wall, and it is thus I from a position in which formerly

to a position in which formerly situ-the inlet port remains in the position immediately below the est limit of the traverse of the piston and the gas is led through an inducpassage cast integral with the cylin-

der. Greater efficiency is claimed for this arrangement, as the gas is warmed on its way to the crank case, thus avoid-

Its way to the crains case, thus avoiding condensation.

The sparking plug has been moved to the centre of the cylinder head, and the open release valve, previously in this position, is now placed at the front, in communication with the exhaust port by means of a duct in the cylinder wall. Owing to its being practically isolated in the top cooling flange, the plug keeps remarkably cool, while the release arremarkably cool, while the resease arrangement is much more silent in operation. A commendable feature is that the Bowden wire controlling the valve can be inserted or withdrawn without soldering, as it is held in place by a set

Double silencers, a familiar peculiarity of the Villiers unit, are retained, but the exhaust port is now inclined, so that the pipe leads directly to the expansion chamber without the awkward angle seen on the earlier modelz.

No serious alterations have been found nccessary in the crankshaft assembly, which is of the built-up type, having roller bearings in the big end. Lubrication is by splash, the oil being led to a special mion incorporated in one of the front engine plate bolts, which is suitably drilled in order to convey the oil into a recess in the crank case, where it reaches the moving parts.

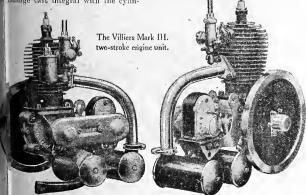
TOOLKITS.

THERE is always room on the market for a good set of tools at a moderate price, especially as so many secondhand machines find new owners every year and the motor cyclist sometimes mislays or retains the best tools of his kit when selling.



A toolkit sold by Spencers of Coventry.

Messrs. Spencer Bros. are making a speciality of supplying tool-kits, and, since they are practical riders, the selection and quality should be everything that can be desired. Two kits are marketed, the first being contained in a strong leather roll, with pockets for each tool, and including tyre levers, screwdriver, a set of box spanners, 6in. adjustable, belt punch, valve extractor, bin. combination pliers, bin. nut pliers, and a 6in. half-round tangless file, the price being 25s. A cheaper set in a canvas roll is sold at 15s.





A scene at the loot of Kop Hill during the Essex M.C. hill-climb.

A FTER a cold, wet afternoon spent on the open summit of a test hill witnessing a hill-climb, it is pleasant to return to a good fireside, to light the inevitable pipe, and to consider, care-free, the events of the competition. Take, for instance, the Essex club's climb at Kop Hill, Princes Risborough, on the 27th ult. A better organised event could not have been, since to the

spectators, machine followed machine in rapid succession, with no annoying wait or wrangle between competitors and officials. Yet for that same spectator it was cold, bitterly cold, upon the bare hillside.

As a competition this affair was particularly interesting to think over, for it was so extraordinarily unlike the expected. Take the first class up—the passenger 1,000 c.c. machines—scarcely one seemed to be really fast, save and except those worthy members of the "Suicide" Club, E. C. Baragwanath and L. P. Openshaw, whose 8 h.p. Zeniths had all the old glony of real fast climbing

Incidentally, the rider's attitude ren much the same as the years roll I subject of amazed conjecture for yokels and the uninitiated gene After all, what can one think wher first part of the passenger to be se his stern high peaked in the air while he kneels in a devotional atti his head overhanging the motor c carrier.



MOTOR (YCLE

x M.C. Open Hill-climb,-

parison the 350 c.c. Class A machines red, for the plucky struggles of the ll engine lack sensation after the twins fast climb. F. Thorpe's glas lived up to its reputation in and had a fine purr, but was some slower than A. Milner's Diamond, Gus Kuhn's Levis, which was third ime, made the climb in 562s., a close for the Douglas. One competitor, veteran F. W. Applebee, really is derful, and deserves a medal for long ice, even if his Levis attained to no

A Curious Phenomenon.

by is it machines appear to do their t on the actual day? Is it that they unprepared, or that they are not out in tune, or is it just "bad joss"?
one following the Class B 500 c.c.
times would think so, for whereas T. De la Hay's Sunbeam was magnifiand deserved its win on time for an it in 395s., the formidable A.B.C.'s ad smitten with appalling luck. they were all heavy to gain advant-for the formula results, but then yer, no less, must needs have push appet trouble on two runs, the new-, Porter, violently misfiring on two ack's weirdly named Duzmo (a new fine with outside flywheel and overvalves) deserves credit for its 41;s. , the third man, Emerson, going up is. The remainder were disappoint-

nt that Class C, the 750 c.c., were better, as the Sunbeam won on in 38 s., the Duzmo improved to equalling the Sunbeam's first run, while Emerson as third on time was a fifth of a second faster than on his first

In the last class, D. 1,000 c.c. t. os, all spectators wisely shifted further up the bank, as the "Suicide" Club was due again. Openshaw's machine skidded and swayed up with a thundering roar, and the rider cut out on the bends, to cover the course in 32\(^2_3\)s., with Harvey-son's 7 h.p. Indian second in 35\(^1_3\)s. and De la Hay's Sunbeam third in 37\(^4_5\)s. Note the difference the sidecar made to Openshaw: 40₅s. with, 32₅s. without. But it *looked* a dangerous performance to the uninitiated, several of whom screamed.

Taken as a whole, there seemed to be of rider, but even if some had left undone the things they should have done np, after all it was not only the novice who failed, and everyone must begin at some time or other.

Results

A day's good sport, despite the weather, and well worth the run out to the little hamlet of Princes Risborough, not only because of the climb itself, but also to hear the thousand and one fairy stories retailed to one to explain why so and so had not done the hill in the 25 s. he expected

The following were the results on The Motor Cycle formula :

CLASS E.—SIDECARS UNDER 1,000 C.C. ON FORMULA.

MEMBERS.

OPEN. L. P. Openshaw (8 Zenith).
 E. C. Baragwanath (8 Zenith).

run up, showing that experience counts.

CLASS A,—SOLO UNDER 350 C.C. ON FORMULA, OPEN.

OPEN.

1. A. Mierer (2% Diamond).
2. Gus Kuhn (2% Diamond).
3. P. J. Enticknapp (2% Blackburne).
Fastest Ure: A. Milher (2% Diamond).
MEMBERS.

 A. Milner (2% Diamond).
 P. J. Enticknapp (2% Blackburne). CLASS B.—SOLO UNDER 500 C.C. ON FORMULA. OPEN.

1. J. Em^{*}rson (3 A.B.C.), 2. Gus Kuhn (2½ Levis), 3. H. Le Vack (3½ Duzmo), Fastest time: T. C. De la Hay (3½ Sunbeam). MEMBERS.

J. Emerson (3 A.B.C.), H. Le Vack (3½ Duzmo), T. C De la Hay (3½ Sunbeam), CLASS C .- SOLO UNDER 750 C.C. OPEN.

OPEN,

1. J. Emerson (3 A.B.C.),

2. Gus Kuhn (2½ Levis),

3. A. Milner (2½ Diamond),

Fastest time: T. C De la Hay (3½ Sunbeam). MEMBERS.

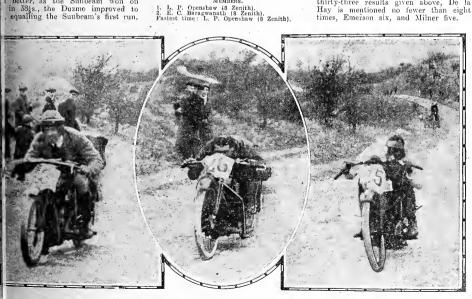
1. J Emerson (5 A.B.C.).
2. A. Milner (2½ Diamond).
3. T. C. De la Hay (3½ Diamond).
CLASS D.—SOLO UNDER 1,000 C.C. ON FORMULA. OPEN.

 Gus Knhn (2½ Levis),
 J. Emerson (3 A.B.C.),
 T. C. De la Hay (3½ Sunbeam),
 Fastest time: T. C. De la Hay (3½ Sunbeam). MEMBERS.

J. Emerson (3 A.B.C.).
 T. C De la Hay (3½ Sunbeam).
 E. A. Colliver (3 A.B.C.).

BEST PERFORMANCE IRRESPECTIVE OF CYLINDER CAPACITY. THE HERKOMER SILVER MEDAL T. C De la Hay (31/2 Sunbeam).

It will be seen that the awards were secured by a few riders. Out of the thirty-three results given above, De la Hay is mentioned no fewer than eight times, Emerson six, and Milner five.



DIFFERENT MEN-DIFFERENT METHODS. Riders of Zenith, A.B.C., and Sunbeam machines in recent speed events.

A MIDLOTHIAN TRIAL.

Many Competitors Eliminated in a Severe Trial on the Lowland Hills.



A Harley-Davidson outfit, followed by a Douglas, on one of the test hills,

HE fact that out of over fifty entrants only six qualified for first-class awards, and of these Claud Duncan's 23 h.p. Blackburne-engined Verus was 24 n.p. Blackothite-engined vertus was the only solo machine, says much for the difficulty of the course chosen for the recent Edinburgh trial. The howling wind and Manor Hill, with its appalling surface and the steep, rough climb of Victoria Crescent near the end were responsible for most of the trouble. Many who did well elsewhere were deprived of their awards by failure at one or other of these points.

One or two bad spills occurred, among the unfortunates being L. B. C. Cunningham, who was riding an overhead valve Douglas with a very high low gear, and H. M. Batten, who, atter surmounting the difficulties of Manor Hill with success, turned a somersault when endeavouring to make up time on a long descent over to make up time on a long descent over wet moss and hard bedrock, fortunately without damage to himself or his P. and M. Cunningham was unfortunately travelling at a fair speed when he fell, and shook himself badly, besides injuring his machine.

A Surprise Hill.

At Selkirk the competitors were faced. with an eleventh hour surprise in the shape of a formidable rise known as Victoria Crescent. This hill has a gradient of about 1 in 4, equal to the steepest part of Brooklands test hill, and a surface of loose stones-obviously a formidable test. Here J. B. Sanders (3 A.B.C.), S. Waldie (4 Bl. kburne), and G. Grinton (7 Harley Davidson) made superb climbs.

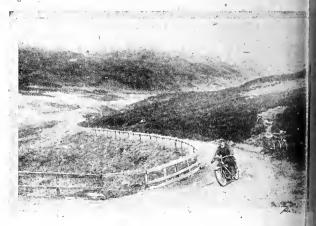
Owing to the gale which had to be faced among the mountains, petrol consumption was unusually high, and in consequence Batten had the bad luck to run out of petrol fifty yards from the check, thus spoiling his clean sheet and baülking Duncan, who got past very cleverly. A similar misfortune befel Shepherd (6 Campion sc.) on the Devil's Elbow.

A great many competitors were weeded out quite early in the day, for the seventeen mile run from Eddleston to Peebles lay over the mountains, and contained many places very difficult to negotiate.

The first-class awards went t following:

- C. Duncan (2⁵4 Verus). V. Reid 18 American Excelsior sc.). G. Grinton (7 Harley-Davidson sc.). D. S. Alexander (8 Enfield sc.). F. I. Hutchinson (8 Williamson sc.). R. S. Macrae (7 Harley-Davidson sc.).

The awards show that the cours an exceedingly trying one to the rider, since, in spite of excellent in many cases, only one got through a clean sheet.



S. Hubbard (33 h.p. Scott) on Kershope Swire.

Paris-Nice Results Annulled.

Union Motocycliste de France Refuses to Accept Results of Transcontinental Trial.

FROM OUR PARIS CORRESPONDENT.

QUITE a sensation has been caused in French motor cycle circles by the decision of the Union Motocycliste of France to refuse to accept the results of the Paris-Nice Trials. As a consequence, the event must be considered as non-existent, and any advertising which may be done in connection with it will be considered as empty, and will expose those responsible for it to the penaltics provided for under the International

rules.

The fact that this decision has had to be taken by the Union Motocycliste is

be taken by the Union Motocycliste is very unfortunate for the British competitors who went to France at considerable expense and trouble, and who appeared to have won a victory. It naturally throws discredit on the whole motor cycle movement, for the hard fact has to be admitted to the general public that a sporting event to which great importance has been attached must be looked upon as a farce. The individual competitors who went through the trial housestly and conscientiously have, according to the U.M. de F., been robbed of the fruits of their victory by the negli-

gence or incompetence of the organisers. In a conversation with one of the officials of the Union Motocycliste, it was ascertained that the men responsible for this event were totally unable to furnish proof that the results claimed had been obtained. The lack of organisation extended throughout the event. No proof could be furnished that the individual riders had checked in and been checked out of the various controls between Paris and Nice, so it is claimed. When the destination was reached the arrangements were far from perfect, and in hardly any case could definite, indisputable proof be given that the performances claimed had really been accomplished. After calling upon the organisers to furnish this proof, and failing to get satisfaction, there was, no course open to the Union but to annul the event.

A Privately Organised Event.

It should be pointed out that Paris-Nice was organised by a newspaper with the approval and under the control of the Union Motocycliste. This is a common practice in France, although practically nuknown in England. The newspapers which have taken this initiative in the past have undoubtedly enormously helped the development of motoring, at a time when clubs were not sufficiently powerful for the work. Experience of the last few years has shown, however, that newspaper-organised events are not desirable. The primary object of the paper is to get profit for itself, if not in money at any rate in advertising, and this desire is generally so strong that details of organisation are given secondary consideration. It will be recalled that we drew attention in our report of the event to a number of imperfect arrangements and last minute decisions. All the same, the decision to annul the results will occasion much surprise.

In justice to other organisers who have events on the 1920 calendar, and for the enlightenment of riders interested in French trials, it should be pointed out that a repetition of Paris-Nice is not likely to occur in connection with the international races and competitions for which well-established clubs and the Union Motocycliste are responsible.

Starting Tips for Scott Riders.

- Easy Starting Hints and a Note on the Consumption of the Scott Two-stroke Engine.

ON a recent occasion "Ixion" bewailed the fact that the Scott possessed "the thirst of an Irish navy," and on page 371, April 1st, he demands that his Scott shall start from cold at the first kick. Having had considerable experience of Scotts—prewar, war, and post-war—I think that such a requirement is a little unreasonable. Two points must be remembered: [1, That there is a large induction system (inlet pipe, manifold, transfers, and rank cases) to be filled before a combustible mixture reaches the cylinder leads; and (2) that the foot-starter gives parely one revolution to the engine.

To expect the whole of the induction system to remain charged with gas during a cold night is decidedly hopeful, to ay the least, and bearing these facts in and, the following methods have been ound most satisfactory.

Circulating the Gas.

Filling the engine with mixture can may be done by rotating it until a sufficient quantity has been induced, and this s carried out, provided there are no air eaks, by giving a number of gentle depressions to the starter pedal. The assumer in which this is done can only be described as desultory; do not attempt to tart the engine, simply push down the edal, after well flooding the carbutter, in a "don't care whether it starts r not" fashion. Anon (after about alf-a-dozen digs) a gentle "kick-back" rotate the gas as circulated to the combustion chambers. One smart depression will now call forth be desired burble. The whole process is

effected sans fuss, sans labour and sans perspiration; moreover, there is no danger of damaging the starting mechanism by attempting the "first kick" method against the resistance of congealed oil on the pistons.

On Priming.

In really cold weather, it is undoubtedly easier to let the engine itself do the work of sucking in the preliminary charges, and this can be done by fitting a compression tap (spark plug thread) in one of the cylinder heads; no special kind of tap is needed. Procedure: Dope liberally, well flood carburetter, give one gentle dig on starter pedal to free the pistons, then another sharp dig. The result will be the desired instant start.

THE NEXT STAGE!

MOTOR CYCLISTS interested in small or large cars should read

the forerunner of all motoring journals. Founded in 1895, it remains the largest and most successial automobile paper, and enjoys the greatest circulation. It is universally accepted as the representative British motoring journal.

mosooooooooooooo

All the foregoing should be carried out with the half-compression lever raised and ignition fully advanced.

Quite the easiest way of starting is to stand facing the rear of the machine, left hand holding carrier or saddle, right hand on half-compression lever, right foot or starting pedal. If this is done with machine on stand (not good for the latter, anyway), be gentle in the manner of kicking, or the machine may jump forward when engine fires.

Over Priming.

The fitting of a union in inlet pipe (with connection to drain tap of tank) is not to be recommended. Leaks, air or otherwise, in the induction system are fatal to good results, and the suggested arrangement adds a possible source of trouble. Over-doping on the induction side of the engine also makes for difficult starting. When engine is warm, it should start first kick; make certain that the starter ratchet has engaged; avoid kicking if you value the starter's longevity.

A word as to that "Irish navvy thirst." My present Scott has averaged 57 m.p.g. (benzole) with sidecar over the last 1,500 miles. The carburetter fitted is not yet on the market, but the result proves that high consumption is not an inherent defect of the Scott engine. One tip in conclusion: When running to a standstill, declutch, open throttle, and stop engine on the switch: this will allow a full charge to remain in the cylinders, and an easy restart is assured any time before the engine becomes absolutely stone cold.

Ilkley M.C. and L.C.C.

A Novice Trial for the Founders' Trophy will be held on the 11th inst. All members who have not won a gold medal are eligible to compete.

Belvedere and District M.C.C.

The opening run of this newly formed club will be held on the 11th to Tonbridge, when all motor cyclists interested are invited to attend. Further particulars can be obtained from the hon. sec., Mr. L. J. C. Cope, at club headquarters, The Eardley Garage Co., Woolwich Road, Belvedere, Kent.

Hull M.C.C.

A large number of new members were elected at the last meeting, and a varied and interesting programme has been-arranged for the year. The first com-petition proper will take place on the 24th, meeting at Anlaby Road trant terminus at 2.30 p.m., when a run will be fhade to Welton for tea.

New Club for Darlington.

Members of the North Road Institute and employees of the N.E.R. works at Darlington have recently formed a motor cycling club. The following officers have been elected for the present year: Captain, Mr. R. Adamson; sub-captain, Mr. C. Barr; and secretary, Mr. R. W. Chapman, of Rabydene, Cockerton.

Newport and County M.C.C.

This recently formed club has already a membership of one hundred, and promises to be a very successful organisation. A prize has been awarded for the best design for the club badge submitted by: members.

It is hoped to arrange a speed tria. shortly after the Easter holidays.

Northern Suburbs M.C.C. (Sydney).

The following riders who competed in the second twenty-four hours reliability trial completed the course successfully, having lost no points: J. Neal (Indian), H. Wood (Indian), J. Persival (Douglas), H. Wood (Indian), J. Persival (Douglas), F. Delandro (Indian sc.), R. Kirby (Indian sc.), P. Boyce (Excelsior), R. Dewick (Indian), A. Townsend (Indian), A. Tuckey (Harley), S. Huntington (Harley), E. Cotter (Excelsior), and E. Neusey (Indian). The route included Mount Victoria, Bathurst, Goulburn, Picton, Fig Tree Bridge, returning to Sydney.

Surbiton and District M.C.C.

The reliability trial for the Maudes inter-club challenge shield, to decide the winning team, will probably be held on May 15th, and cover a 100 miles course over the Surrey hills. It is hoped to arrange to finish on Brooklands Track, when complete teams will undergo a speed test to decide the winner. This date has been chosen to enable the committee to use the track at the close of the Junior Car Club speed trials. Full particulars will be issued later.

A sporting trial over a secret course has been arranged for the 24th inst. for the Dale cup. Ability to judge a speed of 20 m.p.h. without watches or speedometers is the main feature.

CLUB NEWS.

Future Club Events.

Apr. 9 .- Leeds and District M.C. Smoker, Griffin Apr. 9.—Leeds and District M.C. Defining Model Apr. 10.—N.M.C.F. U. (Wolverhampton). Opening May 10. Defining M.C. Hill-climb. Apr. 10.—Eastern Valley M.C.C. Speed Judging Competition.

Apr. 10.—Edinburgh and District M.C. Opening Pun.

Apr. 10—Balstertn valley M.C.C. Speed staging Apr. 10—Edinburgh and District M.C. Opening Run.
Apr. 14—Luton and S. Beds. A.C. Reliability Apr. 1841.—Public Schools M.C.C. Week-end Apr. 14. M.C.F.C. (Leeds). Run to Bolton Apr. 14. Debye and District M.C.C. Run to Torbridge.
Apr. 11.—Belvedere and District M.C. Run to Sutton Edinburgh Run. 14. Debye Company Company

Apr. II.—Lecda and District M.C. Run to Sutton Bank.

Apr. Hank.

***************************** N.M.C.F.U. (Sheffield).

A very successful concert, the last event on last year's programme, was held on the 27 ult., and was greatly enjoyed by all present. Unfavourable weather failed to damp the spirits of members on the occasion of the club's opening run of 1920 to Matlock. There was a good turn-out, and members spent the afternoon fraternising with the Derby M.C.C., who were holding an impromptu hillclimb, returning later in a happy though wet condition.

Cumberland County M.C.C.

A one-day open Reliability Trial is being organised for July 17th. Starting and finishing at Carlisle, a sporting course through the Lake District will be selected, affording competitors an opporselected, affording competitors an oppor-tunity of spending an enjoyable week-end in that delightful country. It is proposed to divide competitors into the following classes: Lightweights, Solo 500 c.c. and upwards, sidecars, cycle cars, light cars, and, if possible, scooters. Communications should be sent to the secretary. Mr. H. A. P. Mayson. to the secretary, Mr. H. A. P. Mawson, 18, Bank Street, Carlisle. Details will be published later.

Leeds and District M.C.

A very interesting programme of no fewer than eight events has been arranged for the remainder of April. On the 9th a smoking concert will be held at the Griffin Hotel, commencing at 7.30 p.m.; while on the following day a hillclimb will take place at Norwood Edge. Competitors will be divided into six classes, and prizes will be awarded to the winners, who will be eligible to compete in the final event for a special prize. It is hoped that members will turn out in force, as so much depends on the individual in making these events a real success.

M.C.U. of Ireland (Uister Centre).

The date for the End-to-end Reliability Run previously fixed for July 12th and 13th has been altered to the 15th and 16th of the same month.

Tredegar M.C.

An open hill-climb is being arranged for the 29th at the Fiddler's Elbow. Details can be obtained from Mr. E. W. Sutherby, sports secretary, Whitehall Buildings, Tredegar.

Keighlev M.C.

A new club has been formed in the Keighley district, and will be known as the Keighley Motor Club. Anyone who is interested should communicate with the secretary, Mr. B. Feather, 26, Draka Street, Keighley.

Runcorn and District M.C.

A motor club has lately been former in Runcorn. It is intended to hold general meeting on the 12th, in orde to discuss the 1920 programme. Pro spective members are invited to get it touch with Mr. H. A. Leach, 41, Th Holloway, Runcorn, who has been ar pointed hon, secretary.

Newcastle and District M.C.

A paper on "The Magneto" was rea by Mr. G. Batty before members o March 26th in the new club rooms at th Grand Hotel. Mr. Hugh Mason, durin the discussion which followed, expresse the opinion that the magneto would neve be entirely supplanted by the dynam and accumulator lighting and ignitic system :

North London M.C.C.

Good roads, fine weather, and tl welcome presence of two lady membe made the run to Stevenage most enjo; able. There was a good attendance, as a great variety of machines were to l seen at the Sun Hotel, where lunch wa served. The club is indebted to the H.C. Motor Co., of Great Portlar Street, who have kindly offered a silv challenge cup.

N.M.C.F.U. (Leeds).

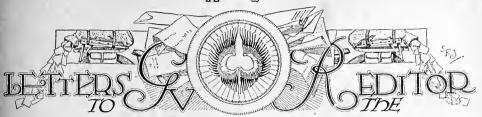
April 18th is the date fixed for the Mitchell Trophy reliability trial, startic at 9 a.m. from the City Square. The route selected embraces Wakefield, Barn route selected emoraces wakefield, Daniely, Huddersheld, Stamland (lunch Red Lion Inn), Halifax, Bradford, a hack to Leeds. Entries, accompanied, fee of 5s., should be sent to the spot secretary, 1, South Mount Terrace, Bee ton Hill, Leeds, by the 10th inst.

Public Schools M.C.C.

Starting at 1.30 p.m. from Barnet, Starting at 1.50 p.m. from Barner, "touch nothing" run will be made Woburn, where arrangements for t night have been made at the Bedfo Arms Hotel.

Competitors will return the following morning, and will sign a form at the fini to certify that no adjustments have be made.

Marks will be given to count towar the competition for the Robinson challen cup, awarded for the highest aggrege obtained during the year.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

THE SPEED OF A HARE.

Sir,-The Hare did not think the Baby Triumph could do 40 m.p.h., and was not certain if "Tortoise" had his throttle full open or ignition fully advanced! So it slowed

THE PULLIN MOTOR CYCLE.

Sir,—I was immensely pleased to read in the spring number of *The Motor Cycle* of the Pullin motor cycle, which so very nearly reaches the ideal—certainly, in my opinion, representing the most advanced stage of motor cycle engineering.

If the service given is at all like that which can be expected from the specification, together with the reasonable price, then thousands will buy it, and all other machines will have to come down in price and up to it in design.

Good Inck to Mr. C. G. Pullin. R. BANNINGTON.

AIR VALVE IN INDUCTION PIPE.

Sir,-I was interested in the account of the Rapier economy valve described in the issue of March 18th, and recollected some simple experiments I had tried, which forced me to the conclusion that an antomatic extra air between throttle and inlet valve was a failure.

It is obvious that with small or no throttle opening this valve is diluting or admitting air at its maximum, owing

to the high vacuum in the inlet pipe.

With large throttle opening, and consequently low vacuum in the inlet pipe, the valve was inoperative, as the atmosphere rushed in through the carburetter in preference to lifting the valve against the tension of the spring. This was giving the reverse effect to that desired; that is, slow running defeated and no effect when romping away all out. I subsequently fitted a handle-bar controlled, and scrapped the automatics.

the automatic.

I am not applying the foregoing to Mr. Castell's invention I am not applying the loregoing to all the control (which is more than an extra air), or disparaging, it in any way; in fact, I wish him and all engaged in improvement the best of luck.

GEORGE MAGGS.

PROVISIONAL PRICES.

Sir,-In your issue of March 18th a correspondent, W. A. Pechey, accuses motor cycle manufacturers of profiteering on the grounds of ntilising components made in pre-war times in the construction of 1919 models, and charging 1919 prices.

Surely, Mr. Pechey has little knowledge of commerce

when he makes such an accusation.

In any branch of business, a seller is entitled to the current market price, and to reverse the case in the event of a slump in prices; the general public loses no time in forcing the producer to adopt current prices, regardless of

probable heavy loss.

Also, in the case in point, it must be considered that this 1912, to manufacture certain firm laid out money in, say, 1912, to manufacture certain parts, and that that outlay has been unremunerative, and, to all purposes, dead for, say, seven years. The price now obtainable for those parts shows approximately a profit of 75% over the selling price when manufactured. This 75% profit has taken seven years to realise, which means a profit of 10.7% per annum, and that, in these times of high wages, small production, and heavy all round expenses can hardly be called even a working profit, far less profiteering.

May I say that I am not a motor cycle manufacturer, or in any way interested in the trade, only I like to see fair play.

A. R. MACNAUGHTON.

HONOUR TO WHOM HONOUR!

Sir,-Your Correspondence column cannot fail to interest your readers, if only because of the differences of opinion there presented. One species of letter which, I feel sure, must hold the attention of all, is that which deals with the husiness methods of the various firms. May I trespass on your space to add my appreciation of the F.R.S. Lamps

I wrote to this firm asking for a quotation for a new head lamp bracket, which had been broken. By return of post I received a letter requesting a more definite description of the bracket required, together with an offer of a replacement, free of charge. Without any delay this was delivered, and I, for one, cannot but admire the celerity of delivery, and, more so, that high regard for reputation which must always be a firm's best advertisement.

Bellshill.

TYRE MILEAGE.

Sir,—I gather from your comments on Mr. E. S. Bovell's letter, published in your issue of March 11th, that you would be pleased to have data regarding actual tyre mileages. As an antomobile engineer, I have always kept accurate records, and hand you herewith a copy.

These are actual observed figures, correct to, say, plus or minus 24%, and no comments are necessary. I trust that they will be of interest to your readers, and, should you desire it, could also give you records of petrol and oil construction, belt more the control of the con

sumption, belt wear, etc., over the same periods.

I have no business interest in the tyre trade, and motor cycling is merely a pastime. My own speciality is commercial vehicles.

TYRE MILEAGES. SEASONS 1912-13-14, 32 H.P. B.S.A. AND SIDECAR. Miles FRONTS-(a) 24in. Dunlop; scrapped at 6.480 Retreaded 2\(\frac{1}{2}\)in. Dunlop heavy; tyre (d) on rear, on machine when sold, and still serviceable at (6) 1,921 SIDECAR-(c) 24in. Dunlop heavy; on machine when sold, and still fairly good at 8,401 REAR-(d) 3,355 24in. Dunlop heavy; retreaded, see (b), at (c) 24in. Palmer cord; retreaded and afterwards used to interchange with (f) at 21 in. Avon combination; still service-2.738 able, and on machine when sold ... Retreaded Palmer cord (e); practically 1,887 421 no wear on retread at ... SEASON 1919, 41 H.P. B.S.A. AND SIDECAR. FRONT (h) 2½in. heavy Dnnlop; studs just worn 3,645 off at REAR-21in. heavy Dunlop; retreaded and (i) carried as spare at 2½in. heavy Dunlop; practically unworn (i)SIDECAR-

destruction and replaced by (i) retreaded at ... JAMES WATT. M.I.A.E. . [We should be glad to have the further particulars mentioned by our correspondent .- ED.]

(k) 2in. Dunlop sidecar tyre; run to

3,645



SHEFFIELD ENTHUSIASTS.

Members of the Sheffield and Hallamshire M.C.C. at the start of their opening competition.

SPEED WOBBLE.

Sir,—May I suggest that potential wobblers should verify the "shake" in front wheel bearings and steering head. A few years ago a new T.T. machine I had used to develon an eerie and alarming "roll," even on a dry road at the low speed of 17 m.p.h. In fact, it occurred particularly at that critical pace. After adjustment of above details the machine was quite steady up to 62 m.p.h. on a good road. Three-speed hub-geared machines I found absolutely

dangerous at speed, and even the countershaft geared ones are distinctly inferior to the single-geared on grease or ruts in my experience. Further, at high speed I find the old pattern Druid fork superior to the type with spring links; in fact, I feel unsafe with any fork giving fore and aft movement, and was recently quite frightened on a wellknown two-stroke.

A long wheelbase and magneto in Triumph position seem to conduce to extreme steadiness in the case of single-gear machines. AUTOBORE.

London, S.W.

Sir.—I have been interested in various letters on speed wobble which have appeared in your columns since last November. A discussion of the matter for a bicycle can be found in "Messenger of Mathematics," vol. xxviii., 1898-9, pages 151-169, and I append some remarks upon this by the

Professor of Engineering here (Trinity College, Cambridge):
"For the motor cycle the figures would be very different, and the gyrostatic momentum and the powerful engine drive might make it a very different problem. But it seems likely that it is synchronism that causes the machine to become

und 10 is synchronism that causes the machine to become unmanageable, when the period of slight but regular road inequalities matches a natural period of the bicycle.

"N.B.—A push cyclist used to a 'single' and trying a tandem or triplet for the first time, makes usually a serpentine track of enlarging amplitude. His corrections are right in sign but wrong in phase, and the oscillations are unstable."

I have a 1914 7.9 h.p. racing single-gear Indian, with very low T.T. bars, so that my weight is thrown right forward over the tank. I have deliberately tried to get a wobble on —solo—at all speeds from 8 to 75 m.p.h. or so. I got a wobble at 10-15 m.p.h., but it was solely due to my inability properly to balance the 320 odd Ib. mass of the machine. I have also noted effects above 45 or 50 m.p.h. Try as I may I cannot get a wobble on in any handle-bar position, at any speed, on any road, solo, or with a carrier passenger weighing 9 st. Solo I have had the back wheel doing rhythmical "take-offs," which show on the track in the form of a zigzag line.

On the other hand, on a 4 h.p. Triumph, touring bars, I find it extremely difficult to control the path at 45 m.p.h., or above. Possibly that is due to my transference from a heavy twin to a light single directly. But my "carrier," heavy twin to a ngin single directly. But my carrier, who is an experienced motorist, sidecar driver, and motor cyclist, gets the same results. Incidentally I have a Clyno two-stroke, which I have never been able to get into a wobble either.

C. E. V. WILKINS.

Trinity College, Cambridge.

A BUSINESS MAN'S IDEAL MOTOR CYCLE.

Sir,-I have been much interested in your short description and illustration of miniature open frame bicar in your issue of March 11th, page 280, at present in course of construction by Messrs. Lister and Co., of Keighley.

I have been waiting for something of this kind for years,

chiefly for the purpose of going to and from business. The

conventional frame does not appeal to me on account of the want of efficient protection from the weather. This new type would apparently give excellent protection, as I see no objection to making the screen in front 2tt. wide or more (so long as the machine will go through an ordinary doorway); glass windscreen could be added, which would give practically as good protection as a car.

I am glad to see the size of wheels and tyres proposed, as the small scooter wheels could not give much comfort for country riding, especially with roads in their present state. If a starting device (to obviate the running start), a clutch, sprung frame, and automatic or semi-automatic oiling system could be added, I think we would have approached appreciably nearer the ideal type of motor cycle.

ably nearer the ideal type of motor cycle. My ideal means comfort, which includes cleanliness and absence of noise. I do not ask for a gear box, as I am not ont for speed, and I believe there are a host of middle-aged and elderly business men who would gladly purchase a machine of this kind, but who at present fight shy of the conventional motor cycle.

BUSINESS MAN. conventional motor cycle. Whitehouse.

THE T.T. AND TRADE.

Sir,-The Sutton Coldfield and North Birmingham Auto-Sir,—ine Sutton Coidneld and North Diriningham Auto-mobile Club view with favour Mr. F. S. Whitworth's suggestions, and feel they would like to support the idea of entering a representative, riding, as it were, under clubcolours.

They would like to see the entries by clubs confined to anateurs not already entered and riding their own machines. This might eliminate untair assistance in the loan of an additional machine, for instance, for use in qualifying rounds, leaving the special one for the race. In this way, with contributions towards expenses or entry fee paid, it is felt that it would swell the entry list and encourage the type of rider we all wish to see in the T.T. races.

If a few other clubs would follow our lead, maybe the A.C.U. would consider awarding a special prize to the rider

A.C.U. would consider awarding a special prize to the rider gaining the best position in either class. We suggest that, with intercommunication between different clubs favouring this scheme, leaving the A.C.U. to fix details, there is still time to make it an interesting and extra attraction.

SUTTON COLDFIELD AND NORTH BIRMING-HAM AUTOMOBILE CLUB. F. W. SOUTHERN, Secretary.

Sir,-The two main objects of the T.T. Races should be: To enable manufacturers to test new features of

2. To enable them to prove the ability of their standard types to come through a gruelling test satisfactorily.

In actual practice, very many manufacturers simply build "freak" machines, having little or nothing in common with their standard types. If these freaks do well, the results are duly advertised all over the world as an argument in favour of buying the standard machines. Strauge, but true!

This absurdity could quite easily be avoided if manufacturers entering one or more non-standard machines were

compelled to enter a similar number of stock mounts. Buyers would then be guided by the performance of the latter, and not by that of mere freaks.

If this proposal were adopted, manufacturers would still be able to test new features on experimental machines, while the makers of third-rate motor cycles would cease to gain kudos from the performances of their first-rate, specially built racing freaks. This year the manufacturers, with some

honourable exceptions, seem to think that, since they are unable to waste their time on freaks, the race should not

Are they so ashamed of their stock mounts that they fear to enter them for such a stiff test? Or is it that they, quite naturally, dare not pit their standard machines against other makers' freaks?

If the latter supposition be correct, non-standard mounts should be barred from this year's race. In any case, the race should be held: it would provide all the better sport for amateur enthusiasts if manufacturers were not repre-

After all, why should the biggest event of the year be scratched, simply because manufacturers, ashamed of their stock mounts, and having umpteen million orders on their books, think it not worth while to support it?

CHARLES A. N. MORRIS.

Sir,-The reason stated by the majority of manufacturers who do not propose to take part in the coming Isle of Man T.T. races is that such participation would involve a tremendous amount of time and expense in preparing machines for the event, with a resultant loss in output, etc. This seems to be a very sound and good reason, on the manufacturer's part, as everybody realises the necessity of increased output, so that the adverse balance of supply and demand may be adjusted, with benefit to the community.

My point, however, is that this admits the fact that
the machines which run on behalf of the manufacturers are specially built racing models, ridden by expert riders, and the result of the race is perfectly valueless from the point of view of the public as regards the merits of any particular make, as any of these trade riders on any machine may win, according to the luck they may have, say, with regard to punctures, breakages of minor parts, crashes, etc.

What we want is a race in which only guaranteed standard machines will compete, so that the machine which emerges successfully from the gruelling event is exactly the "same as you can buy," then there will be a real reason for adjectival advertisements, as the "Super —," the "Perfect —," and the "Trusty —," etc. A. S. BRADLEY.

PISTON RINGS.

-Sir,-I now have an opportunity of replying to the interesting letter (published March 4th) of your correspondents, the British Piston Ring Co., Ltd., with reference to

my article on fitting new piston rings.

Before dealing with the points mentioned by your correspondents, I would state that the article was, as indicated by the title, intended to interest the average motor cyclist who desires to fit new rings in his engine, and who desires to have a certain amount of knowledge of the principles involved,

The technical data given in my article are by no means complete, and are in connection only with such matters as are under the control of the rider when buying and fitting

the rings.

The average rider would probably not be able to go deeply into a highly technical discussion of the subject, and such an article would be very long. I am of the opinion that your correspondents and myself share pretty well the same views upon this subject, but the subject being a long one, and our discussions being limited, we are both, I think, dealing with different aspects of the

First, any argument must take into account the method of making the rings; secondly, it is necessary to differentiate between "fitting new piston rings"—that is, renewing the rings-and fitting rings in a brand new engine during course

of manufacture. Your correspondents consider that the pressure of a con-lentric ring upon the cylinder walls is uniform. I quite agree with this as regards the case of a new, engine and langs, wherein the rings have-been made by one of the approved methods by which the ring is ground while clamped in a lig to the actual "running" shape.

That is quite sufficient to justify manufacturers in fitting concentric since in their seer entire and explains the small

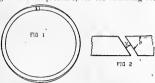
concentric rings in their new engines, and explains the small

sue of eccentric rings by manufacturers.

As regards an old engine having new piston rings fitted, technical technic

still be uniform; but, of course, cylinders do not wear evenly all round, and, except in cases where excessive wear has occurred, rings are not made to a specially larger size. The average motor cyclist would buy his new rings of the same size as the old ones. My contention is that the pressure is only uniform when these rings are fitted to a cylinder whose diameter exactly agrees with that to which the rings were ground.

In the case of a cylinder a little worn, the rings would give uneven pressure, for the following reasons : The greatest



bending moment occurs at the point diametrically opposite the slot. This portion is, therefore, subject to the greatest bending Now. i stress. this ring is titted into a cylinder that is a little

worn, it opens out a little more than intended, and the poration opposite the cut being subjected to the greatest stress naturally "straightens" out more than the remaining pornaturally "straightens out more than the remaining por-tions, and the ring tends to assume the shape and position shown exaggerated in fig. 1.

With an eccentric ring the stress in the ring is more even

all round, therefore the whole circumference of the ring has more tendency to "straighten out." I consider that in a worn cylinder (which includes almost any used cylinder) the eccentric ring would give more uniform pressure owing to the more equal stressing, and therefore more equal "expansion" all round the ring.

Your correspondents state, quite truly, that the commercial eccentric ring is only a compromise between the ordinary concentric ring and what we may term the "ideal" ordinary concentric ring and what we may term the "Ideal eccentric. We are in agreement on this point, and it should be noted that I mentioned the matter of compromise, the effects of the "ideal" ring on gas tightness, etc.

As regards your correspondents' remarks about hammered rings, I agree with these in the main, and also with

the statement that narrow rings wear more rapidly. I consider, however, that the latter point is not serious in cases where two narrow rings are used in one slot, as it very

where two narrow rings are used in one slot, as it very rarely happens that the two slots work round and coincide.

As regards the comparison of dimensions given by your correspondents, and also in my article. I think it should be obvious that the table in my article contains not actual dimensions, but values for the various factors given in the formulæ, the latter having been worked out by myself.

The values given in the table conform with the formulæ

given, and I think it is interesting to note t' it calculations based on equation (3) in my article agree very closely with the figure (gap left in fitting=0.0025d.) recommended by

your correspondents.

If anything, my figures and equations give a slightly greater gap, but this is because I worked out my formulæ to take into account the trigonometrical functions of the angle of the slot. This refinement makes my formulæ suitable for rings of any angle of slot, and it is evident that the distance across the gap given by my formulæ is measured in a direction normal to the surface of the slotted end.

I may supplement this by stating that for the case illus-

trated in fig. 2,

 $x=0.00000556 Td \pi \sin \theta$, plus a little extra "safe" clearance. (See article, January 22nd,

p. 93.)

All this is no doubt well known to your correspondents, whose letter I consider both interesting and helpful; at the same time, I think my article and your correspondents' letter were dealing with different aspects of the matter. The fact that space is limited leads to a rather scrappy treatment of the subject on both sides

H. GEORGE HARLEY.

Correspondents are urged to express themselves as concisely as possible, especially in view of the fact that only a small percentage of letters received can possibly be published. Many interesting letters are unavoidably omitted in consequence of their abnormal length.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

A Curious Trouble.

I have a 4 h.p. Calthorpe-Jap, with sidecar, with which it will do anything I wish. An Enfield two-speed gcar is fitted, and the Amac carburetter has a 26 jet. I am now riding solo, and the machine does not run nearly so well, and it is using more petrol than before. I have fitted a 24 jet, and it will not run at all on a 22. I was thinking of lowers ing the float, but would like to know your opinion first.—R.P.

The correct petrol level is 32in. below the level of the top of the sprayer. You might carefully examine the float to see whether it is punctured, and also examine the magneto timing to see that this has not slipped, thus retarding ignition. With the jet you mention, the engine should most certainly not have a high petrol consumption. The mere fact that you are at present using the machine solo can have nothing to do with your trouble, aithough, apparently, the removal of the sidecar has coincided with some fault or other.

Over-Geared.

I shall be glad if you will give me advice on the following: I have a cycle car which is chaindriven throughout. At present the top gear is too low, there being twenty-six teeth on the engine sprocket and forty-one teeth on the gearshaft sprocket. With top gear engaged, the engine sprocket revolves three times to the driving wheel once. Bottom gear engaged shows seven and threequarters to one turn of the back wheel. I am wanting to fix a belt drive from the engine to the gearshaft, and am thinking of an adjustable pulley on the engine and fixed pulley on they are to give an average speed of 25 mp.ph. on top gear?—C.C.H.

Instead of the top gear of your cycle carbeing too low, we should say that it is much too high. 5 to 1 would be preferable to 3 to 1. You have not stated the size of the final reduction sprockets. From the other sizes given, however, we may presume these to have sixteen and thirty teeth. If you require a primary belt drive, pulleys of 3\frac{3}{2}\text{in.} and 10\text{in.} diameter will be needed on engine and countershaft respectively, and on these the belt would not be running under ideal conditions. Retaining chains, we would suggest that you gear as follows: Seventeen teeth engineshaft, forty-one and fourteen teeth

on the two countershaft sprockets, and thirty teeth on the back axle. This will give you a top gear of approximately 5 to 1.

Fitting Drip Feed.

Last winter I purchased a 23 h.p. T.D.C. two-stroke engine which I fitted to my Calthorpe Junior frame. I should be very much obliged if you would give me advice on the following: (1.) Would a drip feed be a satisfactory fitment to my machine, as I think it would make starting easier? The tank has an oil compartment and pump, but the engine has no connection for oil, so I am using petroil system. (2.) Could I drill and tap the drain nut on bottom of crank case, and so make connection for the oil pipe at this point? I may say that so far the engine has done very well, despite its single gear.—W.K.D.

(1.) The drip feed would be quite satisfactory on the engine you mention, and we should recommend that you convey the oil to the induction stump between the cylinder and carburetter. (2.) It might not be advisable to lead the supply of oil to the drain plug at the bottom of the crank case. A little experience on the road will enable you to find out the quantity of oil required. Try setting 'the regulator to deliver about thirty drops per minute.

IMPORTANT DATES.

Fri, May 21st—
M.C.C. Loudon-Edinburgh Run.
Sun., May 30th—
Motocycle Club de France Grand Prix Race
Tues., June 15th—
Junior T.T. Race, 1sle of Man.
Thurs., June 17th—
Senior T.T. Race, 1sle of Man.
Mon., July 5th, to Sat., July 10th—
Sectish Six Days Trial.
Tues., July 6th—
Irish End-to-End Trial.
Wed. and Thurs., July 7th and 8th—
Arbuthnot Trophy Trial.
Wed., July 7th—
Union Motocyclist de France et Automobile Chub de l'Ouev, Grand Prix
Grand Motocyclist de France et Automobile Chub de l'Ouev, Grand Prix
Grand Cycle Cars.
Mon., Ju'y 12th, and Tues., July 13th—
Irish End-to end Trial.
Sun., July 25th, to Aug. 1st—
International Six Days Trial in France.
Sun., Avr. 1st, to Wed., Aug. 4th—
Anglo-Dutch Trial.
Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.

An Old Type Engine.

. In the magneto on my machine

the fibre bush on the end of the

the nore bush on the end or traised part of the cover and causes the platinum points to separate. This raised part is only about \$\frac{3}{2}\text{in. long, and I notice on:} Bosch it is about \$\frac{3}{2}\text{in. long, and I notice on:} Bosch it is about \$\frac{3}{2}\text{in. long, and I notice on:} Bosch it is about \$\frac{3}{2}\text{in. long, therefor the points would only be open a short inne, compared with the Bosch magneto. Would this affect the quality of the spark and the running of the machine? I have timed the engine a follows: Piston at top of cylinder magneto fully retarded, and point just about to break. Yet the magnet cannot be advanced more than out third. If it is advanced more it knocks or else acts as a brake: The engin has an automatic inlet valve, and has no power, and has to be assiste by pedalling on all hills. The caburetter is a very small. B. and I variable jet. The engine will only in when the latter is fully opened, and have shown back through the carburetter. There is no rocker by tween the cam and the exhaust valt tappet in the timing gear of the engine was wear on the cam and tappe There is a small hole over the timing gear which, when the piston is discending, it blows through. Does the save the engine from leaking oil? The exhaust valve has a very long sterand the hole in it is very low does and the context of the co

The point you raise in connection we your magneto would have no effect the running of the machine. The ignitic is slightly too far advanced; the spread of the property of the

Would it be better to bore one high

up, so that I could compress the sprii

valve dimensions.

more ?-W.J.M.

A Two-stroke "Mystery."

I should be very grateful if you would tell me the reason for the following complaint, which occurred with a 23 h.p. two-stroke. One day the engine refused to start, and on removing the plug a good spark was obtained in tho open. The plug was replaced and another unsuccessful attempt to start another unsuccessful attempt to start the engine was made. The plug was again removed, and found to be wer with petrol; this was dried, and the plug was replaced. The carburetter was then taken down and re-fitted, and was found to be in order. Another attempt to start the engine having failed, the crank case was drained, and found to contain about half a pint of oil and petrol mixed..
After trying to restart the engine, the crank case was drained again, with the same result; in fact, the same thing occurred after every unsuccessful attempt to start. The machine finally started after cleaning the platinum points and carbon brushes on the magpoints and carbon brusnes on the mag-neto. As there is no leakage between the oil and petrol tanks, and there is no fault in the carburetter, I should be glad if you would give me the reason for the presence of the large quantity of petrol present in the crank case.—J.L.F.F.

he trouble can, of course, be traced to se need of attention to the magneto. he various attempts to start the machine turally drew the petrol mixture into e engine, and condensation would count for its presence in the crank amber.

The Low Generator. Can you help me out of my

difficulty? I bought a sidecar outfit, and before starting out I tried everything. The lamps, which are fed from a Low generator, gave a splendid light, so I sentured forth. When lighting up ime came I turned the water on, but to no light; so I filled up again, got 1 good light, but on starting up there was a sudden flare, and then darkiess. I could not get the generator to work when moving. I believe the water difficulty? I bought a sidecar iess. I could not get the generator to orrk when moving. I believe the water plashed over through the gas holes not the carbide, and then got forced ato the tubes and burners. Can you elp me to make the thing right? The urners were quite clear, but there ppears to be nothing to prevent the cater splashing over into the carbide, aless it is the pressure of gas. Should the water chamber only be belf full? he water chamber only be half full?

s generator, being of somewhat un-al design, is rather more complicated a the conventional patterns, and you and the conventional patterns, and you all make yourself acquainted with the ty valve is stopped, and too high a sure is generated. As you are aware, the huware will be blown. his is so, the burners will be blown by the pressure of the gas itself. The by the pressure of the gas itself. The er is kept away from the carbide a certain pressure is attained by force of the gas acting against it. s possible to fill the water container e full, and unless there is some con-tional defect in the generator this not cause any trouble. We should ammend that you totally dismantle the generator, and carefully clean and dry each part. You should also clean and dry all lengths of tubing connecting. the generator to the lamps, and we also recommend the adoption of small gas bags in the connecting tubes.

Gear Ratio

Having a 31 h.p. motor cycle, fitted with a four-speed Jardine gear box, I wish to obtain a top genr box, I wish to dutain at con-genr ratio of 43 to 1, with the wheel sizes as shown: Engine sprocket, 19 teeth; genr box sprocket, 36 teeth; gear belt pulley, 8in.; wheel belt pulley, 20in. Is this cor-

where next purey, 20th. Is this correct, and would nineteen teeth on the engine sprocket be abnormally large, or normal practice?—W.G.P.

The adoption of the sprockets and pulleys you suggest will give a gear ratio of 4.74 to 1 on top, which should prove satisfactory for a 3½ h.p. motor cycle fitted with a sidecar. The ninetentooth engine sprocket will be quite in order.

Over Rich Mixture.

I have a 3½ h.p. Triumph, fitted with old pattern Bosch magneto, and an old type B. and B. carburetter. I have had the misfortune to get some very last two journeys, and have since spent considerable time in trying to trace the trouble, which was as follows: (1.) When I closed the throttle for the purpose of passing traffic or for cornering I had trouble to keep the engine going when I opened out again, and almost every time it choked up. I examined the induction system, but could find no trouble there, and I do not think it was caused by air leakage, for when it did begin to fire I got down to too rich a mixture. The engine was not over-oiled. (2) I examined the magneto, and found I got a spark at the contact breaker point which developed into a flame at high speed. but at the same time I got a good spark at the plug points. (3.) On the same machine I have fitted a Philipsame machine I have here a rimp-son pulley (direct from the makers), touring pattern. I have been about sixty miles since fitting it, but so far sixty miles since ntung it, but so tar the pulley has never altered, although with a passenger up, the engine has given out on hills. The makers advice is not to use controls, and so far I have followed their advice. I should

appreciate your help .- G. H.G. (1.) The carburetter is probably flooding, and we should recommend that you careand we should recommend that you carefully check the petrol level, which should be about 3-32in, below the top of the jet. (2.) The excessive sparking which you mention as being present at the contact breaker point should not occur, and is probably due to a fault in the condenser of the magneto. We should recommend that you have this should recommend that you have this examined, (3.) The pulley should automatically reduce the gear ratio in proportion to the load imposed on the engine. If the gear remains constant throughout, we should certainly suggest that you write to the manufacturers, who will no doubt give you the necessary information you require as to the correction of this fault.

Partial Seizure.

The engine of my 21 h.p. twostroke sometimes runs heavily, and after a few miles will pull up on any fairly steep hill. A

paraffin injection instantly puts things right again. This occurs at distances from 50 to 300 miles between injections. The machine is otherwise quite satisfactory. Petrol, 100-120 m.p.g.; T.T. oil, 250 m.p.q. What is the cause of the trouble —A.R.J.

As a cure of your trouble is instantly As a cure of your trouble is instantly effected by a paraffin injection, it is undoubtedly caused by a partial seizing up of the piston in the cylinder bore." For a scizure to be present, it is not at all necessary that the engine should be immovable. We should recommend that you try a different brand of oil, such as B.B., and also make sure that any oil ways in your engine are quite clear, and that the oil actually reaches the correct places. A slightly more generous supply of oil would be advantageous.

EXPERIENCES WANTED.

"A.G.B." (Wilton) .- Use of light sidecar on 23 h.p. Alldays Allon.

RECOMMENDED ROUTES.

RIPON TO SUNDERLAND,-F.D.N. Ripon, Catterick Bridge, Scotch Corner, Darlington, Durham, Houghton-le-Spring, Sunderland.

GRIMSBY TO HALIFAX.-H.W.R.

Grimsby, New Holland, across Ferry, Hull, S. Cave, Howden, Selby, Leeds, Holbeck, Farnley, Birkenshaw, Halifax.

Leicester to Wigan.—A.B.C.

Leicester, Loughborough, Hathern, Kegworth, Derby, Ashbourne, Leek, Macclesfield, Chelford, Knutsford, Warrington, Winwick, Ashton-in-Makerfield, Wigan.

NEWCASTLE-UNDER-LYME TO ROCHDALE .-

Newcastle - under - Lyme, Kidsgrove, Congleton, Siddington, Alderley, Wilm-slow, Handforth, Cheadle, Stockport, Hyde, Ashton, Oldham, Rochdale. Ap-proximately 54 miles.

Hastings, Battle, Pembury, Tonbridge, Westerham, Oxted, Redhill, Reigate, Dorking, Leatherhead, Byflect, Chertsey, Egham, Slough, Beaconsfield, Amersham, Wendover.

ROCHDALE TO COLCHESTER.—R.B.
Rochdale, Oldham, Lees, Holmfirth,
Barnsley, Doncaster, Retford, Tuxford,
Newark, Grantham, Stamford, Wansford,
Huntingdon, Godmanchester, Cambridge,
Linton, Withersfield, Haverhil, Halstead, Colchester. Approximately 200 miles.

DUNMOW TO EXETER via READING. -G.H.T. Dunmow, Bishop's Stortford, Hadham, Ware, Hertford, Hatfield, St. Alhan's, Watford, Rickmansworth, Deuham's, Slough, Maidenhead, Twyford, Reading, Slough, Mandelnead, Twylord, reading, Basingstoke, Whitchurch, Andower, Wey-hill, Amesbury, Wyle, Hindon, Mere, Wincanton, Sparkford, Ilchester, Il-minster, Chard, Honiton, Exeter.



Times to Light Lamps

SUMMER THE.

Apr. 8th ... 8.12 p.m.
,, 10th ... 8.15 ,,
,, 12th ... 8.19 ,,
,, 14th ... 8.22 ,,

Honister Pass.

A Cockermouth reader writes saying that the Honister Pass on the Buttermere side is in a worse condition than usual. Tourists thinking of visiting this part of Lakeland will be wise to take the pass from the Keswick side via Borrowdale and Seatoller.

The Irish End-to-end.

The date of the leading Irish event the End-to-end trial—has not yet been definitely fixed, but at a recent meeting of the Ulster Centre of the Motor Cycle Union the date was provisionally fixed as July 16th. The previous date decided upon clashed with the Scottish trial.

Printer's Pie.

A correspondent sends us the following extract from a daily paper of March 25th.

"Junior clerk required, about 18, in a chartered sidecar, well upholstered and underslung.—Apply."

In our youth we have experienced the advantage of upholstering on occasion.

Metropolitan Police Activity.

Considerable activity is reported in the Battersea district. Trapping is being carried out intermittently on the following roads: Battersea Bridge Road, Albert Bridge Road, Chelsea Bridge Road, Queen's Road, Latchinex Hill, and the Avenue, Claphain Common. It behoves motorists, therefore, to drive carefully through this locality.

Cup Offered to Affiliated Clubs.

With a view to increasing the desire on the part of the North-western clubs to become affiliated with the A.C.U., Messrs. J. Blake and Co., the well-known motor dealers of Liverpool and Manchester, recently offered a fifty-guinea silver challenge cup to be competed for by amateur members of each of the following clubs: Liverpool M.C., Blackburn M.C., Warrington M.C., Manchester M.C., and Bolton and District M.C.

In offering this cup, Messrs. Blake have suggested to the A.C.U. the advisability of altering the open competition rules to allow any number of affiliated clubs to compete together, always provided that the clubs taking part form one of the territorial divisions arranged by the A.C.U.

Smashed Sidecar Lamps.

Will the owner of the Indian outfit, the sidecar lamps of which were smashed in an accident on the 26th ult., between Gloucester and Cheltenham, please communicate with Mr. J. Crossley, 11, Royal Crescent, Cheltenham, who wishes to replace them?

Sydney-Melbourne Record Broken.

We are informed that a Harley-Davidson and sidecar recently created a new record from Sydney to Melbourne, covering the distance of 566 miles in 20 hours 38 minutes at an average speed of 27 m.p.h.

The previous record was established in April, 1918, by Fred Berry (Harley-Davidson and sidecar), whose time over the same route was 22 hours 20 minutes

New Source of Alcohol.

Much attention has been given in recent years to the question of manufacturing alcohol within the Empire for use as motor spirit. In the current number of the Bulletin of the Imperial Institute the possibility of utilising the mowra flowers of India for the purpose is discussed. These flowers possess thick, juicy petals, rich in sugar. They are used by the natives as a foodstuff, and especially 'for the preparation by fermentation of an alcoholic liquor, called daru or mowra spirit. A large quantity

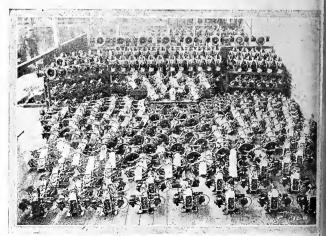
Special Features.

EASTER TRIALS.
A ROTARY VALVE ENGINE.

of the flowers would be available for the manufacture of alcohol, and would at pear to be an exceptionally cheap source of this material, as the yield is high compared with that from potatoes an other materials commonly used, about one of 95% alcohol being obtain able from one ton of dried flowers. I has been estimated that in the Hyder bad State alone there are already sufficient mowra trees for the production (700,000 gallons of proof spirit per annum in addition to that necessary for the localiquor requirements.

Third Aircraft Park, R.A.F.

It is proposed to hold a reunion of the above unit in Manchester on May 8th This Park was originally the 5th A.A.I. of the R.F.C. stationed at Puchviller and later at Candas. Those intereste are asked to communicate immediatel with Ex-Sgt. Major J. Marshall, 4 Chestnut Street, High Town, Mancheste who will supply all information when the arrangements are completed.



Last week's output of engnes at the Douglas factory-50 4 h.p. and 250 23 h.p. power units



MOTOR CYCLE v CAR AT BROOKLANDS ON EASTER MONDAY. Major J. Woodhouse, the well-known pre-war competition rider, on his eight valve Matchless, thich he raced against Capt. Malcolm Campbell's De Diétrich "Blue Bird." (See page 418.)

algamation Abandoned.

he proposed amalgamation of the umph Cycle Co., Ltd., and the Hill-Motor Cycle; has not materialised.
two companies will continue to carry their businesses under exactly the e control as before.

Carnival.

Oarnival.

le secretary of the sub-committee
h is arranging the Carnival at
glas for the T.T. week advises us
the Flying Kilometre Race on the
menade will be held on the morning wing the senior event (Friday, June

ish Six Days Trial.

the past the Scottish Six Days Trial always been one of the most sportevents of the year, as the extremely ult nature of the course usually rsed renders it unnecessary to comte the event by the incorporation etty and irksome rules. This year

the Scottish Six Davs is to be run on even more lenient lines than hitherto, for not only is tyre changing to be allowed one day during the week, as already stated in these columns, but already stated in these columns, further, final condition is to be com-pletely ignored. One or two new rules, we believe, are to be incorporated, but they will be of a kind that will be appreciated by competitors rather than other-

The Motor Cycle Championship.

In connection with the motor cycle championship, which we mentioned recently, Mr. S. W. Phillpott has some interesting observations to make. He says: "Under the present arrangement, it is obviously going to be left either to the representative of a manufacturing firm, whose expenses are paid by his firm, or to a wealthy amateur, because it would be quite impossible for a man of moderate means to travel the length and breadth of the land in order to take part in the open competitions yet to be held. I

venture to suggest that a method of finding a winner-one which would be less expense and generally more satisfactory—would be to take the present A.C.U. districts of the United Kingdom, and let each club nominate its champions (two or three per club); these will take part in competitions organised by the A.C.U. within each district, and the best six or any other number will then take part in the final, which will give the champion. As an alternative, let the clubs in each county find their one or two best men per club. Let all these men in the counties compete, and find the county champion, runner up, and perhaps one reserve; then let these compete in the final. Thus we should get club, county, and British champion."

Head Lights.

That far too powerful head lights are in comparatively common use at the present comparatively common use at the present time, and that no satisfactory device to avoid dazzle has yet been discovered, were two of the conclusions of Mr. J. W. T. Walsh, M.A., M.Sc., A.M.I.E.E., who delivered a paper on the subject last week.

A.C.U. Finance.

It is gratifying to observe that the financial position of the Auto Cycle Union is now very sound. During the year just concluded the Auto Cycle Union's income was no less than £17,000. Those at the head of the Union confidently anticipate that for the ensuing year the income of the body will be well up to £20,000.

Libelling a Good Road.

The A.A. has issued a series of maps showing certain roads as being bad and to be avoided. A rather regrettable error is the marking of the route from Newark to Leicester. The distance to Six Hills is down as bad and to be avoided. Actually, this stretch is one of the finest in the kingdom, being straight, finely-metalled, and entirely free from pot-holes. From Six Hills to Leicester, however, the road may justly be described as worse than atrocious.

Institution of Automobile Engineers.

The tenth meeting of the session of the Institution of Automobile Engineers will be held on Wednesday, April 14th, at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.I., at 8 p.m., when Dr. W. H. Hatfield will read a paper entitled "The Most Suitable Steels for Auto-mobile Parts." Application for cards of invitation to the meeting should be made to the secretary, 28, Victoria Street, S.W.1.

AN IRISH EASTER TRIAL FOR THE DUNLOP TROPHY.

E open trial on Easter Monday under the auspices of the Dublin and District Motor Cycle Club did attract as large an entry as was sted, owing doubtless to the severity ie course and the fact that there is considerable difficulty in procuring my of new machines. Only seven-of the entrants presented thems at the starting point at Inchicore e, and most of them were members ie promoting club. The Dunlop y was offered for the event, and the

conditions were of the customary character, except that the markings at the secret checks will not be taken into account in the event of a tie between two or more riders. The starters were sent away in the following order:

t away in the following order:
P. H. Hurse (4/4, B.S.A.);
T. V. Murphy (2%, Douglas),
J. Nolan (4%, B.S.A.);
H. Mickellister (7.9 Indian sc.),
J. Brown (2% Douglas),
W. R. Clarke (7.9 Excelsior sc.),
H. Howlson (7.9 Excelsior sc.),
J. Healy (2%, Beardmore-Precision),
S. C. Smith (4 Norton sc.)

W. J. Burney (8 Enfield sc.).
G. Kilroy (4 Sunbeam sc.).
G. Kilroy (4 Sunbeam sc.).
A. A. Wayte (7-9 Harley-Davidson sc.).
C. W. Johnstone (7-9 Harley-Davidson sc.).
Maj. J. A. H. Waters (21 Enfield).
T. Copethorne (4 Triumph sc.).
Allen (4 Norton sc.).

The route embraced the crossing of the Co. Wicklow mountains from West to East via - Wicklow Gap, the military road from Drumgoff to Auglavanagh in both directions; the ascent of Ballymacrae Hill, and to Sally Gap from Round-wood, and also the Devil's Elbow at Glencullen.



MCC JARROTT CUP COMPETITION

London Lands End



Innovations in this Popular 314 Mile Trial: A North Devon Route via Lynton and Porlock in place of Dartmoor.

IN spite of unfavourable forecasts the weather was kindly disposed towards the hundred and sixty odd starters for the Motor Cycling Club's classic Easter event. Starting from Hounslow at one minute after midnight, the first competitor travelled in darkness through Maidenhead, Reading, Marlborough, and Devizes; the grey dawn breaking before Bridgwater (130 miles) was reached. Breakfast at the White Hart came as a welcome relief to the eye-weary riders, while the Bridgwater Motor Co. attended to the wants of the machines. The road to Minehead was so wet as to raise the gloomiest forebodings.

The 15 m.p.h. Non-stop Section.

Of course, the tit-bit of the run commenced at Porlock village, and extended for fifteen miles over the noted hill of that name, across Exmoor, and up Lynton Hill. The schedule speed for this difficult stretch was reduced to 15 m.p.h., and a non-stop run was demanded. For once in a way, Lynton Hill proved more difficult than Porlock, for the surface of the latter has wintered well, and is in better condition than we have known it. There was a crop of failures, of course, many due to rank bad driving. A number of sidecarists ascended minus passengers, but, generally, the solo riders performed well. If Porlock is long and severe, Lynton is steeper, and a great number of spectators gathered to see the competitors. Hugh Gibson (No. 1), astride a two-stroke Clyno, led the way, and, hugging the dry patch beside the wall, made a splendid ascent. A. J. Sproston (Lea-Francis) followed in equally good form. Garford (5 Zenith) just got up by vigorous humping on the saddle. Staunton (Triumph) did well, Gibson (4-5 Zenith) doing better still. Chidley (Brough) got into a rut, kept going well round the corner, but stopped higher up. That veteran, W. E. Brough, charged the 1 in 3 section on the inside of the corner, and got to the steepest section when he had to assist his engine by footing. "W. Cooper and Son," on Lea-Francis and Douglas machines respectively, reached the difficult corner together; pater was too solicitous for his son, and failed on the corner. The son was unlucky in running out of petrol near the top. McKeand (flat twin Harley) stopped with a sooted plug following the long descent of Countisbury; several others suffered the same experience-in fact, the thousand feet drop into Lynmouth had the effect of cooling the engines thoroughly, but, on the other hand, invited oiled-up plugs. Karslake (6-7 Ariel) stopped below the bend, but restarted and made a fine climb. Spikins and Edwards (7-9 Harleys) showed up

well. Longman (Ariel) was among the fastest, Sharratt (Triumph) excellent, and Robertson-Brown (Henderson) very good. Redvers Johnson (3½ Humber), though baulked, kept going splendidly, and Olssen (8 New Imperiat) and Clark (Blackburne) were excellent. Hilger (Rover) was baulked by a spectator, but went up well on the next ascent. Reed (Scott) stopped, Harrison (Calthorpe) was good, and Browning (Scott) good. Applebec and Colliver, on Indian Scouts, toyed with the 1 in 5 gradient, but Jones (Ariel) stopped with a broken chain. Then followed a long interval, during which traffic and ponies went up and down the hill. Boyer (Triumph), Pulham (Ariel), and Henry (Metro-Tyler) rounded the bend in good style, but Henry stopped near the summit.

The Spectators Applaud.

Enticknapp (Blackburne) was baulked by a cart on his first attempt, but received quite an ovation on his second successful attempt. Watson Bourne's gear jumped out of engagement. Porter (A.B.C.) made a splendid ascent. Squires (Triumph) followed in equally good style. Baxter (Radco) just got up with foot assistance. Pike (O.K. Union) is deserving of gratulation for a clean ascent, Keith Robinson (A.B.C.) mulled corner and had to assist with his though clearly he had ample pc Then after a hill, four solo riders an in a bunch. Pinder (Zenith) stoppe the stones, Armstrong (Blackburne) Osborne (B.S.A.) were good, whilst fourth, Spouse, stopped on the I Minton's Norton made a good ascent, his engine emitted a terrific cra The Nut, ridden by Barton, a showed up prominently, also Rey (Brough). Brittahn (Sunbeam) did and Newman, this time on a 3½ Sunbeam sidecar, made the gradient simple enough. Now the sidecars to arrive in numbers. Morgan (Hr Davidson) charged round the bend appeared to have the hill well in when his back wheel commenced to and he stopped. Quite the most pressive passenger ascent was mad Hr. Dale's 8 h.p. Royal Ruby, climbed easily and surely and yet silent. Apsey on a similar mount also good. Elee's G.P. Morgan maceasy climb. Choldcroft's A.J.S. s-quired assistance simply on account



Some idea of the gradient of Porlock is conveyed by the above illustration, which depict the second bend of this famous hill.

.C. Jarrott Cup Competition .-

el slip, which troubled many com-Dan Bradbury got quite te. I he yelled to his passenger to out, while he bumped vigorously on saddle of his Norton sidecar outfit; got up splendidly. Three Morgan ers hereabouts went up in fine form left quite an excellent impression ng the spectators, judging by their arks. A terrific crackle heralded the oach of Masters on a Harley-David-He charged the inside of the bend reat speed, but stopped higher up by because has back wheel was spin-sor fast it had no time to grip the y surface! Richardson (James) ded the corner well, but was baulked the top and had to be assisted. Clark (Douglas) had to shed his enger because he could not engage lowest gear. For this reason he ed at Lynton. Hoult and Ross were leaders of the fleet of Matchless ar drivers, who made an excellent

mportance of Weight Distribution. ilroyd on an 8 h.p. Blackburne,

her with his passenger, sat normally her with his passenger, sat normally aghout their climb, which would sugthat the weight distribution is ideally iged for hill work. Hardee and Ellis chless) lived up to the reputation of Matchless fleet by climbing 'steadily well. Fell Smith (Harley) ran on the stones to avoid Sanford (Rover) stopped. Boxer's Matchless was so on the bend that the sidecar lifted to the brief women't the cident to the state of the state one brief moment the sidecar reed in the air, the bicycle still going, the outfit righted itself and went ell. Allen's Matchless did the same , but the driver had to turn into the to right the machine, and thereby the forks, so that he retired. Atkins ily was baulked, but made no mistake time up. Mackenzie's Humber du p well, Walker (B.S.A.) stopped, son (Rex), with his passenger on the r to prevent wheel slip, did well,



D. H. Noble (Reading Standard sidecar) and R. S. Aitken (Indian sidecar) negotiating Lynton.

Note the atrocious road surface.

and Charlie Collier (Matchless) was good and Charine Coller (Matchiess) was good at first, though he had difficulty in keeping his front wheel straight. Near the top he came to a standstill. Wright (Indian) stopped and shed his passenger; Goodwin (Castle Three) grazed the wall, and had to shed his passenger on the steep stretch. Dr. Letchworth's passenger gave an exhibition of acrobatics. but his Harley again stopped, simply due to clutch slip. G. S. Wright (Indian) rounded the bend in good style, but was baulked near the top by stranded com-petitors, and had to be assisted. To

Longman must be given credit for the best climb by a Harley-Davidson driver. Then followed the light cars, whose performances are referred to in our parent journal The Autocar.

On to the Luncheon Stop.

With really difficult hills left behind. competitors scurried on to Barnstaple, Holsworthy, and to the luncheon stop at Launceston. Clutch trouble, due to at Launceston. Clutch trouble, due to their severe gruelling on the Devonshirc hills, was not infrequent, and others were short of petrol. Beyond Bideford the road surface as far as Holsworthy was so villainous as to call down much invective on the heads of the organisers, but the lunch stop at Launceston put fresh heart into the tired competitors. Here W. Cooper's Lea-Francis was wheeled away to a garage, and did not appear later. Leaving Launceston, a few miles of bad road were encountered, but the perfect surfaces of the Bodmin Moor roads were a delight to the heart and a source of much time saving. Good roads continued to Truro, where the old Land's End route was joined. With the excep-tion of the final ten miles and the rough going through the mining district, the final stretch to the extreme west of Cornwall was covered without untoward incident. As usual there was a hearty welcome for the survivors at the Land's End Hotel, which was the scene of many a Hotel, which was the scene of many a reunion of old friends. As might be expected, an inspection of competing machines revealed many interesting "gadgets," both in the way of lighting and personal equipment. One rider even went so far as to attach a tin of cigarettes and an electric lighter to the top tube of his machine. The survivors signed the checking sheet in the following order :



onsiderable public interest in the climb of Porlock was shown on the first bend, where the gradient is about 1 in 4.





CYCLE CARS ON LYNTON. (Left) A Grand Prix Morgan climbing well. (Right) An A.V. four-wheeler on one of the lower bends.

The Survivors.

The Survivors.

Ruch Gibson (2½ (Cyno).
R. C. Stannton (2 Tinumph).
L. T. Gibson (4-5 Zentth).
V. Gaylord (5 Zentth).
C. A. McKeond (4 Harley-Davidson).
H. Thorpe (2½ Doughs).
H. Thorpe (2½ Doughs).
H. Thorpe (2½ Doughs).
W. E. Brough (5 Brough).
H. Thorpe (2½ Doughs).
V. Gaylord (13½ Lea-1-rineris).
A. Sproaton (13½ Lea-1-rineris).
H. Thorpe (2½ Houghs).
H. J. Spikins (7-9 Hailey-Davidson).
V. Olssen (8 New Imperiol).
J. Robectson Brown (10 Henderson).
T. S. Sharrat (4 Tinumph).
E. Relevers-Johnson (3½ Humber).
J. A. Higer (3½ Rover).
H. F. Edwards (7-9 Hailey-Davidson).
H. A. Colliver (4 Indian).
J. Harrison (3½ Gouther).
J. Harrison (3 Colthorpe).
G. A. Reed (3-½ Scott).
J. Harrison (3 Colthorpe).
G. A. Reed (3-½ Scott).
J. V. J. Boyer (4 Tinumph).
L. Clulee (2½ Allon).
L. Pulban (3½ Airiel).
F. E. Solars (3½ Ariel).
F. E. Solars (3½ Ariel).
F. E. Salter (3) Balchburne).

rand Prix Morgan climbing well. (Right
A. H. Hewett (6 Zenita).
W. Hemy (2½ Metro-Tyler).
B. T. Sims (4 Triumph).
R. H. Barker (2½ Radeo).
F. Mighell (4 Triumph).
F. Mighell (4 Triumph).
J. Maton Bourne (2½ Blackburne).
P. Pike (2½ O.K. Union).
P. Pike (2½ O.K. Union).
C. Ketth Robinson (3 A.B.C.).
J. White (4 Triumph).
J. Waton (54 A.B.C.).
J. White (4 Triumph).
H. J. White (5 Triumph).
H. J. White (5 Triumph).
J. A. O'Sullivan (Coulson B.
T. Thomrson (4 Houglas).
H. P. Lucas (5-6 Zenith).
H. P. Lucas (5-6 Zenith).
H. J. Martin (3½ Norton).
G. P. O.blorne (3½ B.S.A.).
L. F. Pinder (8 Zenith).
H. M. Barton (3½ N.U.C.).
J. W. Brittman (3½ N.U.C.).
J. P. Nobelson (4½ B.S.A.).
J. P. W. Applebee (4½ B.S.A.).
J. P. N. Nobelson (4 Triumph).
P. W. Applebee (4½ B.S.A.).
J. P. Nobelson (4 Triumph).
R. S. Altken (7-9 Indian sc.).

four-wheeler on one of the lower bends.

W. Pattzon, (10 Mongfu).
E. W. Choldcort (6 A.J.S. sc.).
C. Chapman (10 Mongan).
J. Brailburg (4 Notton).
P. Thorpe (4 Douglins sc.).
R. Thorpe (4 Douglins sc.).
R. White (3½ Sunbeam sc.).
R. White (3½ Sunbeam sc.).
R. White (3½ Sunbeam sc.).
J. A. Minster (7-9 Harley-Davidson sc.).
A. Minster (7-9 Harley-Davidson sc.).
J. J. Eoss (8 Matchless sc.).
T. J. Eoss (8 Matchless sc.).
T. J. Ellis (8 Matchless sc.).
J. J. Ellis (8 Matchless sc.).
J. Honit (8 Matchless sc.).
J. Honit (8 Matchless sc.).
J. Honit (8 Matchless sc.).
J. McKenze (8 Matchless sc.).
J. McKenze (8 Matchless sc.).
J. McKenze (6 Humber).
J. C. Sanford (5-6 Rover sc.).
J. McKenze (6 Humber).
J. C. Sanford (5-6 Rover sc.).
J. McKenze (6 Humber).
J. McKenze (7-9 Hunber).
J. Marrin (7-9 Humber).
J. Marrin (7-10 Humber).
J. McKenze (10 Marrin (10 Monde Humber).
J. Marrin (7-10 Humber).
J. McKenze (10 Marrin (10 Monde Humber).
J. W. Armstrons (10 Humber).
J. W. Armstrons (10 Humber).



A Matchless trio-G. D. Hardee, F. J. Ellis, and J. A. Hoult on the "zigzag" Arlington Hill

From the Midlands to the Welsh Coast.

The Birmingham M.C.C. Sangster Cup Trial. Bwlch-y-Groes Included.

OUT of forty-eight entries for the Birmingham-Barmouth trip there were but three non-starters. Those who but three non-starters. Those who went through had a wet journey, for incessant rain fell until the lunch stop, where several competitors gave up absolutely wet through. Delay was caused by the police, who were working a trap, and demanding licences near Welshpool.

Performances on Bwlch-y-Groes.

The approach to the Bwlch-y-Groes ascent was over heavy roads. Ten riders failed on the corner. The best performances here were made by Egginton (31 Sunbeam) and Denley (Morgan). ton (52 Sunbeam) and Denley (Morgan). The star solo climbs were accomplished by Heath (22 A.J.S.), Kuhn (22 Levis). Dalby (4 Triumph), and Duke (4 Triumph), while Solly (42 B.S.A.), Deuley (53 Sunbeam). Woodcock (33 Ariel), and Rollason (32 Ariel) also did well. Watson (02 Ariei) also du wen. Watson (4 Norton sc.) made the best performance among the single-cylinder passenger machines, but Newcy (6 Ariel sc.) and Davies (6 A.J.S. sc.) also de-



THE LONDON-LAND'S END TRIAL. One of the competitors in difficulties on Porlock

serve mention. Ward (6 Excelsion sc.) was baulked near the top of the hill, otherwise he made a good ascent.

The hill was marked off in sections, a fact which was appreciated by the competitors, and the plug of Kibble's Triumph gave out on the seventh section. Several men ran up the bill alongside their machines, and one was so exhausted after reaching the top that he put his head into a stream to cool it. A curious head into a stream to cool it. incident befell Peters (4 Triumph). His belt came off, and he ran backwards; this replaced the belt, and he continued the ascent.

Bad Road Surfaces.

Mrs. Egginton gave useful warning at the top of the hill respecting the dangerous state of the roads on the descent, which were worse than those met met with in last year's Six Days Trials. Near Dolgelly and Barmouth several came off owing to the grease, which was very treacherous. Thirty-two competitors checked in at the finish.

2,000 Spectators at a Northern Hill-climb.

A Successful Meet of the Westmorland M.C.C. at Orton Scar.

FINE weather drew a crowd of about 2,000 spectators on the occasion of the open hill climb held by the Westmorland Motor Cycle Club on Orton Scar on Easter Monday. Over a hundred and fifty competitors entered the various classes, among whom was a boy of fifteen, who gained a bronze medal in the light twin class, and a lady, who made a fine climb on a Norton in the sidecar class. General disappointment was felt when it was found that no scooters would face the climb, although this type of machine was present. The hill was about two-thirds of a mile long, varying in gradient from 1 in 8 to 1 in 30. The fastest climb of the day was made by A. J. Moffat, riding a 4 h.p. Norton.

The results were as follow:

CLASS 2 .- Not exceeding 275 c.c. on time. B. Houlding (2½ Diamond).
 F. Porter (2 Levis).

CLASS 3.-Not exceeding 350 c.c. on time. B. Caldwell (2% A.J.S.).
 G. S. Boston (2% A.J.S.).

CLASS 4 .- Not exceeding 500 c.c. on time.

 G. Jefferys (3½ Norton).
 B. Coldwell (2¼ A.J.S.). CLASS 5.-Singles not exceeding 350 c.c. on formula

1. G. S. Boston (2¾ A.J.S.). 2. B. Houlding (2¾ Diamond).

CLASS 6.—Twins not exceeding 350 c.c. on formula.

1. S. A. Marks (254 Douglas).

2. N. Houlding (254 Douglas).

CLASS 7.—Singles 351 c.c. to 500 c.c. on formula.

1. G. Jefferys (5½ Norton).

2. E. C. Peacock (5½ Norton).

CLASS 8 .- Twins 351 c.c. to 500 c.c. on formula. L. S. Parker (3 A.B.C.).
 J. Baker (3 A.B.C.).

CLASS 9 .- Not exceeding 750 c.c. on time A. J. Moffat (4 Norton).
 R. O. Hodgson (4 Norton).

CLASS 10 .- Any capacity.

 A. J. Moffat (4 Norton).
 B. Houlding (7-9 Harley-Davidson). CLASS 11.-Single 501 c.c. to 750 c.c. on formula.

1. A. J. Moffat (4 Norton). 2. R. O. Hodgson (4 Norton).

CLASS 12.—501 c.c. to 750 c.c. ou formula.

1. J. Baker (354 Scott).

2. B. Hill (354 Scott).

CLASS 13.-Twins 750 c.c. and upwards on formula.

1. H. V. Prescott '7-9 Harley-Davidson'.

2. R. Harrison (7-9 Indian).

CLASS 15.—Sidecars on formula 1. B. Jeffreys (4 Norton), 2. S. A. Marks (2% Douglas).

The Next Big Midland Trial.

Birmingham M.C.C.'s Open Trial for Victory and Midland Cups.

THE second of the four open events allotted to the Birmingham clubs will be run on the 24th inst. by the Birmingham M.C.C., and everything is being done to make it a success.

In addition to a gold medal to the competitor in each class who has the greatest number of marks to his credit and silver medals to all who do not lose more than 10% of the marks scored by the gold medal winners, there are a large number of special awards, including the undermentioned:

Victory cup for greatest number of marks.

Midland cup for best performance in the passenger class.

Duke cup for best performance on a solo machine above 275 c.c.

Ross prize for best performance on a solo machine under 275 c.c. Special gold medal for best performance on a single-geared machine.

Special gold medal for best performance

by private owner. Team prizes (three prizes). The classes include (A) lightweights up

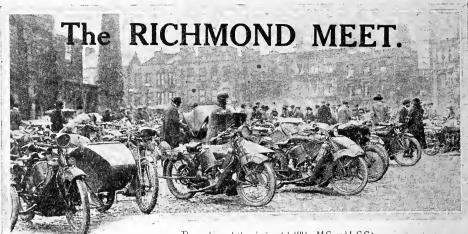
to 275 c.c., (B) solo machines over 275 c.c., (C) passenger machines up to 750 c.c., and (D) over 750 c.c. The entry fees (which should be sent to Mr. W. H. Egginton, 76, Earlsbury Gardens, Birchfield, Birmingham, before Friday, the 16th) are 15s. for members who are private owners; 21s. for trade members; non-members, teams, 21s.

Although the start is not until 9 a.m. from the George-in-the-Tree Hotel, Berks-

well, competitors will be required to obtain their numbers and to weigh at Hampton - in - Arden passenger railway station between 6.50 and 8 a.m.

Each competitor will be credited with 100 marks, and penalties will be imposed as follows: 5 marks for falling to start the engine within fifteen seconds on receiving the word "go," I mark for each minute early (allowance of three minutes), 1 mark for every minute late (allowance one minute), 5 marks for walking into or waiting outside checks, 5 marks for stops in non-stop sections other than on observed hills, which will have different values in this respect.

The route is not yet available for publication, but it will be made known at a later date.



The machines of the winning club (Ilkley M.C. and L.C.C.)

Gathering of North of England Motor Cyclists. Good Attendance despite Bad Weather.

FROM time immemorial (so far as motor cycle history is concerned) the Market Flace in the old town of Richmond in Swaledale, North Yorkshire, has been filled on Good Friday by the clubmen of the North-eastern counties.

This year great efforts were made to ensure the success of the event, and, had the weather also done its best, the gathering should have been a record.

Under the circumstances the attendance, considering the mileages covered, was indeed evidence of the keenness of these northern riders, who apparently are not to be deterred by bleak moorland

mists, raw and piercing winds, and a drizzle intermittently.

Two members of The Motor Cycle staff attended the Meet, and Coventry was left behind on Thursday morning. On refilling in Wetherby, it was said that Richmond would be already full, so a stop was made at Boroughbridge, the "Three Greyhounds" providing all the homeliness and comfort man could desire. Rain fell unceasingly all night, but a fast run along Leeming Lane was made after: breakfast. Richmond was reached at 11 a.m The skies were dull, mists hung

low on the hills, and only the castle stood ont boldly, black and grim against the prevailing greyness. The Market Place was occupied solely by Lt.-Com. Pierce (A.C.U.) and the R.A.C. guides. Anon, however, the hardy ones com-

Anon, however, the hardy ones commenced to arrive, singly at first, and then in batches.

The York, Hull, and Darlington clubs came in well together. A buzzing of Scotts marked the arrival of the Ilkley club, and a contingent of N.U.T.'s dashed up from Newcastle. By mid-day the curiously paved square of river-washed stones was alive with motor cyclists, who circulated amongst the orderly rows of machines, disgussing the points of each, and noting with interest the many new machines and the "kinks" and "gadgets" to be seen.

The Counting of the Peoples.

At 12.45 a.m. the committee, consisting of Messrs. T. W. Loughborough (A.C.U.), J. Norman Longfield (Ilkley), A. K. Procter (York), J. W. Tranmer (Scenborough), T. H. Straker (Hull), W. Emsworth (Ripon), A. W. Sellars (Ilkley), and D. H. Smith (The Motor Cycle) took the count of the competing clubs and examined the assembled machines in order to select the winners.

Casually glancing over the assembly, we saw nothing amazingly new. One A.B.C., a Wooler, two Blackburnes, and several N.U.T.'s were there, while the Autoglider, Blériot Whippet cycle car, and Black Prince runabout were all represented. Triumpbs, Scotts, A.J.S.'s, Sunbeams, P. and M.'s, B.S.A.'s, Donglas, and Morgans were prominent.

A meeting was held during the afternoon in the Market Hall, and the Mayor of Richmond (Mr. F. J. Hodgson) officially welcomed the motor cyclists to the town. Mr. T. W. Loughborough suitably responded, and spoke of the proposed new taxation scheme now before the Parliamentary Advisory Committee.



Machines of the various clubs arranged in line awaiting the count

The Richmond Meet .-

Taxation of Motor Cycles.

Speaking for 63,000 motor cyclists, the A.C.U. had urged that motor cycles should be taxed according to use, and this could only be done through the fuel tax. It was proposed that all crude petroleum should be taxed, but objec-tions were raised to this, and it was now almost certain that the new tax would be 30s, on solo motor cycles under 200 lb. weight, £3 on solo motor cycles over 200 lb, weight, with £1 additional when

The Mayor next presented the prizes, thus bringing the meeting to a close.

Roadside Repairs.

In order to get home before dark. the great majority had departed by four o'clock, and our representatives were amongst the last to leave. Scurrying down the Great North Road, with an all-night run to Coventry ahead, much anusement was derived from the fact that upwards of twenty-five motor cyclists effecting roadside adjustments were overhauled in the first twenty miles. A stop was made at Boroughbridge to stop was made at boroughbridge to fortify the inner man, and Doucaster was reached as darkness closed in. With lamps alight and our Scott running "like steam," we hastened southward. "Ye Old Bell' at Barnby Moor, with the gleaning and inviting windows of the closer was the state of the stat old Dickensian hostelries, was a sore old Dickensian hosteries, was a sore temptation, but, speeding on, Leicester was passed at 11.45, and in a further two hours the "copy" in the printers' hands, and the Richmond Meet of 1920

became merely a recollection.

It is a recollection, however, of keen motor cyclists, who, for the sake of their clubs, turned out despite the inclement weather and heavy roads. crement weather and heavy roads, achieved their purpose, and "got there."

The Awards.

(1.) Silver cup and medals presented by the A.C.U. (2.) Bronze medals for the club with greatest percentage of members present, taking mileage into account.





A general view of Richmond Market Place. Hundreds of spectators watched the motor cyclists arrive.

Ilkley M.C. and L.C.C.
 Hull M.C.C.

Silver wrist watch (presented by The Motor Cycle) for the lady with the best kept machine.—Miss E. Dent (23/4 h.p. Douglas, 1915).

Prize (presented by the C. and M.C.M. and T.U.) for the lady driving the greatest distance to the meet.—Miss S.

F. Wilson (2½ Levis); 59 miles.

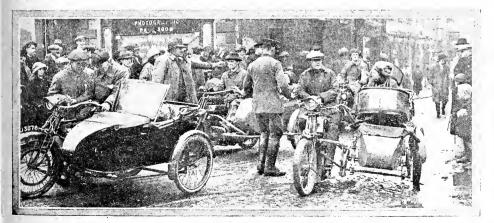
Prize of £2 for the owner of the best kept machine.—C. H. Zissler, Darlington (1917 B.S.A.).

Silver mounted brushes (presented by The Motor Cycle) for the most novelidea. -W. H. Dodds, Newcastle (3⅓ Sunbeam).

Clubs Present.

Formula: Percentage of members pre-

9	nt muit	трие	ed by mileage.		
	Fig.		Club		No.
	of merit.		and mileage	p	resent
	2,177.1		fikley (59)		14
	1,452.5		Hull (83)	٠.	10
	1,147.5		Newcastle (45)		13
	854.4		Durham (32)		15
	763.6		Sunderland (46)	٠.	3
	750 0		Darlington (12)		10
	683.2		Wakefield (62)		7
	670.5		Northern (45)		7
	478.8		Hartlepool (36)	٠.	4
	450.0		Barnsley (72)		4
	432.4		York (46)		7
	375.0		Scarborough (75		1
	93.8		Leeds N.M.C.F.U. (52)		2
	_		Ripon		3
	_		Harrogata		



Motor cyclists being directed by the marshal on arrival in the Market Place

Brooklands Meeting Postponed until Saturday.

Bad Weather Causes Abandonment of First Post-war B.M.C.R.C. Meeting.



The scenc at Brooklands last Monday at the abandoned B.M.C.R.C. meeting

R AIN caused the postponement of the B.M.C.R.C. race meeting on Easter Monday. It had been a pouring wet morning, and when we arrived at the track, there were a queue of cars and motor bicycles nearly half a mile long outside the entrance. No one was allowed in till the officials had decided what course to adopt, and members were much annoyed not to be allowed to enter the pecincts to which they had a perfect right. The very moment that the decision to postpone the meeting till Saturday next was announced and to admit everyone on to the track free forthwith, the rain ceased, and it was fine for the rest of the afternoon. Such a crowd has never been seen before at a B.M.C.R.C. meeting, and that there was to be no racing caused much disappointment.

There were numerous interesting machines on the track, but, amid the huge concourse of spectators and spectators' mounts, it was hard to find them. E. B. Ware had a sporting single-seater racing Morgan, the radiator of which was a Grand Prix-pattern cut in half, reduced in size, and the two halves joined together. W. D. Hawkes was also driving a racing Morgan fitted with an eight valve M.A.G. engine of 1,100 c.c. (82 mm.×104 mm.), while among the Matchless machines was Major Jack Woodhouse's eight valve M.A.G. motor bicycle, which later in the afternoon ran a match with Capt. M. Campbell's Dietrich, the latest of the "Blue Bird" series. Both car and motor bicycle started together at a speed of approximately thirty miles an hour, the timekeeper, Mr. A. V. Ebblewhite,

riding alongside them in a fast car driven by E. H. Lees.

At the given moment the timekeeper lowered the flag and the car at once shot away, and unfortunately the Matchless, which is said to have lapped at 102 m.p.h., dropped behind, and thereafter could make no headway. The times were:

1, M. Campbell, four-cylinder Lorraine-Dietrich car (155×200 mm.), 2m. 5 s.,

78.90 m.p.h. 2, J. W. Woodhouse, two-cylinder Matchless (82×94 mm), 2m, 143s., 73.01

It is to be hoped that the weather will be more propitious next Saturday, in which case the meeting should be an excellent one.

The start of the racing will take place

at 2 p.m. sharp.

A SCOTTISH TRIAL RE-RUN.

THERE were thirty-two starters in the Glasgow Western Trial for the Stevens cup, which was held in conjunction with the re-running of the Palmer Trophy Trial. It will be remembered that no decision was reached on the former occasion, and only fifteen competitors succeeded in completing the course of the second trial. Despite good weather the roads were greasy, and the surface, combined with the gradient of

Mouse Lane—the first observed hill—was sufficient to cause twenty-seven failures. G. Mackenzie (3½ N.U.T.), A. Bird (2¾ Verus), G. Grinton (7-9 Harley-Davidson), and R. Macrae (7-9 Harley-Davidson) made clean ascents, but had little in hand. Tull Hill and water-splashes stopped several of the survivors, including Mackenzie and Bird. The big Harleys had an opportunity of showing their speed capabilities on the fast hill-

climb, but J. Walker's 3½ h.p. Norton seemed to be as fast as anything.

Until a final decision is reached it

Until a final decision is reached it would appear that the prize lies between Macrae and Grinton. The start was marred by the disappearance of two new 6 h.p. A.J.S. sidecar outfits from their garage. In case of recognition their registration numbers are GQ 759 and DA 3304, and the engine numbers 12087 and 12086.

MISCELLANEOUS ADVERTISEMENTS.

ADVERTISEMENTS in these columns First 12 words 3/-, and 3d, for every ad-ional word. Paragraphs of under 8 words charged double rate. Each paragraph is rged separately. Name and address must counted. Series discounts, conditions, and clal terms to regular trade advertisers will quoted on application.

ostal Orders and Cheques sent in payment for ertisements should be made payable & Co. LIFFE & SONS Ltd., and crossed_ asury Notes, being untraceable if lost in

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Il letters relating to advertisements should be the number which is printed at the end of advertisement, and the date of the issue which it appeared.

he proprietors are not responsible for clerical printers' errors, although every care is taken

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DEPOSIT SYSTEM.

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SPECIAL NOTE.

aders who reply to advertisements and receive no to their enquiries are requested to regard the ac an indication that the goods covertised have been disposed of. Advertisers often receive so caquiries that it is quite impossible to reply to no by post.

MOTOR CYCLES FOR SALE.

A.B.C.

t.C. Motor Cycle in stock; immediate delivery; what offers?—Miller, Crewkerne. [3049]

FERS Wanted, early delivery A.B.C., third list.—Box 443, c/o The Motor Cycle. [X8 hird oo X8189 C.—Early deliveries of car and motor cycles.— A. J. Young and Co., Ltd., Newmarket. [0116

4 31/h.p. Twin A.B.C., excellent condition, thoroughly overhauled, suit any person wishing very lob mount: £95; or offer.—Apply, Robertson, Town-Hayes, Middlesex.

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6 h.p. 1913 ENFIELD Combination	E95 (
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21 h.p. JAMES, new, 1920 £70	0
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27 h.p. NEW IMPERIAL, new, 1920 £74	11
21 h.p. DOUGLAS, W.D £78	G
3 h.p. TRIUMPH, 1912 £65	
31 h.p. B.S.A., 1913 £47	10
23 h.p. DOUGLAS, 1915 £59	10
27 h.p. DOUGLAS, W.D £65	
3t h.p. 1913 B.S.A., 2-speed £58	0

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9.5 h.p. 1914 STANDARD	400 gr	15,
8-10 h.p. G.W.K , 2-speed, 1914	£215	0
8-10 h.p. MORGAN Grand Prix, M.A.G.		0
8-10 h.p. MORGAN, J.A.P	£225	0
8-10 h.p. MORGAN, sporting, 1916	£195	0
8-10 h.p. MORGAN, sporting	£185	0
8 h.p. DUO Car	£175	0

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'Phone: Holborn 5777 Grams: Opificer, Fleet, London.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C. Motor Cycle, 1920, ridden 50 miles; immediate delivery.—Apply, A. Davies, 12, Hydo Park Place, W.2. [2849

A.B.C., 1920, just delivered, braud new, Lucas accessories, ready to ride away; best offer over £147.

-29, St. Mary's St., Whitchurch, Salop. [2992]

A.B.C., brand new, 1920, actually here, can be ridden away: offers before Easter holidays.—Imperial Motor Works (opposite Maypole Public House), Hook Rd., Surbiton. [2829

A B.C. - Book early and prevent disappointment A Specification and full particulars will be sent on application.—The Spalding Motor Co., Ltd., Spalding, distributing agents for Lincolnshire.

Ablugdon.

31h.p. Abingdon, equal to new; only wants seeing; £40,-152, Meeting House Lane, Peckham. [2910]

19 20 6-7h.p. Abingdon King Dick, 3-sneed, K.S. spacious Caocelet sidecar, 3 lamps, Klaxop, all accessories, not done 200 miles, guaranteed perfect: £170.—C. H. Moody, Jeweller, High St., Crewe. [2427]

A.J.S.

A.J.S.-Good deliveries from John Aldrich and Co., Diss, Norfolk. [6632

19²⁰ A.J.S., all on, Lucas, now ready; £250,—28, St. James' St., Brighton. [2964 JACK HEALY, Cork, official A.J.S. agent.-Rotational delivery. No premiums accepted. [6485]

CROW Bros., High St., Guildford, A.J.S. ageots since 1912, accept no premiums. [X7943

A J.S. Bind New Combioation; offers.—C.S., 14, Swaton Rd., Row, E.S. Tel.; E3155. [2639]
A J.S. Solo, perfect, engine completely overhalded by makers; £65; deposit.—Woodley, Compton, 2343

A.J.S. Combinations; early deliveries; orders booked in rotation.—A. J. Young and Co., Ltd., Newmarket.

A.J.S. 2%h.p., 2 speeds, clutch, chain drive, just overhauled; bargain, £47/10.-103a, High St., Wandsworth. [2569]

A.J.S., 1919, all lamps, horo, spare wheel, fitted black and gold, perfect; £225.-2, Nightingale Lower Claptoo.

1920 A.J.S., hood, electric lamps, latest spring saddle stem, as new; £240.-2, Nighting: Rd., Lower Clapton.

23h.p. A.J.S., tyres good, variable jet carburetter, 24 guaranteed sound; 38 gos.—Barrington, 14, Arundel Rd., Croydon. [3296]

19 19 A.J.S., all lamps, horo, discs to all 4 wheels, black and gold, splendid order; £220.-2, Nightingale Rd., Lower Clapton. [3341]

A J.S. 6h.p. Coachbuilt Combination, 1914, 3 speeds, good condition; ride away; £125.—York Villa, Brancaster Drive, Boultham, Lincoln. [2616]

A J.S. 1920 Model, hood, screen, electric lamps, accumulators, latest spring seat-pillar, as new; £245.

–2, Nightingale Rd., Lower Chapton, N. [2665]

23 h.p. A.J.S., 2-speed, semi-T.T. bars, lamps, born, 4 etc., in good condition and good running order; £50.—Christ Church Vicarage, Ramsgate. [3243]

19²⁰ A.J.S. 6h.p. Combination, just delivered, spare wheel, tools; £225.—Murrell, Godstone Rd., Caterham Valley. [X8215]

BRAND New A.J.S. Combination, to makers' specifi-cation, without extras; first offer of £225 secures; Midlands.—Box 2,842, c/o The Motor Cycle. [3043]

A J.S. 6h.p. and Sidecar, just overhauled and re-hushed, hood, screen, etc.: £100: owner going abroad.—Penn Cottage, Queen's Rd., Uxbridge. [2496]

AJS.—Exetr Motor Cycle and Light Car Co. Like Bar Rd., Exetra Motor Cycle and Light Car Co. Like Bar Rd., Exetra Motor Cycle and Light Car Co. Lid., Exetra Motor Cycle and Light Car Co. Lid., Exetr, and 28, Thristock Rd., Phomouth. Sole agents. Now booking for earliering.

A.J.S. 6h.p. Combination, 3-speed countershaft, etc., roomy underslung coachbuilt sidecar, black and gold model; 105 gas.; offers.—Owner, 20, Canterbury Rd., Croydon.

A J.S. Specialists, The Walsall Garage, Wolverhampton St. Walsal. Tel. 444. Can give favourable deliveries of these grand combinations. Book early for your spring outfit.

A J.S. Twin Motor Bierele with confortable con-built sides of the motor beautiful and the state of the conforma-late built sides of the state of t

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There were numerous interesting machines on the track, but, amid the huge concourse of spectators and apectators' mounts, it was hard to find them. E. B. Ware had a sporting single-seater racing Morgan, the radiator of which was a Grand Prix-pattern cut in half, reduced in size, and the two halves joined together. W. D. Hawkes was also diviving a racing Morgan fitted with an eight valve M.A.G. engine of 1,100 c.c. (82 mm.x104 mm.), while among the Matchless machines was Major Jack Woodhouse's eight valve M.A.G. motor bicycle, which later in the afternoon ran a match with Capt. M. Campbell's Dietrich, the latest of the "Blue Bird" series. Both car and motor bicycle started together at a speed of approximately thirty miles an hour, the timekeeper, Mr. A. V. Ebblewhite.

riding alongside them in a fast car driven by E. H. Lees.

At the given moment the timekeeper lowered the flag and the car at once shot away, and unfortunately the Matchless, which is said to have lapped at 102 m.p.h., dropped behind, and thereafter could make no headway. The times were:

1, M. Campbell, four-cylinder Lorraine-Dietrich car (155×200 mm.), 2m. 5s.,

78.90 m.p.h. 2, J. W. Woodhouse, two-cylinder Matchless (82×94 mm), 2m. 14§s., 73.01 m.p.h.

It is to be hoped that the weather will be more, propitious next Saturday, in which case the meeting should be an excellent one. -The start of the racing will take place

at 2 p.m. sharp.

A SCOTTISH TRIAL RE-RUN.

THERE were thirty-two starters in the Glasgow Western Trial for the Stevens cup, which was held in conjunction with the re-running of the Palmer Trophy Trial. It will be remembered that no decision was reached on the former occasion, and only fifteen competitors succeeded in completing the course of the second trial. Despite good weather the roads were greasy, and the surface, combined with the gradient of

Mouse Lane—the first observed hill—was sufficient to cause twenty-seven failures. G. Mackenzie (3½ N.U.T.), A. Bird (2§ Verus), G. Grinton (7-9 Harley-Davidson), and R. Macrae (7-9 Harley-Davidson) made clean ascents, but had little in hand. Tull Hill and water-splashes stopped several of the survivors, including Mackenzie and Bird. The big Harleys had an opportunity of showing their speed capabilities on the fast hill-

climb, but J. Walker's 3½ h.p. Norton

seemed to be as fast as anything.
Until a final decision is reached it would appear that the prize lies between Macrae and Grinton. The start was marred by the disappearance of two new 6 h.p. A.J.S. sidecar outfits from their garage. In case of recognition their registration numbers are GQ 759 and DA 3304, and the engine numbers 12087 and 12086.

MISCELLANEOUS ADVERTISEMENTS.

ADVERTISEMENTS in these columns First 12 words 3/-, and 3d. for every adonal word. Paragraphs of under 8 words charged double rate. Each paragraph is rged separately. Name and address must counted. Series discounts, conditions, and olal terms to regular trade advertisers with quoted on application.

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SPECIAL NOTE.

naders who reply to advertisements and receive no to their enquiries are requested to regard the of an indication that the goods advertised have a been disposed of. Advertisers often receive so conquiries that it is quite impossible to roply to mb by post.

MOTOR CYCLES FOR SALE.

A.B.C. .C. Motor Cycle in stock; immediate delivery; what offers?-Miller, Crewkerne. [3049] FERS Wanted, early delivery A.B.C., third list.—Box 443, c/o The Motor Cycle. [X81 FX 8189 i.C.—Early deliveries of car and motor cycles.— A. J. Young and Co., Ltd., Newmarket. [0116]

14 3½h.p. Twin A.B.C., excellent condition, thoroughly overhauled, suit nny person wishing very olo mount: £95; or offer.—Apply, Robertson, Town-Hayes, Middlesex.

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6 h.p. ENFIELD and Sidecar Offers
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5 h.p. ROVER Combination, W.D £195
7 9 h.p. INDIAN Combination, 1914 £105
31 h.p. B.S.A. Combination, 1917 Offers
5-6 h.p. RUDGE MULTI and Sidecar, 1914 £95

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DOLO MILOMINE	•	
21 h.p. JAMES, new, 1920	£70	0
21 h.p. P. & S., kick-starter, 2-speed, 1920		
21 h.p. CLYNO, new, 1920	£75	0
23 h.p. NEW IMPERIAL, new, 1920	£74	11
21 h.p. DOUGLAS, W.D	£75	0
31 h.p. TRIUMPH, 1912		
3 h.p. B.S.A., 1913		
23 h.p. DOUGLAS, 1915		
27 h.p. DOUGLAS, W.D		
31 b.p. 1913 B.S.A., 2-speed	£55	0

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LIGHT CARS.			
9.5 h.p. 1914 STANDARD			
8-10 h.p. G.W.K , 2-speed, 1914			
8-10 h.p. MORGAN Grand Prix, M.A.G.		0	
8-zo h.p. MORGAN, J.A.P.	£225	0	
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8-10 h.p. MORGAN, sporting	£185	6	
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9, Shoe Lane, Fleet Street, London, E.C.4.

'Phone: Holborn 5777. Grams: Opificer, Fleet, London.

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A.B.C. Motor Cycle, 1920, ridden 50 miles; immediate delivery.—Apply, A. Davies, 12, Hydo Park Place, W.2.

A.B.C., 1920, just delivered, brand new, Lucas accessories, ready to inde away; best offer over £147.

-29, St. Mary's St., Whitchurch, Salop. [2992] A.B.C., brand new, 1920, actually here, can be ridden away: offers before Easter holidays.—Imperial Motor Works (opposite Maypole Public House), Hook Rd., Surbiton.

A.B.C. - Book early and powent disappointment.

A.B.C. - Book early and powent disappointment.

Specification and full particulars will be sent on application.—The Spalding Motor Co., Ltd., Spalding, distributing agents for Lincolnshire.

[0015]

Ablugdon.

31h.p. Abingdon, equal to new; only wants seeing; \$40,-152, Meeting House Lane, Perkham, [2910] 1920 6-7h.p. Ahingdon King Dick, 3-speed, K.S. speed, K.S. speed,

A.J.S.-Good deliveries from John Aldrich ead Co., Diss, Norfolk. [6632

19²⁰ St. James' St., Brighton. [2964]

J ACK HEALY, Cork, official A.J.S. agent.—Rotational delivery. No premiums accepted. [6485]

CROW Bros., High St., Guildford, A.J.8. agents since 1912, accept no premiums. [X7943

C since 1912, accept no premiums.

A J.S. Brand New Combination; offers—0.8. 14,

Swaton Rd., Bow, E.3. Tel.: E3155. [2639

A J.S. Sclo, perfect, engine completely overhalded compton,

Edward Compton, 12343

A.J.S. Combinations; early deliveries; orders hooked in rotation.—A. J. Young and Co., Ltd., Newmarket.

A.J.S. 254h.p., 2 speeds, clutch, chain drive, just overhauled; bargain, £47/10.—103a, High St., Wandsworth. [2569

A.J.S., 1919, all lamps, horn, spare wheel, fitted discs, black and gold, perfect; £225.-2, Nightingale Rd., Lower Clapton. [2666

1920 A.J.S., hood, electric lamps, latest spring saddle stem, as new; £240.-2, Nightingale Rd., Lower Clapton. 23h.p. A.J.S., tyres good, variable jet carburetter, 4 guaranteed sound; 38 gns.—Barrington, 14, Arundel Rd., Croydon. [3296]

19 19 A.J.S., all lamps, horn, discs to all 4 wbccls, Nightingale Rd., Lower Claptou. [3341

A.J.S. 6h.p. Coachhuilt Combination, 1914, 3 speeds, good condition; ride away; £125.—York Villa, Brancaster Drive, Boultham, Lincoln. [2616]

A J.S. 1920 Model, hood, screen, electric lamps, accumulators, latest spring seat-pillar, as new; 2248, 2. Nightingale Rd., Lower Clapton, N.

28 h.p. A.I.S., 2-speed, semi-TT. bars, lamps, hora, the control of the c

1920 A.J.S. 6h.p. Combination, just delivered, screen, apron, spare wheel, tools; £225.—Murrell, Godstone Rd., Caterham Valley. [X8215]

BRAND New A.J.S. Combination, to makers' specifi-cation, without extras; first offer of £225 secures; Midlands.—Box 2,842, c/o The Motor Cycle. [3043]

Midlands—Box and Sidecar, just overhauled and re-A. J. Ship, and Sidecar, just overhauled and re-dependent of the state of the state

A J.S.—Exeter Motor Cycle and Light Car Co., Ltd.,
Buth Rd., Exeter, and 28, Tavistock Rd., Plymouth, Sole ageats. Now booking for earliest deliveries.

A J.S. 6h.p. Combination, 3-speed countershalt, etc., roomy underslung coachbuilt sidecar, black and gold model; 10S gns.; offers.—Owner, 20, Canterbury Rd., Croydon. [2456]

A J.S. Specialists, The Waisall Garage, Wolverhamp-from St., Walsal, Tel.: 444, Can give favourable deliveries of these grand combinations. Book early for your spring outfit. [7218]

J.S. Twin Motor Bieyele, with confortable formal built steem, nice major new toping come, hete fast of the state of the starter, coupled with Easting wide streen, Tau-Sa4, luggage grid, etc.; price \$135; owner bought car; seen any time.—85, Church Rd, Willedden. (2785)

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-68, Leigham Vale, Tulse Hill, S.W. [2399]

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A J.S. 6hp. Combination delivered 28th September, A 1919, mileage about 1,500, spare wheel and tyre nunsed, H.A.H. battery lighting set, 6in. head lamp, side and tail lamp, little used, finished black horn side and tail lamp, little used, finished black horn side and tail lamp, little used, finished lakek, box were carefully sidder, nunsed Fernary than heavy carefully sidder, nunsed Fernary than propositionest; £200.—Augeraud, 24, Murray Rd., Rughty.

A.J.S. Speres: engine and gear box repairs; prompt delivery.—Cyril Williams, Chapel Ash Depot, Wol-verhampton. T.A.: Perts.

Alldays.

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1915 Allon 254h.p., 2-speed, perfect condition; £42. -10, Princes Parade, Finchley, N.3. [2748] A-LLON 2%h.p., 2-stroke, sound condition; cash £50.
-Dawes, 119, Dysart Rd., Grantham. [2971

19 20 Alldays Allon, complete lamps and horn; £88.—H. Jelley, Osborae Rd., Pontypool. [3083

A LLON 25/h.p., 2-speed, excellent condition, late model; 48 gns.-10, Baronsmead Rd., Barnes. [2445]

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WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— For delivery from stock, 1920 Allon 2-stroke, 2-speed, free eagine models. [1415 (1415

19¹⁷ Allon, 2-speed, hand clutch, full equipment, perfect condition; seen any day; £55.—Roberts, Trotsworth, Virginia Water. [2633

23h.p. Allon, modern, splendid running order, any trial; £55; exchange 4-stroke considered.—287, Squire's Lane, Finchley, N.3.

A LLDAYS 31/2h.p., 2-speed, Roc gear, in running order, gear needs attention; as it stands, £35.—Marlboro' Motors, St. Albans. Tel.: 159. [3156]

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ALIDAYS Allon, late 1918, 25(h.p., 2-speed, with lamps, accessories, etc., perfect condition; £65, or near offer.—Wiltshire, 20, Weaban Rd., Worthing,

4 h.p. Alldays Matchless and C.B. sidecar, 2-speed, handle start, Bosch, B. and B., lamps, spring upholstered wicker Pillion, good goer, economical; 60 gns.-28, Robinson Rd., Tooting, S.W. [2598

zins.—28, Robinson Ru., Avoscap, S., A., Alban, S., Spin, Spin, S., Spin, S., Spin, S., Spin, S., Spin, Spin,

[2885] and bleft, new Dunlop heavy back over and their lighting set, born, sparses, guaranteed rooms order and mechanically sound; £50, or near offer; Wellinghorough.—Box 2,844, clo The Molor Cycle.

ALIDAYS Allon de Luxe, 1919, 2 speeds, hand Luch, metal legabields, tools, mechanical horn, and clutch, metal legabields, tools, mechanical horn, the every detail; a new machine at second-hand price, first £68.-54, 8t. Charles Sq., North Keasington, W.10. [2531]

Antoine.

3½ h.p. Antoine, Chater-Lea frame, adjustable pulley, 22 all accessories, splendid condition; £42,-55, Ponterabla Rd., North Side, Clapham Common. [2724

Arlel.

CROW Bros., High St., Guildford, Ariel agents, supply at makers' prices. [X7944] WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— Ariels; early delivery; book now. [1416 CYRIL WILLIAMS, for early delivery of Ariels.— Chapel Ash Depot, Wolverhampton, [X8625]

FOR Early Delivery of Ariels, all models, apply, Bedford Garage, Walsall. 'Phone: 270. [5302

A RIEL 31/h.p., 1914, splendid condition, ride away;

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Call, write, or 'phone for approximate delivery dates.

My supplies of Triumph machines are booked ap to August, and I cannot supply out of Birmingham.

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A RIEL 5-6h.p., clutch, C.A.V., B. and B., gtyres, very fast; £28.—Bartlett, Milford-on-Hante

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BAT.—We are the sole Hertfordshire agents for famous Bat machines; orders booked for dell in rotation; specification and catalogue on aption.—Mariboro Motors, St. Albans. Tel.: 159.

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LANCASHIRE (West) and Cheshire.—Beardm Ly Precision, the most advanced and practical mu-cycle yet designed.—Enquiries invited by J. Blake to Co., 110, Bold St., Liverpool.

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19 20 8b.p. Twin Blackburne Combination, per and new condition.—Averies, Englefield er Surrey.

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Coulson

OUISON.

JULSON-BLACKBURNE 2 h.p., 2-speed, spring frame, 2 rear brakes, lamps and horn, mileage or 200, guaranteed perfect; £36; ill-health reason spling.—Homingway, Far Forest, Bewdley. [X8463 selling.—Henringway, Far Furess, Account of the ULSON B.—We are sole Hertforchire agents for the Coulson B spring frame machines; delivery 1 stock at list price; catalogue and specification application.—Marlboro Motors, St. Alban, 73.15.

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Crescent.

ESCENT, 21th.p. Villiers, Feb., 1919, Miller head ham, Lucas horn, tools, spare tube; Saturday arter 1.; £45.—Orton, St. George's Place, Cheltenland.

De Dion.

De Dion.

DION 25,h.p., Chater-Lea frame, Sensuray, good order, less mag.-7, Southampton Rd., Hampstead. [2441] order, less mmg.—, Desch, Senspray, new tyres, lawps, hore, tools; £27.—16, Union St., Darling-

De Luxe.

20 De Luxe 25th.p., 2-stroke, E.I.C. mag., Amar, Inniop studded, Druids, hern and pump, ridden lies, splendid machine, unscratchef; £46: reason outbination wanted iostead.—60, Rattray Rd., Effra Brixton, S.W.

Diamond.

(MOND-J.A.P. 25th.p., 2-speed, in stock.—Morriss, 139, Furchley Rd., N.W. [2893] J. Young and Co., Ltd., Newmarket. [0121

IL WILLIAMS, for early delivery of all model Diamonds.—t hapei Ash, Wolverhampton, [X8622 Diamonds.— Bapes Asia, Wolverhampton, 14002-2 W. HFALY, Cork, official Diamond areat.—Ro-lational delivery. No premiums accepted, [6487] DFORD Garage, Walsall, official agents frices, Diamonds; delivery from stock; makers frices, 15503.

MONDS.—2%h.p. J.A.P., Enfield 2-speed, £75; Villiers 2-stroke single-speed, £56/10; several ck.—T. Stevens, 248, Gooch St., Birmingham. MOND-VILLIERS, late 1919, in splendid con-lition, 2 lamps, horn, tip-top machine, in per-quaing order; £55.—Speight, Oxford Villa, Hay, ishre.

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Diamond-Villiers, single-speed, £55/10; 1920
Diamond-Jap, Enfield 2-speed, and clutch, £75;
Diamond-Jap, Enfield 2-speed, and clutch, foot-parameters
£77/12/6.—Taylor's Garage, Wednesbury,
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Douglas.

IAN HARDIE and Lane, Ltd., Douglas Special

Combination, 1920 model; £155.

p. Selo, 3-speed Model W.: £90.

Stock Everything you require for your Dougles.

Woodstock St. (off Oxford St.), Bond St., W.1. Phone: Mayfair 6559. GLAS, late model, new condition: 55 gas.-45, urton Rd., Brixton. [2925

Douglas 4h.p. Combination, new; £155.-8, Grange Rd., Ramsgate. [1787 JGLAS, 1915, 25 h.p., all accessories; offers Jowell, High Rd., Byfleet. [23

UCHOPE'S, 9, Shoe Lane, Fleet St., London.

GLAS 4h.p., 3-speed, kick starter and clutch: 80 ns.-4, The Square, Carshalton. [2587] GLAS 4h.p., 1918, 3-speed, exceptional order: Dgns.-21, Newton Av., Acton. [2517

GLAS, 1914, 254h.p., fine condition; accept \$52.-135, Edgware Rd., W.2. [5223]



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1920 A.J.S. Combination, spare wheel, lamps, 1920 MATCHLESS Combination, dynamo lighting, and shields.

1920 MATCHLESS Combination, standard model, fitted with lamps, bood, and windscreen.

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1920 B.S.A. Combination, mag. dynamo lighting. as new

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Brand new LEA-FRANCIS, immediate delivery. List price.

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MOTOR CYCLES FOR SALE. Douglas.

4 h.p. Douglas Combination, 1917, 290, no offers—
[2652] Manor St. Chupham, S.W.4.

1920 Douglas 25/h.p., 3 speeds, brand new; 195.—2,
[2667] Nightinga, Rd., Lower Chapton.

DOUGLAS, 2%h.p., 2-speed, W.D. model, brand new; £55,-5, Museum St., W.C.1. DOUGLAS 2%h.p., 2-speed, humps, horn; ride nway; 250.-141, Merton Rd., Wimbledon. [2514]

DOUGLAS 25th.p., 1911, 2-speed genr, good condition; £35.-4, The Square, Carshalton. [2589]

10 16 Donglas, 2-speed, as new; £56.—Aquatinm Motor Garage, 5, Manchester St., Brighton. [3205

DOUGLAS 2%h.p., 1916, 2-speed, excellent order, appendance; 256.—Acaria, Centre Av., Acton. [2516 DOUGLAS 1914 25/h.p., very good condition; £59.

Purnill, North and Co., Peterborough. [2779]

DOUGLAS 23/h.p., 3-speed, 1915, mechanically perfect: 60 gns.-141, Merton Rd., Wimbledon. [2513

WAUCHOPE'S, 9, Shoo Lane, London.—23\(\text{Lp.}\) Douglas 2-speed W.D. models; £65 and £76.

19 \(^2\) Douglas, 2-3\(\text{h.p.}\), 3-speeds, T.T. model, branch new; £96.—2, Nightingale Rd., Lower Clapton.

DOUGLAS 234h.p., 1915, perfect order, 2-speed; £53 Osborne, Jewellers, 7, Harpur St., Bedford

4 h.p. Douglas Combination, Dec., 1917, just hauled; £100.-Millard, Gilbert Rd., Belvede

DOUGLAS 2%h.p., 1913, 2-speed, practically nev best offer over £55.—236, Albert Rd., Peckhar

DOUGLAS, 1916, buffer forks, new condition: gns.—Fitt, Barrossa Terrace, Church St., Choise DOUGLAS 1916 25th.p., 2-speed, Douglas coloris, cush head; £65.—190, Broadway, Hendon, N.W.

23h.p. Douglas, 1919, mileage 250, full cquipment; &80; offers.—Styles, 53, Burges Rd., East Ham.

Douglas, 24h.p., 2-speed, uncrated July, 1919, S.W.

S.W. [2370 23h.p. Douglas, 2-speed, new crankshaft, pistons, re-4 bushed, pertect; £40.-4, Gaywood Rd., Walthamstow.

19 15 Douglas 2³4h.p. 3-speed, accessories; £62/10; perfect; after 6.30.—8, Homesdale Rd., Bromley, [3182]

DOUGLAS Combination, overhauled, looks new, lamps, Klaxon; £100.-W.G., Holton Mills, Wheatley, [2795]

DOUGLAS 1919 2%h.p. (not W.D.), electric lights, as new; 80 gns.—Charlton, Cambridge Park, Wanstend.

stead. [3211] **B** RAND New 1920 3-speed 254h.p. Douglas; highest offer secures.—Box 2,872, c/o The Motor [3316] [3316 23h.p. Douglas, 1915, ready for tour, perfect; £55, 4 or near offer.—Mann, 73, Brailsford Rd., Brixton, S.W.2.

S.W.2. 1919 4h.p. and Sidecar, windscreen, W.C.1. Washington, Special Standard Stand

19 and 1916 Donglases, 25/h.p.; best offers accepted; brothers leaving England.—35, Ardleigh Rd., N.1.

1914 25/h.p. Douglas, perfect running order; £50, or near offers; must sell.—78, Mu-well Rd. Muswell Hill.

10 20 Douglas Combination, brand new, u tered; £167/10.-2, Nightingale Rd., unregis-Clapton

19¹⁶ Douglas, 2-speed and free, new condition, buffer forks; 65 gas.—Hayes, Optician, 629, Holloway Rd., N.19. [2548

Rd., N.19.

3 h.p. Douglases, overhauled, re-enamelled; \$58 each,

4 -- Mocyc Garage, Catheart Hill, Junction Rd.,

[2406] Highgate. [2406]
23.h.p. Douglas, 2 lamps and horn, good tyres, in
4 running order; £28, or best offer.—1, Agrana Rd.,
Guildford. [2380]

23h, Donglas, 1914, 2-speed, in good condition; 4.255.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.6.

Rd., S.W.8. [2423]
COLONIAL 274h.p. 3-speed Douglas, condition as new, all spares and tools; £62.—25, Colville Rd., Leytonstone. [3055] [3055

13055 3. h.p. Douglas, single speed in good running order, 4. lamps, and hora; £27/10.—Douglas, 60, Castle St., Trowbridge. [X8214a]

1916 4h.p. Douglas Combination, £95; also 1914 1915, 254, D. £95; ready ride away.—Brawe, 94 High St., Beckenham.

DOUGLAS 254h.p., 2-speed, clutch, accessories, per fect order; ride away; £52.—Sibley, 106, Market Place, Romford. [2437

DOUGLAS 4h.p. C.B. Combination. 1915-16, splen-did order; £92.—French, 12, Thrale Rd., Streatham, S.W.

Douglas.

DOUGLAS 1915 254h.p., mechanically perfect, complete with lamps, etc.; £60.—Furnill, North and Co., Peterborough.

19 4h.p. Douglas Combination, os new, fitted with discs, lamps, etc., a beautiful turnout; £140.-51, Queen St., Hitchin. [2450

3 b.p. 2-speed Douglas, kick starter, complete with lamps, horn, speedometer; £50. — Taylor's Garage, Wednesbury.

DOUGLAS, 1916, 2%h.p., overbauled and in perfect condition; £58.-135, Edgware Rd., W.2. [3222]

SMITH'S.-Douglas 1914 23(h.p., very little used; £50.
-Smith's, 96, Chalk Farm Rd. (opposite Chalk Farm The Station).

DOUGLAS, Denglas, Douglas—25½h,p. and 4h,p. ex-W.D. models for immediate delivery.—Nice, Garage, Bury St. Edmunds. [2996] 19¹⁴ Deuglas, 2-speed, 2½h,p., good tyres and belt, lamps, condition as new; £55.—P. Wood-

19 20 Donglas Combination, new, immediate delivery, including cerriage and crate, £165.—2, Nightingale Rd, Lower Olayton.

gale Rd., Lower Olapton. [2668]
T.T. Douglas, 1920, Amac, Pedleys, P.H. lamps,
horn, very tast; £60; by appointment.—21, St.
Andrew's Rd., Enfield. [3025]

DOUGLAS 2%h.p., 1915, 2-speed, condition perfect; any examination; private owner; 62 gns.-3, Harrow Rd., Paddiagton, W. [2585]

DOUGLAS Combination, just received, never ridden; 2165; by Thursday.-22, Upper Grosvenor Rd., Handsworth, Birmingham.

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James Moffat, Douglas Agent, Yeovil.-25/1.p. combination, £155.-'Phone: 50.

DOUGLAS 25/h.p., 1916, perfect condition, new tyres, overhauled and re-enamelled; £67/10.-3 Courtlands Av., Lee, S.E.12. [2760

DOUGLAS 234h.p., 2-speed, 1914, good condition, engine perfect, 1919 Amac; 50 gns.-64, Wetherden St., Walthamstow, E.17.

19 19 Douglas Combination, fully equipped, must sell; £150; seen by appointment.—11, Ambrose Av., Golder's Green, N.W.4.

4 h.p. 3-speed Countershaft Donglas, fitted with 3 brakes, and coachbuilt sidecer; £75; Derbyshire.—
Box 2,836, c/o The Autocar. [2918

19¹⁴ 2½h.p. Douglas, 2-speed, in splendid condition, lamps, etc.; £55.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.S.

19 Douglas Combination, lamps, etc., new tyres royal blue sidecar; £135; nearest offer.—120 Sutherland Rd., West Croydon. [2492]

DOUGLAS 2%h.p., W.D. model, unused, absolutely new condition, fully equipped, 404, Garratt Lane, Earlsfield, S.W. After 7. [2475

DOUGLAS 2½h.p., 2-speed, uncrated July, perfect condition, appearance as new; 62 gns.—Clarke, 13, Grenfell Rd., Notting Hill, W.11. DOUGLAS 2½h.p., 2-speed, new November, 1919.

DOUGLAS 254h.p., 2-speed, new November, 1919 Ladbroke Grove North, Kensington. 2682 gns.—144, DOUGLAS Combination, 1919, speedometer, electric-

DOUGLAS Combination, 1919, speedouster, electric control of the co

tish, 216, Portobello Ad., W.10.

4 h.p. Donglas Combination, 1916, appearance, etc.,
as new, any trial or examination; offers.—Stevens,
184, Pentonville Rd., King's Cross. [3110]

SMITH'S.—Douglas 1916 23/h.p., in excellent condition; £60.—Smith's, 86, Chalk Farm Rd. (or posite Chalk Farm Tube Station). [014]

posite Chalk Farm Tube Station). [0148]
4 hp, 1920 Donglas Combination, low mileage, delivered
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GIBB, Donglas Specialist, Gloucester, gives personal attention to all orders. All spares at makers' prices stocked. No profiteering.—'Phone: 852.

DOUGLAS 2%h.p., new, 72 gns.; also second-hand 1915 model, £55.—5, Eglon Mews, Berkley Rd., Primrose Hill (nr. Chalk Farm Tube). [2592

D'UGLAS 2\(\frac{1}{2}\)h.p., new last Nov., little used, guaranteed perfect, unscratched, unpunctured; \(\frac{2}{2}\)78.

- Thoue: 15, E. Pledger, Ely, Cambs.

DOUGLAS 24h.p., 1916, 2-speed, very little used, new condition; any trial or examination; cash wanted; 58 gns.-35, High St., Durtord. [2540

DOUGLAS 2%h.p., uncrated July, 1919. lamps, speedometer, Tan Sad, condition period; £80.—Molyneux, 129, Ferme Park Rd., Hornsey. [3217

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.New Douglas machines for early delivery, 234h.p.
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19 15 Douglas, 25th.p., 2-speed, new tyres, makers' colours, in splendid condition and running order: £62.-157, Leander Rd., Erixton, S.W.2. [2766

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DOUGLAS 4h.p., late 1915. Colbro sidecar, el lamps, 85-90 m.p.g.; £105 lowest.—Singleton Enmore Rd., S.E.25. (Norwood Junc. L.B. end S.

DOUGLAS 2%h.p., 1916, 2-speed, unissued models, as new, buffer spring heads, tanks ma colours, condition perfect; £70.—18, Deodar Rd.,

23h.p. 2-speed W.D. Douglas, discs recently is gain, 100 gus.—218, Uxbridge Rd., Shepherd's W.12.

265 and 868, W.D. Denglis selected mechines, makers colours, Clifford Wilson Mfg. 6a, Royal Hospital Rd., Cheisea W.W.5. Tel.; 7113.

D UTGLAS Combination, 4h.p., September, perfect condition; 2145, -Andrews, 7, Ridgeway perfect condition; 2145, -Andrews, 7, Ridgeway

perfect condition; £145.—Andrews, 7. Ridgeway Redbill.

10 11 Douglas, new Palmer tyres and belt, all and in fairly good running order, requires hauling; £30, or nearest.—Crawford, 19, Tillotson fillord.

Inford. DOUGLAS T.T. 2%h.p., 2-speed, Watson sporty car, disc wheels, lamps, mechanical horn, good dition; 255, or nearest offer.—20, Addiscombe (Croydon.

23h. W.D. Douglas, uncrated November, 19 14 speeds, not rou 500 miles, lamps, mechanical all ready: £75.—Hines, 5, Sandy Lane, Bandon Croydou.

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DOUGLAS 25(h.p., W.D. engine, 1915, um July, 1918, done 1,500, very fast, buffer eprings, P. aud H. head lamp; £75.—Debruyne, I hampton.

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D OUGLAS 1915 2½h.p., 2-speed, just overhead of the perfect condition throughout, tyres and belt good; any trial given; £57.—R. Wetsen, 132, Hig Aldeburgh, Suffolk.

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DOUGLAS 2%hp., W.D., 2-speed, recently new, 6 38903, frame 40026, heavy Duulops, seetylen electric, fully equipped, 72 gns.—Hysard, 116, Rd., Shepherd's Bush.

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181, Clapham Rd., S.W.

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2 3h.p. Donglas, Oct., 1919, perfect condition, a nsed, Incas lighting, Klaxon, full to numerous accessories; £65; by appointment, Pigautier, East Sheen, S.W.14.

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UCHOPE'S, 9, Shoe Lane, Fleet St., London. 7-9h.p. Indian and sidecar; £215. [336 i Indian, 7-9h.p., 2 speeds, clutch: £70, no offers. -Feist, St. Jacopino, Oakleigh Pork, N.20. [2927 AN, 5-6h.p., clutch, lamps, C.B. sidecar; £55. i, St. Mary Abbott's Terrace, Kensington, [3240] , St. Mary Addoors Terrace, accusingous, (22-v. AN 7-3hp. Albhae Combination, Gloria sidecar luxe, A1; £115.-W. P. Edwards, Tabaton. (35-2) AN 7h.p. Combination, 2-speed, clutch, lamps, agree, new appearance; 65 gus.—529, Old Fordings, (2598)

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24, Bishop St., Coventry.

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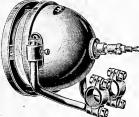
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I ONER 3h.p., low, C.A.V. mag., good running order; hargain, £30, or near offer.—Standing, Ashford, Middlesex, [2933] Ivy.

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wind screen, splendid running order; £135.—Fryer,
Aslockton, Notts.

MMEDIATE Delivery of all ivy models, the acknowledged finest lightweight.—Full particulars, H. G. Henly and Co., London and District Agents, 91, 6t. Portland St., W.1 Mayfair 4084. (0022)

Portland St. W.1 Mayfair 4084.

1920 Ivy 2-stroke 2-speed, I.O.M. model, disse, deportland February, carefully run in, mileage 250, fully equipped, one of the smartest machines on the
road, absolutely unscratched and superior to new; 270, seen any time.—125, Lavender Hill, Clapham Junction.
[3298]

Ixion.

IXION-VILLIERS 2½h.p. (1919), Dunleps, Bosch Blic, Amac, splendid pondition: £48.—Brown, 508, Southwark Park Rd., Bermondsey, S.E. [3169

BRAND New Model A. Ixion, just delivered; makers' list price, £56; first cheque secures new machine for Easter.—Huhert Turner and Co., 4-5, Crawford Passage, Ray St., Farringdon Rd., E.C.1. [2715]

XION 1915 (July) 2½, D. 2. 2-troke, been thoroughly overhauled, store enamelled, replated, complete with lamps, horn, fast little machine, appearance as new; £55.—Marlboro' Motors, St. Albans. Tel.: 159.

James.

THE Walsall Garage, Walsall, for good deliveries of all James models. [7220]

JAMES.-All models; early deliveries.-A. J. Young and Co., Ltd., Newmarket. [0145]

LATE 1915 James 41/4h.p. Combination, accessories; £98.—Cotsell, 16, Freta Rd., Bexleyheath. [2626 5-6h.p. James Combination de Luxe, fully equipped, 200 miles; £175.—Box 2,877, c/o The Motor Cucle. [3321

19²⁰ James 41/4h.p. Combination, actually on rail; price £155, plus carriage.—Powell, Bank St., St. Columb. [3100

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 1920 5-6h.p. James combination, twin cylinder, includes accessories; offers. [1427

41h.p. James Combination, 1918, 3-speed, kick start, mechanically perfect, recently overhauled; £95.

-Kendall, Ockley, Surrey.

JAMES Combination, 41/h.p., 3-speed, clutch, screen, lamps, generators, good tyres, nice turnout: £95.

-9, Gurney Rd., Stratford, E. [2789]

JAMES 2½h.p. 2-speed 2-stroka, only ridden a few miles, as good as new, lamps, horn, tools, etc.; £55.—W., 30, Waldeck Rd., Ealing, W.13. [3269

JAMES 1917 44/h.p. Combination, in beautiful cofidition, had little use, with accessories; any trial: £95.-29, Brigstock Rd., Thornton Heath. [2562

41h.p. James, Millord sidecar, all as new, lamps, spares, etc.; £105; owner bought car.—Seen at West's Garage, 42, Cranbrook Rd., Illord. [3124]

West's Garage, 92, Cranbrook Rd., 11070.

19: 4'14, D. James Combination, 3-speed countershaft, enclosed chain drive, new condition: £115.

7-2, Longridge Rd., Eni'l's Court. Western 1344, (2674

JAMES Combination, 4'4b.p., 3-speed countershaft, chain drive, clutch, kick start, fine turnout; £110.—57, Kenbury St., Coldharbour Lane, Camberwell.

JAMES 41/h.p. Combination, 3-speed, 1915, perfect going condition; £98; by appointment and trial. -Apply, 16, Broomfield Lane, Palmers Green, N.13. City 552.

JAMES MES 4½h.p. Coachbuilt Combination, 3-speed countershart, lamps, Klaxon, perfect order, ex-th condition: £110.—Teignmonth House, The Cres-Belmont, Surrey. [2687 cellent condition: £110 cent, Belmont, Surrey.

JAMES C.B. Combination, 414np., 1914, recently overhauled as new lamps, horn, speedometer, sound countershaft outfit; what offer?—Johnston, 216, Rodney Hnt, Craylord, Kent. [3084]

JAMES 1915 4(h.p., 3-speed, Millford sidecar, lamps, hern, mirror, etc., overhauled, rotushed, enamel and plating perfect, ready for Easter tour; 89 gns.—2, kt. John's Wood Rd., N.W.8.

10 15 James Coachbuilt Combination, 3-speed countershaft, all-chain drive, 3 lames, hood, screen, horn, etc., excellent running order; £95.—436, Whitehorse Rd., Thornton Heath, S.E.

1930 Model James 44/hp. De Luxe Combination, 3-speed, all-chain, 28×5 wheels, fitted heavy Dulops, land clutch, Lucas lamps, Klaxon, wind screen; £145.—Willis, 222, Canden Rd., N.W. [2826

J.A.P. 6h.p., 5-speed, all-chain; £75.—Kennard, 65, Pkingoll Rd., Finsbury Park. [2398]



Wholesale and Retail Agents in the Counties of SUSSEX, KENT, HERTS, ESSEX, SURREY, MIDDLESEX, for:-

Reading Standards

10 h.p. TWIN 1170 c.c.

WORLD'S MASTER MOTOR CYCLE

Deliveries of which are NOW being made according to promise

And no Disappointment.

Write at once for vour nearest agent's address and dates of delivery.

A good selection of 1919 and 1920 Solos Combinations of Various Makes in Stock.

89, Gt Portland Street London.

MOTOR CYCLES FOR SALE. J.A.P.

23h.p. J.A.P., sound condition, new tyres and Wooburn Town, Bucks.

31h.p. J.A.P., Gradua gear, speedometer, 12 horn, just overhauled, very fast and st 235.—Caryll, New Rd., Chilworth.

J.A.P. Combination, just overhauled, engineer of Chater-Lea parts, 5-6h.p. J.A.P. engine, 5-4mmc, Bosch, heavy Avon tyres, luxurions as screen, all perfect condition, complete accessories, sl bargain, 290.—45, Church St., Chelsea.

J.E.S. Motorcyciette, better than a scooter, eco-cal, reliable.—Enquiries invited by J. Blake Cn., Liverpool and Manchester.

J.E.S. Motorcyclette, complete engine set, exc condition thronghout, fits any ordinary cyclens; no offers.—Hull, Chandos Rd., Buckingh

Kerry.

KERRY 25/h.p., dropped frame, Druids, mag., condition; £18/10.—196, Ramsay Rd.,

Kynoch.

K YNOCH 5h.p. Twin, clutch, Bosch, B. and B feed, new Dunlop, good condition; £45.-24, 1 Rd., Teldington, Middlesex.

Lea-Francis.

19 20 Lea-Francis, just delivered; price £140; B BRAND New 1920-Lea-Francis, complete wi lamps; best offer secures.—Box 2,875, c/c

19¹⁴ Lea-Francis Twin Combination, C.B. side speed gear, countershaft; £85.—Aquarium Garage, 5, Manchester St., Brighton.

LEA-FRANCIS, 3½h.p. twin J.A.P., 2-speed, drive, chain covers, detachable wheels, tyres; £70, nearest offer.—60, Cecil Rd., Northan

1915½ Lea-Francis, No. A 1042, 4h.p. twin, countershaft, kick start, lamps, horn, to new; £95.—Oapt. Ward, 6, Grotes Place, Black S.E.

LEA-FRANCIS, 1920. - Place your name of waiting list for delivery of these arist mounts.-A. J. Spraston, Ltd., 198, Gt. Portlan W.1.

19 20 4h.p. Lea-Francis, speedometer, Lucas-born, full insurance, small mileage, new th out; price £135.—Lieut. Corbishley, 4th Tank Bat Wureham.

Levis.

LEVIS, 1916, speedometer, lamps; £39/10.-49

L EVIS 21/h.p., 1914, lately rebushed; £42.—Be Fisher's Hill, Woking.

LEVIS.-Popular models, in strict rotation.-CYRIL WILLIAMS for early delivery of Chapel Ash Depot, Wolverbampton.

21h.p. Levis, just delivered; £55; appointment offers.—80, Sycamore Rd., Handsworth.

19¹⁷ Levis Popular, lamps, mechanical horn; Baldwin, Sand Ground, Highworth, Wilts. L EVIS 21/h.p. Popular, 1914, good order, tyn helt nearly new; £53.—Harlow's Garage, Set

LEVIS 2; h.p., 2-speed, fully equipped, conditioner, any trial; £60.—Harrison, Kennels, 8 Bakewell.

19 19 21/h.p. Levis, as new, everything complet mileage; £55, or near offer.—James, Edi

Shrewshury. LEVIS 2½n.p., 2-speed, Senspray, Bosch, very periect running order; 45 gns.; offers. 66, Rd., Dulwich.

L EVIS 1915 2-stroke, 2-speed countershaft, hauled, re-enamelled, as new; 50 gns.—195, house St., Clapham Common.

LEVIS, 21/h.p., 1915, excellent condition, spare cover, tools, etc.; £45.—Schofield, 19. market Rd., Ashton-under Lyne.

LEVIS 1914 21/4h.p., water-couled head, needs hauling, Dunlop tyres nearly new, T.T. £38.—Marlburo' Motors, St. Albans. Tel.: 159.

LEVIS.—We strongly recommend, and can early, this famons 2-stroke.—District agents Walshill Garage, Wolverhampton St., Wartall, P.

LEVIS, 1916, Popular model, 24h.p., Brai Biflex forks, touring bars, lamps and horn, for the road; £42.—Marlboro' Motore, St. A Tel.: 159.

LEVIS 21/4h.p. 1920 Popular Model.— Hardie and Lane, Ltd., authorized age Woodstock St. (off Oxford St.), Hond St., W.1.

B28 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE.

O.K.

.—New 2-speed 2-stroke, Villiers, in stock.— Chandler, Reyre and Williams, Hitchin, Herts, 1: 165 Hitchin. [0064] 1. 105 Internal. [0004]
31/2 lt.p. Prucision, Philipson pulley, clutch, B. and B., Bosch, new helt, fast, perfect; £45.—
lon Rd., Brixton. [3339]

2-stroke, 2-speed, 1915, just averhauled, excel-mt condition, new tytes.—Dr. Simpson, 21, Spencer Wandsworth Common. [2730

7 O.K., 2-speed, 254h.p., in perfect condition, ready to ride away; £45.—A. Flower, Harpenarage and Coach Works, Harpenden. [1541

25th.p. 4-stroke, 2-speed, o.h.i.v., new semi T.T. ars, lump, horn, excellent ringing order; £43, uest.—Hutwell, 4, Augusta Place, Leanington, 179303

GA-J.A.P., 2-speed, and medel de luxe, at 66 ad 74 gus. respectively.—Stocked by Lloyd and 9, Station St., Lewes. [1675]

P. and M.

nd M., 316h.p., 2-speed, iu good condition; £48. -274, High Rd., Balham. [2736

IL WILLIAMS for early delivery of P. and L's.-Chapel Ash Depot, Wolverhampton. [X8624 nd M. 1910 51/2h.p., 2-speed, clutch, £30; sidecar to suit, £6.-437, West Green Rd., Harringay, [2583]

nd M., 1919, 514h.p., speedometer, Lucas, etc.; £96.—Llanfair, Sutton Rd., Erdington, Birm., [X8254

ND New 1920 P. and M., complete with timps; best offer secures.—Box 2,873, c/o. The Cycle.

nd M.—Several late model combinations for imaediate delivery at reasonable prices.—Mehes and 154-6, Gt. Portland St., W.1. [3331

P. and M., R.A.F. model, only run 200 unies, excellent condition throughout; any examination; 38, Gt. Prescott St., Aldgate, E. [2383]

id M., 1918, 3½h.p., reconstructed R.A.F. model and new cancelet sidecar; £105.—Elce and Co., Bishopsgate Av., Camomile St., E.C.3. [0068

Bishopsgate Av., Camomie St., E.U.S. [1909.]
P. and M., Sylh, p., 2-speed, kick starter, hums, ann, tools complete, and ready to ride wway; best to \$70 secures.—Rox 2, 205, \$0. The Motor Cycle.

W.D. P. and M. Combination, new sidecar, thetest matchine.—Chilord Wilson Mig. Co., 703, the Complete Rd., Chelsea, S.W. 3, 721; Kens. [216].

3 P. and M. Combination, condition perfect; expert examination invited; private owner; lamps 125; after 6.-6, Barfett St., Queen's Park, Rd. W. Rd.

LON-MOORE, ex-military stores, overhauled and int on approval, £78; complete with Millford, £106, Mandes.', 100, Gt. Portland St., London, O, Paris St., Excter.

d M., late R.A.F. model, unscratched, mechani-dly-perfect, new back tyre, new chains, Lucas amp, horn, any trial; £80.—Phone: Chiswick Boxmoor 62.—Box 471, c/o The Motor Cycle.

P. and S.

P. and S.
UCHOPE'S, 9, Shoe Lane, Fleet St., London...
Land S. Zestroke 2-speed Models, Villiers engine, into kick start model, £74; delivery from [1431]

Pengeot.

Peugeot, low, in perfect condition, spring forks, od tyres; £45.—72, Beechfield Rd., Finshnry [2578

OR Bike, Pengeot, twin-cyl., 7-9h.p., £55; cker sidecar, £8 good condition.—Clarke, 141, Rd., Penge, London, S.E. [X8423

Peugeot, 2-speed combination, new coachbuilt dy, Bosch, new Amac, lamps, etc., ride away; 6, Western Rd., Southall. [3220]

Peugeot-Fafnir Twin, running order, all new sings, sidecar, less wheel; first cash £37 se-Wright, 4, Maison Dieu Terrace, Deal. [2419 Twin Peugeot, Mitchless 2-speed, Bosch, Sen-or, new Duniop on back, just overhauled; seen p.m. £45, offer.—Hassell, 32, Tachbrook St. ister. [3032]

Precision.

IISION Ecquiries Invited by J. Blake and Co., le leading motor cycle experts, Liverpool and aster. [6582

ISION 444p., 1914, Armstrong 5 speed, discs; e 60 miles to purchaser.—Coulthard, Belmont, super Marc. [3034]

ISION 25th.p., Bosch mag., B. and B. carbur-er, Dunlop tyres and belt as new, fine condition, t. seen any time: £35.—Parrish, Thaxted, Essex. [2756]

ISION 1914 44h.p., 3-speed Armstrong genrs, chbuilt sidecur, 4-point, recently overhauled, all es, splendid condition throughout; hurmini, £85; years during war.—Beadle, 215, Baker St., En-



Colmore Depot

advise you to purchase your new outfit now

All motor cycles of repute will be more difficult to procure than ever, and prices are certain to advance

Don't pay premiums or high prices for second-hand machines

4 h.p. Douglas Sidecar

For early delivery at the following depots:

31, Colmore Row. BIRMINGHAM. 200, Deansgate, MANCHESTER. 24, Paradise St., LIVERPOOL. 62, High Street,

LEICESTER. Price £155

at Works.

The Famous House COLMORE DEPOT

MOTOR CYCLES FOR SALE. Premler.

PREMIER 25th.p., 3 speeds, had little wear; £42.— Buckingham, Tindal St., Chelmsford, [2611

31 h.p. Premier, 1914, 3-speed hub gear, Bosch mag.; £60.—Usher, Old Farm, Chorley Wood. [2356

PREMIER 35h.p., 2-speed, splendid order through-out; ±38.—Speechley, 1, Gunnersbury [3194]

7-9h.p. Premier, 2-speed countershaft, powerful, 19-huble; £80, offers,—Brenchley, Golden Green, Ton-bridge. (2943)

31h.p. Premier and Sidecar, low goar damaged, 22 cheap; particulars, stamp.—Claydon, Eastry, Dover. [3215]

4 h.p. Premier and Sidecur, 3-speed and cutch, pedal start, splendid condition; £65.—Boon, Hatfield Peverel, Essex. [2688]

PREMIER 31/h.p., nearly new coach sidecar, 2 speeds, F.E.; £80.—Lamb, Norman Terrace, High St. South, East Ham. [2706

PREMIER 31/2h.p., Bosch, B. and B., lamps; £45; offers; exchange lower power.—17, Station Rd., Warnham, Sussex. [3213]

PREMIER Lightweight, Bosch, B. and B., Druids, good tyres, good running order; £32.-38, Linver Rd., Parson's Green, S.W.6.

PREMIER 2½h.p., Bosch, B. and B., adjustable puller, just overhauled, new tyres and belt; £37/10.—47, Nottingham Rd., Long Euton. [2384]

PREMIER 31/2h.p., 2-speed countershaft, handle start, foot clutch, grand condition; 50 gns.—
Owner, 20, Canterbury Rd., Croydon. [2467]

3 1h.p. Premier, in good condition, single speed, nearly new, steel stud tyres; £40.—Cayless and Potter, Gladstone Mews, Wood Green, N.22. [3009 Potter, Giadascone areas, rock discontinuous, proceedings, proceedings

PREMIER 3½h.p., 3-speed, Canoelet coachbuilt sidecar, everything complete, pillion seat, ready to drive away; £80.—Pnllen, Garnish Hall Cottages, Theydon Bois, Essex.

Theydon Bols, Essex.

PREMIER Coachbuilt Combination, new tyres, firstclass condition; £60, or nearest, for immediate
class, E-Full particulars, Brocklehurst, 19, Tudor Rd.,
Kingston Hill. Tel.; Kingston 40. [3237]

PREMIER 1914 51/4b.p. Combination, kick start, 3-speed countershaft, Mills-Fulford sidecar, wind screen, lamps, hora, tools, recently overhauled; any trial; bargain, 275.—Foote, 475, High Rd., Tottenham. [2408

P.V., May, 1919, 2-stroke 2½,p. Villiers, Chaier-forks, sprung hack wheel, large Brooks, absolute 2¼in. (unpunctured), Lucas lamps, tools, Klaxon, perfect; 285.—Cuntral 2475 before 5 p.m.—G., 31, Anerley Park, S.E.20.

Quadrant.

QUADRANT 2½h.p., fine running order; £15,-27, [2701]
WAUGHOPE'S, 9, Shoe Lane, London,-New Quadrant combination, 4½h.p., 1920 models; £122/10, [1432]

1432 32 h.p. Quadrant, mag., B. and B., splendid tyres; ride 22 away: £20.—Side entrance, 27, Princess Rd., West Kulburn. [3063

41h.p. Quadrant Motor Cycle, complete, less mag. and carburetter, otherwise smart machine; bargain, £18/10, carriage paid.—Box 2,840, c/o The Motor Cycle

QUADRANT 3h.p., mag., spring forks, splendid condition, with spare pair practically new tyres and tubes; trial; bargain, £26.—Reeves, 15, Hazelwick Ed., Three Bridges, Sussex. [2704]

42h.p. Quadrant Combination, 3-speed countershaft 42 gear, clutch and kick starter; may be obtained on Harrods system of easy payments.—Harrods Motor Showrooms, 116-118, Brompton Rd. (opposite Main Building), London, S.W.1.

Radco.

24 h.p. Radco, lamps, etc., in first-class condition, ride away; £30.—2, Buckleigh Rd., Streatham.

1916 Radco, disc wheels, lamps, horn, took; £40, or offer.—Martin, Laurels, Qnay, Minchedd.

RADCO 2¹/₁h.p. 2-stroke, needs overhauling; as it stands, £26.—Marlboro' Motors, St. Albans, Tel.: 159.

19¹⁸ Radco 2-stroke, T.T. bars, Union engine, jurt overhauled, lamps, hora, etc.; £40.—2, Court Yard, Eltham. [2906]

Radoco, just overhauled, sporting model; any trial; what offers? after 6.30.—Crump, Inverness Terrace, Bayswater, W. [9459]

RADCO, like new, only done few miles, fully equipped, speedometer, lamps, tools, etc., great bargain, only wants seeing; 48 gms.—213, Putney Bridge Rd., Putney.

MOTOR CYCLES FOR SALE.

Reading-Standard.

READING-STANDARD C.B. Combination, 5-speed countershaft, clutch, 10h.p.; any trial, any examination; bargain, £120.—195, Stonhouse St., Clapham Common.

Regent.

REGENT 5-7h.p. Flat Twin, deliveries commencing April.—Full particulers from Guest Bros., Causeway, Peterborough. [2618

SEND postcard for particulars of Regent 5-7h.p. flat twin to us. We can give earliest deliveries of these machines.—Elliott Bros. and Stevens, Cambuslans. [0124]

5 6h.p. Rex and sidecar, clutch; ride away; £32.-58, Tustin St., Old Kent Rd., S.E. [2607

REX 3½h.p., clutch, Bosch, Amac, good tyres; £22, offers.-24, Brampton Rd., East Ham. [2405

REX, 4h.p., 2 speeds, F.E., splendid running order; £48.—Wilkinson, Bordon, Hants. [3039 PEX 31/h.p., accumulator-driven; £9, or exchange anything to value.—W. Farrar, Temple Hirst, Selhy

WAUCHOPE'S, 9, Shoe Lane, London.-8h.p. twin combinations, 1920 models, early delighed hook now. Rex

3½h.p. Rex, mag., perfect order, including tyres, had very little use; £22.—Perrier, St. John's Rd., Leatherhead. [2873]

19 11 Rex 6h.p., engine overhauled, 3-speed, tyres and belt as new, £50; with sidecar, £56; bargain.—207, Mount Pleasant, Redditch. [X8151 REX Combination, 6h.p., 2-speed, handle start, new Dunlop, aluminium footboards, last; £52/10.—Wood, Church House, 16, Maida Hill West. [2499]

Rex-Jan

REX-J.A.P. Late 1914 6.8h.p. Combination, little used during war, perfect condition; £130.—Particulars, Werren, Dental Surgery, Liendrindod Wells.

WAUCHOPE'S, 9, Shoe Lane, London.-5-6h.p. Rover combination; £125. [3366

OVER 5-6h.p. Twin, new, unpacked, enclosed chains, solo or combination, at makers' prices. R OVER 3½h.p., late 1916, 3-speed countershaft, kick start, little used till 1919; £85.—Rose's Garage, Uxbridge. [2439]

ROVER, 1318, 3-speed, lamps, horn, speedometer, Porfect throughout; 297.-32, High St., Reigate, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, 2018, ROVER.

19²⁰ Rover 3½h.p., 3-speed countershalt, uncrated; list price.—R. Harrison, queen's Piace, Kendal; 19¹⁹ Rover 3½h.p. Combination, in perfect condition, all accessories; £135.—51, Queen 81, titchin, Herts.

19 18 Rover Combination, countershaft, brand new sidecar, owner driven; £120.—Flat 1, Grand Parade, Brighton. [3198]

19¹⁴ Rover Combination, 3-speed gear, perfect order; £75.—Aquarium Motor Garage, 5, Manchester St., Brighton. [3201

ROVER 3½b.p. 1914 Coachbuilt Combination, 3 speeds; private owner; £85.—Hill's Garage, Woodford Wells, Woodford. [2329

 ${f R}^{
m OVER}$ 3½h.p. 3-speed Combination, 1915, c O.B. sidecar, perfect condition; £78.—19, ham Rd. Wood Lane, W.12. clutch.

19¹³ 3½h.p. Rover, 3-speed, clutch, speedometer, torpedo wicker sidecar, engine rebushed; £60.—83, Fotheringham Rd., Enfield. [2955]

1914 Rover Cycle, sidecar, 3½h.p., 3-speed, lamp., horn, new tyres, tube, warranted perfect; £65.—Fletcher, Hetton-le-Hole, Durham. [2822

ROVER 1914 Coach Combination, 3-speed, in very nice order, with accessories: £68; any trial.—29, Brigstock Rd., Thornton Heath. [2563]

19 19 (acts) T.T. Rover, mileage under 500, like new, lamps, speedometer, and horn; £95,—R. J. Raywald, High St., East Grinstead, Sussex. [2923]

ROVER Late 1919 6h.p. Twin, not W.D., torpedo cane sidecar, se new, lamps, tools, spares; £140.—White, 121, Adelaide Rd., Chalk Farm. [X8149]

R OVER 31/sh.p., N.S.U. 2-speed gear, new mag., just been overhauled, lnmp, horn, ready to ride away; \$250.-7, West End Rd., Southall, Middlesex. [2617]

ROVER 3½b.p., 3-speed, clutch, Cancelet sporting aideear, lamps, horn, speedometer; any trial; £30.

-C.P., 117, Walm Lane, Cricklewood, N.W.2. [2448]

19 19 31/h.p. Rover Combination, like new, not ridden this year, as got delivery of A.J.S.; £130; fully equipped.—Baker, 95, Bollo Bridge Rd., Acton, W.3.

ROVER Combination, 3"/sh.p., 3-speed, starter, lemps, etc., speedometer, new Tan-Sad, 5 gns. ingurance, excellent order; nearest £90,-83, South End, Orodon. (2655)



SPARE PARTS.



ROYAL RUBY.

Price, 4/6 each. List No. 19/3. Red Lens 3d. each.

3d. 3dd. White Lens .. Burner . . . 3 d. ., Bottom Cap . . 7d. .,. Patent Burner Holder and Nut attachment 1/- each. Pin and Nuts . 2d. ... Pin and Nuts .. Postage Extra.

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Price, 6/6 each.

List No. 19/x.
Red Lens, 6d. Lens Wire 2d.
Lens Cap, 1/3 Middle Ring, 1/9 Attachment Screw, 2d. End Cap, 1/3. Distance Piece, 6d. Nut, 2d. Clip, 2d. PatentBurnerHolder&Nut,1/-Burner only, 4d.



Postage Extra.

TORPEDO SIDECAR. Price, 7/6 each.

List No 19/2. SpareParts as 19/1 Lamp, also White Lens, 6d. Bracket, 8d. Postage Extra.

HEAD LAMP.

Price, 21/- each-List No. 19/5. Lens . 1/6 Lens Cap, 3/6 LensWire,4d. End Cap, 3/6 Burner Holder, 1:-Middle Ring, 3 1-Reflectors, complete, 2/-Burner . 6d. Lamp Lugs, 1/-ea. Rod Brackets. 2/6 pair. Clips . 1/4 Nuts .. 2d. each.



Price, 18/6 each, List No. 19/4. Spare Parts as 19/5 Lamp, also Cast Bracket complete with Knurled

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R OVER 31/h.p., 1912 model, clutch, Dixie me, and B. cerburetter, good tyres, wants assem all parts here; 236, or hest over; must sell.—W South Normanton, near Affreton; Derbyellire.— R OVER, T.T., late 1918, 3½h.p., Philipson pone belt, appedometer, lamps, horn, long exhidisc wheels, very fast, quick starter: £85.-6. Browh, Hill Farm, Little Addington, Thrapston, P.

ROVER 1919 5-6h.p. and C.B. sidecar, 3 lar overhauled, approximate mileage 770, 60 m.p.g.; going abroad (service); £120,—Box 2,834, c/o The Cyder.

ROVER 5-6h.p., 1919, just returned from being hauled and coach painted, painted buff, disc will lamps, etc., extra wide handle-bars, 3ln. exhaust very fast and smart; £135.—20, Cavendish Rd., Bo mouth.

M.D., appearance new, tyres unyunctus Miller head lights, mechanical and bulb horn screens, etc., inleage under 800; hest over 218, Szturday or Sunday.—Geary, '99, Church St. 6

P.O.C.H. have a 1919 31/h.p. Rover and brain coach sidecar, 3-speed countershalt, chitch starter, intly equipped, as new, mileage nuder; Fair Offer Car Honse, 5, Heath St., Hampstead Humpstead Tube Station). Phone: Hampstead Hours 9-7, including Saturdays.

DOTTOBER, 1919, Rover Sh.p. Jap Combination perfect condition, as new, only ridden 46c specially-built Milliord Empress sidecar, all 3 28x3in, Magnum Dimilops, Lucas horn and lighther special which legs-hields, spare tube, tools, and paramagnificent machine; list price, £185.—Crostry, 61 thouse, Learnington.

Royal Ruby.

JACK HEALY, Cork, officiel Royal Ruby Rotational delivery. No premiums accepted 10 19 Royal Ruby, 21/2h.p., 2-stroke, lamps, hon fect rugning order; £42/10.—Nichols, Oxfo Wellinghorough.

ROYAL RUBY, 1916 Villiers, 2-speed, kick hand clutch, good running order; £50.—Billericoy, Essex.

ROYAL RUBY, 1920, 3h.p., spring frame liveries shortly; book now to secure.—B Motor Exchange, Union St. South, Halifax.

19 19 Royal Ruhy Combination, 8h.p. J.A.P. overhauled, Dinky sidecar, lamps, horn silent; 180 gns.—P. V. James, Backwell, near Be

WAUCHOPE'S 9, Shoe Lane, London.—8b. Royal Ruby combination, fully equipped, accessories, Cameo wind screen, Cowey hora;

ROYAL RUBY 2-stroke; 1914, stored 5 years age under 500, perfect condition, owner to use since war; £45.—4, Cornwall Mews, Glo Rd., S.W.7.

ROYAL RUBY 1916 234h.p., 2-speed counter K.S., clutch, engine and gears perfect, 496 a large sidecar, C.E., and in good condition, 211 13, Magnolia Rd., Chiswick, W.

10 19 Royal Ruby Combination, perfect condition good as new, fitted with lamps, horn, screen, and all tools, etc.; an absolute bargain, £185-and Emery, 4a, Petersham Rd., Richmond.

1 Al 8 sh.p. Royal Rayb Combination, euclosed drive, handle-bar clutch, W.D. model, by tately used latter part 1919 (only, scellent or unechanically perfect, Lucas langs, Klaxon, sidecat, new bood, screen, side cuttains, new extra heavy trees all wheels, insurance policy; 21 offer.—Suntysides, Shaltond, near Guildrod.

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CROW Bros., High St., Guildford, Rudge supply at list prices.

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RUDGES.-Early delivery of all models-B RUDGE, clutch model, £48; C.B. sidecar, £6 Johnson, 333, Acton Lane, Acton.

19 19 Rudge Multi and Sidecar, perfect £115.-655, Ecclesall Rd., Sheffield.

R UDGE Multi, 31/h.p., 1919, sidecaf, horn, £115.—Wale, 7, Queen's Rd., Nuneaton.

R UDGE Multi.-We are agents for St. Alban district; orders booked for delivery in re-NEW 1920 7-9h.p. Rudge Multi Twin, just from works; list price, £147.—Marlboro St. Albans. Tel.: 159.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lo. 5-6h.p. Rudge Multi and sidecar; £99/10.

RUDGE Multi, 31/2h.p., lamps, perfect; 25 RUDGE, I.O.M. T.T. Model, delivery from Longman Bros., Bond St., Ealing. Phone

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19 19 Triumph, T.T. model, splendid condition; £85, nr best offer,—Statham, 45, Upper Tachborne St., Leicester. [X8427 3 h.p. Triumph, clutch model, splendel order; £37/10.

1 Aquarium Motor Garage, 5, Manchester St., 13209

TRIUMPH 4h.p., 3-speed, K.S., uncrated 1919, feet condition; £85.—Dentish, 216, Portol Rd., W.10.

19 21th.p. Trimuph Junior, lamps, tools, very little ridden; £67.—Seen any time at Highlands, Tunes uill, Woking. nil, Woking.

TRIUMPII Combination, 4h.p., good condition, 2speed, Bosch, all accessories,—214, Grange Rd.,
[3018]

TRIUMPH 3-speed, clutch, Lucas lighting set, and splendid order; £55; any trial,—C.S., 14, Swaton Rd., Bow, E.3. [2638]

TRIUMPH, Inte 1914, 3-speed, thoroughly ove handed, disc wheels, very just; £62,-248, 1926, ell Rd., Brockley.

TRIUMPH Combination, 2-speed, kick start, new condition; £65.—57, Kenbury St., Coldharbour Lane, Camberwell. [2469]

Ceo W.D. Trinmph, guaranteed.—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Fel.: Kens. 7113. PRIUMPH 3½h.p., T.T., chữ h, splendid condition, Dunlop tytes; tide away; £43,-33, New St., helmsford, Essex. [2374

1914 dh.p. Triumph, 3-speed and clutch; £60,— Apply, after 6 p.m., E.C., 106, Merton Rd., Vandsworth, S.W. [5129] 11hp, Triumph, Zenith-Gradua gcar, just over-2 bauled and re-enamelled; £52; no offers,—62, landy Rd., Llanelly, [2936]

1920 Triumph, countershaft, brand new, unitgistered; what offers? London district.—Box 2,889, to The Motor Cycle. [3345]

PRIUMPH. 1913, 5 speeds, clutch, in splendid condition throughout; £58.—Tiernay, 22, Adelide Rd., Leanington.

1918 Triumph Countershaft Combination, small mile-age, bew condition; £128.-15, Warwick Court, Iolborn. Central 4733. [2678]

31h.p. Triumph, 1912, waterproof Bosch, B.S.A. carbinetter, good running order; £36.-140, Mory Rd., Leyton, Essex, [2378]

y Rd. Leyton, Essex. [2878]
PEIUMPH 1917, 3-speed countershart, new condi-tion and appearance; 80 gns.—Fitt, Barrossa Ter-tee, Church St., Chelsea.

1919 Baby Triumph, as new, little used, perfect condition, accessories, etc.; £60, or nearest,—
2866 City Police, Oxford. [2556]

WAUCHOPE'S, 9, Shoe Lane, London.—2\(\frac{1}{2}\h.\text{p. Baby}\)
Trinmph, £65; also 1912 3\(\frac{1}{2}\h.\text{p.}\) Triumph, 2196d, free engine; £65.

TRIUMPH 313h.p. T.T., clutch, 2 brakes, tyres good, just overhauled, in splendid condition; £40.—28, rant Rd., Thornton Heath. [2557

PRIUMPH. 35h.p., Bosch, lamps, horn, good rnn-ning order; £36, or near offer.—Smith, Heath louse, Fakenham, Norfolk. [2338

PRIUMPH and Sidecar, 314h.p., clutch model, new Dunlop heavy, good running order; £43.—38, arner St., Hackney Rd., N.E. [2495]

RIUMPH, good condition, horn, pump, lamp set, ready ride away; best offers.—Deats, The Xrok, urgh Heath, Tadworth, Surrey. [3064]

913 Trimmph T.T., Mabon clutch disc, special engine, lamps, pump, horn; £63.—White, [52, teckerton, Warninster, Wilts.

75; Bahy Triumph, Sept. 1919, unscratched, Lucas horn, lamps, cyclometer, all perfect.—34, Market lace, Mountsorrel, Leicestershire. [3113

RIUMPH 3½h.p., adjustable puller, new mag. and helt, lamps, and accessories: £42.-16, Westover M. Wandsworth Common, S.W.18. BIUMPH 3/3-p., 1911. afted with N.S.U. 2-speed genr, in perfect condition, original ensured like new: 18-287. Cavendish Rd., Balham, S.W. [2816]

NRIUMPH 4h.p. Countershaft, disc wheels, lamps. etc., in new condition, mechanically perfect; 295: ter 7.-1, Welham Rd., Streatham, S.W. [2706]

9 13 Triumph, clutch model, stored 4 years, Bosch waterproof, as new, done 6,000.—Ongh, 14, Huntstor Rd., East Hill, Wandsworth, S.W.18. [2722]

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19²⁰ Triumph Combination, used few miles of £165.—Clifford Wilson Mg, Co., 70, Re Hospital Rd., Chelsea, S.W.3. Tel.; Kens. 7113.

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COUNTERSHAFT Triumph Combination, C.B., 3 speed, hand clutch, renovated like new; apply before 5 p.m.—Builder, 4. Clark St., olf Milk St. Bristol.

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19 14 Triumph Combination, with late improvements, tally equipped, sporting siderat, fine condition: 285; view after 5 p.m., or 1 p.m. Saturday,—1, Palewell Park, Sheen. [2361

TRIUMPH 4h.p., 3-speed countershaft, 1918-19 con-bination, coachbuilt sidecar, lamps, Klaxon, many accessories, good condition; £120.—Calder, 50, High St., Shepton Mallet.

19 18 Triumph, countershaft combination, engine No. 53125, new tyres, efficient machine, lamps, horn, etc.; first £120.—Garaged 1b, Uganda St., Selkirk Rd., Tooting [2460]

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SIX Triumphs, all countershaft 3 speeds and clutch, 1916-17-18 models, from 275 to £85, or will lake near cash offer for the lot from trade buyer.—Hole, 129. Park Lane, Carshalton. [276]

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NEW Triumph Combination, electric light, wind Nesreen, Cower speedometer and horn, makers' ganatee and complete insurance; £160.—Bernard, 68, Charing Cross, Rd., W.C.2.

TRIUMPI 31/dn.p. T.T. clutch, lamps, horn, and arressories, condition and appearance as new; any tini. 245. or nearest offer; after 5 o'clock.-55, Hatherley Rd., Waithaustow. [2559]

TRIUMPH, 1912, clutch, Philipson, Binks endun-etter, special fingner bracket, new lamps, thor-oushly overhauded, exceptional condition; 55gss.-24, Kirkley Park Rd., Lowestoft,

31h.p. Triumph, 1912. Grado gear and kick starter, lamps, horn, mirror, etc., engine particularly good, excellent tyres; £50.—H. W. Pomiret, Thornfeld, Garstang Rd., Preston.

TRIUMPH 3½h.p., 1913. clutch, 3-speed, excellent condition, recently overhanted, C.B. sideour, all accessories, 55 gas, or near offer; appointment.—A.C., 31, Amelia St., Walworth, S.E. [3053

3 1h.p. Triumph, clutch, free engine, new back wheel 2 from makers fitted with new tyre, belt, speedometer, Klaxon, lamps, last, and sound condition, £50.

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€55 Triumph, 1911, T.T., overhauled, N.S.U. 2-speed, new tyres, helt, new C.B. sidecar,— Clifford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea, S.W.5. Tel.: Kens. 7113. [2166]

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TRIUMPH 315h.p., semi-T.T., Bosch, just overhauled, in fine condition, lightung outfit, horn, excellent tyres, fast, powerful, and reliable, easy starting; first £237.—Gordon Harms, Garsdon, Malmesbury, Wilts. [2377

1918 Triumph 4h.p., C.S. 3-speed, K.S., Miller lamps, TT bars, aluminium discs, long flexible exhaust, knee grips, Tan-Sud, etc., powerful engine, ride away; £95.—18, Paget Rd., Plumstead, S.E.18.

TRIU MPIL. 34b.n., Saped. Coronet sidecar, Cores, tubes, belt, lamps, horn, unused during war, 600 miles 1919, nunsed side overhauling; 480.—52. Willingdon Rd., Westhury Av., Wood Green. [2534]

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TRIUMPH 1914 4h.p., clutch, Klaxhoru, speedometer, Philipson pulley, all spares, inst overhanded, 60 gms.; also gent's cycle, James, 26in. frame, Polmers. 27.—25, Kidbrook Park Rd., Blackheath. (2 to 6 pm. Saturday.)

p.m. Saturday.]

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1918 Triumph (renovated), 5-speed and clutch geal box, new Duniops, horn, lamps, etc., overhauled and perfect, cannot be touched at the price; as Easter snip, and cannot he repeated at £90-Lewis and Emery, 4a, Petersham Rd., Richmond. [2528]

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clutch, waterproof Bosch, Triumph carburette overhauled, good tyres, with lamps, horn, good cond tion, smart machiner, first cheque 50 gns. secures. Whitmore, Chase Estyle, King's Lynn. [268]
TRIUMPH 1918 Countershaft Model, fitted wif specially mide, snorther sideace water constants.

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spares, appearance equal to new; seen and tried any
time; 35 gns. cash.—Elsden, Sutton, Ely, Cambo, [2028]

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ZENITH 8h.p. Combination, Gloria Projectile, re enamelled and overhauled; best offer over £146, -14, Osborne Villas, Hove. [269]

SPORTING 6h.p. T.T. Zenith-Gradua, late 1914, speedometer, very fast, just overhauled at oc £20; price £78.—Webb, Station, Oundle.

ZENITH 5-6h.p., countershaft and kick starte, wheels, Canoelet sidecar, 3 lamps; E Maudes', 100, Gt. Portland St., London.

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1 [Authorities] [A355]
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A.C. Sociable, 1914 Model de Luxe, recently over-hauled, lamps, hood, screen. spares; any tifal; £90.—Lewis, Tobacconist, Parade, Hall Green, Birming-ham.

19 15 Humberette, A.C., 8-10h.p., painted royal blue, tyres good, spare, lamps, tools, etc., beautiful condition, drive away; £150.—Reedman, Thirsk, Yorks.

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MORGAN, air-cooled, sporting body, Lucas lamps, the Klaxon, new heavy Dunlops, excellent condition throughout; any trial here; £145.—Barnsley, Tverley, Stonfuridge.

19 20 Tamplin Light Car, 4 wheels, Dunlops, 3-speed, kick start, J.A.P. engine, wind screen, hood, lamps, pump, discs, almost new; £180.—Spencer, Castle St., Trowbridge.

L AGONDA Conpe, 1914, 11b.p., 2 seats, dicket spare wheel, all tyres new, good condition throughout, #3300.—The Normand Motor Co., Bridg St., Maidenhead.

A V. Monocar, for speed and comfort.—Order now from J. Blake and Co., Liverpeol and Man-chester, authorised dealers for Lancashire (except Fylde), Cheshire, and Isle of Man. [6585

A.V. 1920 2-speed Monocar, special engine, cowl, lamps, horn, speedometer, full equipment tools, spares, splendid condition, small mileage, fast, lively; £160.—Kirsten, S.E.A.C., Wye, Kent. [3127

A.V. Monocar, Nov., 1919, 2-speed, chutch, discs, hood, electric lighting, Klaxon, done under 1,000, tyres untouched, perfect condition; price, new to-day, £180; sell £143.—13, Bute St., Luten. [2741]

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WAUCHOPE'S, 9, Shoe Lane London.—10h.p. Grand Prix Morgan, disc wheel, water-cooled J.A.P. engine, hully equipped with hood, streen, accessories and tools, £225; also sporting model, 1916, £189; and an-other sporting model, £165.

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SIZAIRE, 8-10h.p., single, lamps, speedometer, Step-ney, dickey; £115, offer.-270, Albert Rd., Crov-don. [2376]

WHITING-GRANT Light Car, 2-seater, refawn, lighting, storting; £265.—Reilway Btaines.

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RILEY 9h.p. Water-coded V Engine, Bosch m S.U. carburetter, 5 detachable wire wheels, screen, overhauled throughout and repainted, in particularly running order; £125.—Gibbins, Friars Walk, Le

OVERLAND 5-seater Touring, Model 73, 1914, tric lighting, reupholstered, good condit £325; modern combination or cycle car taken in exchange.—Swansea Ovoids Supply Co., 4, Gost Swansea.

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A ACDENOOPPRITX!—That's Paxton Car Day
A 228a, Gipsy Rd. West Norwood, for real diright heart-heaking bargains! 12hp. 4-cyl. Hur
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SERVICE'S, 26, Page St., Westminster (J.V. Lenanton, manager), have all the above act if in steck and on view, all and every one ready to an act of the steel and steel and steel and steel and steel and see us, we're sure to put you on to whateward, even supposing stock unsuitable—only adea (26, Page St. 15 mins. from Victoria or Westmise Abbey). Picase call.—Service's N.

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DARGAINS.—As suant, we're full of extractionary bargains. My advertised dates all guaranteed necturate. Cientime Autoped motor scotler, scoots as a satisfactory scooter should scoot, 455; electric parcels runsbout, 455; 18 by Peageet 455; electric parcels runsbout, 455; 18 by Peageet 58, new force of the state of the scoot of

2-seated 11.9n.p. 1915 Argo, 4-cyl., monobloc, smart, and runs splendinly, #250.—Cox (below).

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ATOO.—Cox (helow).

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Oh.p. 1919 Twin-cyl, J.A.P. Engines, braad new complete with magacto driving sprockets, valve litting mechanism, union nuts for exhaust pipes, induction pipes complete, compression taps, also nut and key for engine sprockets, and of the panders for each engine; £37/10.—Wauchope's, 9, Shoe Lane, London, [6707]

ENFIELD.—A 3½b.p. Mag corne, with air-cooled of your old 2½b.p. enine (which could be sold), making your machine a last and powerful mount and capable of pulling a sidear. Only a lew are available—M.A.fr. Engine Co. 1.48. 859, Harrow M.W.10. Those: Willeschad... 859, Harrow (1047)

N.W.10. 'Phone: Willesdon 1092. [0147]

MAKE Your Own 2-stroke Lightweight.—We are castings and parts for 2-stroke engines, suitable for scooters, eyele attachments, or lightweins subtle for scooters, eyele attachments, or lightweins quality casts from phesphor bronze, and alumnium, sate five thats, all necessary nuts, both and study, together with set of blue priots giving all required dimensions. All these properties of the prior to the prio

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SEND your magneto or write your requirements; we can supply every want.

WE work for, and are recommended by, some of the University of the

DIXIE Magneto, 50° twin, perfect; £5/10.—Box 2,866, c/o The Motor Cycle.

CHARLES PARKER and Co. make a special feature of guaranteed magneto repairs.

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RELIANCE Magneto Repairing Co.'s efficient repeir service to all types of magnetos.—Below.

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SPARE Parts Supplied at code from stock for Bosch, U.H., Eisemann, O.A.V., E.I.C., and all known makes.—Below.

NEW and Second-hand magnetos at right prices, old magnetos taken in part payment.—Below. NEW Fellows Magnetos Supplied at Once from stock, singles, twins, any degree.—Below.

LET Us Know your requirements, we will quote -on per return.—Reliance Magneto Repairing Co., 11, Gt Sutton St., Goswell Rd., London, E.C.1. [9406 DIXIE Magneto, 180°, clockwise, as new; £5.—Partridge, Tissiogton, Ashbourne, Derbyshire. [2415 BOSCH Magneto, less sprocket wheel, single; £3.— Phillips, 20, Mayfield Grove, Nottingham. [2917

DIXIE Twin Magneto, waterproof, 42°, clockwise, perfect; £4/10.-371, High St., Lewisham. [2987 MAGNETO, 45°, clockwise, waterproof, off M.A.G.; £5.—Budworth, 13, Conduit St., Leicester. [2636 GOOD Second-hand Trembler Coils, 17/6 each.—
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icg, 8.W. [1508]

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C.A.V. Cal Lighting Dynamo, 4-cyl. Simms car magneto, £12 each; Thompson-Beunett 180° Douglas, £5; lot, £25.—81, Dundee Rd., South Norwood. [3248]

£5; 106, £25.—31, Munute And, Scharffer, anti, £8; SUNGLE-CYL. Eurocad Bosch Magneto, anti, £8; 180° Dixie, 27\(\text{h.p.}\) Donglas, £4/10, with control; 6-cyl, enclosed Bosch, £12/12.—55, Essex Rd., Isling 1285

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L OVELAND Magneto Repair Service (established process; msgnetos and sprop perts. Phone: Streathem 1390.—Loveland Bros., Crescent Magneto Works, Normary, S.W.

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MAGNETO Repairs.—Send your magnete to Pal mer's Gauge, Tooting. Ecply paid; quotation telegraphed to receipt. Quick, efficient zepsir grad-ted in from 2 to 6 days, usually within 24 hours-palmer's Garge, Tooling.

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PRAND New C.A.V. Magnetos, 180°, £6/6; Dixi
21 ditto, £5/10; new Berlings, single-cyl., £5/5
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CONFACT Breaker, periect, for Beach, clock, 18-trendsher coil Nimelior, 10/6, low-tension 18-st magneto, 22, accumulators, 4 volt 60 ann. 21; volt 20 amp, 10 case, new condition, 15/-; Splitde coil and switch cembined, 15/-—Wilkinson, Bordon Hants.

THE Magneto Repairing and Winding Co., Ester Resch works.—Magneto repairs of every description. Resch works.—Magneto repairs of every description oniced. We can mostly reture them within 24 hour We have several new and second-hand single and 2-cy magnetos in stock, all guaranteed—The Magneto B pairing and Winding Co. 78, Humpteed Rd. Eust Rd. London, N.W.I. Phone: Museum 1153. Tel Samagneto, Eusteen, Pondon.

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Competitions.

A FLOOD of competitions such as occurred at Easter cannot fail to demonstrate the extraordinary amount of public interest which centres round the motor cycle movement. Crowds gathered at all points of interest to watch the events, and big entries were the rule.

In another part of this issue we analyse the results of a trial in which there were nearly two hundred entrants, and we consider that such an analysis is of considerable public interest. It must be remembered, however, that such has been the influx to the ranks of motor cyclists that many unskilled riders are taking part in competitions which require at least some knowledge of riding if success is to be attained. It is not the easiest thing in the world for a novice to make a clean ascent of a really severe hill, even if his machine has ample power for the climb. Severe gradients have more often than not bad surfaces, owing to road-making difficulties, and the negotiation of rough and treacherous hills is an art requiring long practice. It is surprising also how hard it is to maintain a steady 20 m.p.h. average.

It may be argued that strict timekeeping should not be necessary in long distance trials, and with this, to a certain extent, we agree; but it is an undoubted fact that a schedule speed adds considerably to the difficulties of a trial, and forms a convenient method of eliminating doubtful machines and poor drivers. Hill-climbs still form an attractive feature on club programmes, and in all probability will continue to do so as long as motor cycles exist. They provide an element of sport which is not obtainable to the same degree in other road events. Their utility is perhaps questionable, since the winning machine in a hill-climb is seldom such as one would choose for long distance touring.

Brooklands is perhaps the best testing ground for motor cycles, since it is possible to work an engine much harder on the track than road conditions ever permit; and, if only a few of our younger enthusiasts were timed over three laps of the famous racing track, we should hear less of the wonderful speeds which their mounts are reported to achieve.

Club Teams in the Big Trials.

ROM time to time we have heard complaints made by private riders to the effect that against the trade experts there is very little chance of competing successfully in any of the big events, such as the Six Days Trials. This state of affairs should not be, and, in order to disperse such an impression and to give those who ride merely for sport the necessary encouragement, we think that the A.C.U. might well consider the inclusion of a club team prize in the 1920 Six Days event. Such an award could be made under conditions similar to those appertaining in the case of trade team entrants.

Several of the larger clubs could bring forward teams of three riders who would be only too glad to compete in the knowledge that their success would be measured against that of riders whose chances were not more favourable than their own. Under present circumstances, the events in which one club can compete against another, as a club, are decidedly few in number, and a success in no single one of them carries the prestige to be obtained by a team win in the Six Days Trials.

It need not be necessary to insist on any particular constitution of the teams as regards the machines ridden, as the marks could be compared on a percentage basis, but it might be advisable that one sidecar and two solo machines should be entered by each competing club. One rule should be compulsory, however, and that is that no trade entrant should be allowed to ride at the same time as the member of the club team; this proviso would not prevent a well-known trade rider competing for his club, but he would be doing so in his private capacity.



Front Brake Shoe Fitting.

CORRESPONDENT asks me to draw the attention of designers to the mounting of the shoes of front rim brakes. He points out that on certain machines the shoes are clamped to stirrups of circular section, and that if the clamping nut shakes loose the shoe is liable to twist across the line of the spokes and rip them out, with disastrous results to the rider if the speed chances to be high. A most unpleasant subject, gentlemen. On reading this letter I hied me to my garage, and found two machines with brakes of this character. I have not exceeded 60 m.p.h. since.

Wheels and Brakes.

AM just furbishing up a 1919 machine for its new owner. It has covered no great mileage, but, being very fast, has undergone a deal of brake usage. I cannot make two portions of it look presentable without having them done at the factory; and if I restore their pristine neatness, they will be shabby again before the new owner has ridden the machine ten miles. Needless to say, both rusty details are brake paths. One is the inner rim of the front wheel, and the other is the special brake rim fitted to the rear wheel, which is chain-driven. Both brake paths are red with rust, though the rest of the machine shows no perceptible signs of use, except-another silly item-where the handle-bar dented the tank when a friend came a cropper. The obvious remedy for this staring fault is the internal expanding brakes. I have never loved such brakes on cars: they wear more rapidly than a belt rim type of brake, and they are apt to reach their "na poo" point at inconvenient moments without much warning. But they have such clear advantages in other directions that we shall hope for their success on bicycles. After all, a bicycle wheel is very nearly as big as a car wheel, whilst the braking stresses are much lower, so that it should be possible to make the internal brake last well on two-wheelers.

Begin with a Motor Bicycle.

URING the last week or two I have been playing mentor to a neighbour who is making his debut as a motorist with the aid of a four-cylinder car. My pupil was well above the average in education and intelligence, but had never previously tackled any mechanical job more difficult than hanging pictures. During my struggles to make him at home with an engine and gear box, it was borne on me what an immense advantage an apprenticeship on a motor bicycle is to the intending car owner. Up-to-date the tyro has not inflicted any particular damage on his expensive chassis, though it says much for his

gear box that it did not resent reverse gear being engaged by mistake for the second forward speed. But if I had not been at hand, he would have taken the road on one occasion with his radiator half empty, and the oil level in the crank case at the danger mark. Quite apart from the risk of smashing up a costly vehicle during the early period of the novitiate, the car novice is apt to be a public danger. He will usually handle his projectile with extreme caution, but it occupies a big slice of the road, and other traffic is apt to credit him with more skill than he possesses; in fact, the ordinary insurance policy does not cover a learner. Moreover, the task of mastering such a complicated piece of mechanism as a car is very exhausting to a novice, and his first roadside troubles often baffle him altogether. It is pleasanter, cheaper, and safer to begin a motoring career with a motor bicycle.

Nothing Like It.

FTER months of cold and grease a real spring day actually dawned this morning, and I go out on the roads at once. During the assorted samples of weather which have afflicted us since las-October, I have often been tempted to accept proffered seats in cars, and my lower nature has occasionally wondered if a car is not really the goods during : British winter. But on a day like to-day there car be no option. Give me the two-wheeler every time Just a slice of dry road 4ft. wide. One finger on the throttle, and the other hand anywhere you like. No gear change for one hundred miles or so. No slacken ing of speed the livelong day, except where traffic compels: the worst main road hill asks for no more than a twitch of the throttle finger, and the pace remains as high as it was on the level. Half a day costs you no more than a dollar, and you can mor up the procession of profiteers driving American cars Such cars, too. Most of them cost about £1,000 in England, though their American list price may be little over £300, and their quality in some cases is so poo that nobody dared to import them before the ca famine made anything on four wheels worth its weigh in platinum.

Nutlocks.

AM not one of those riders who consider that ever nut on every machine should be spring-washered, o split-pinned, or visloked, or otherwise safeguarded The average motor cycle is destitute of a single nutloc of any sort or kind, and in prolonged ownership c any decent machine, we only lose half a dozen bit per annum. But I do hold that certain vital part require more safeguarding than accurate workmanshi affords. Here is a case in point. The rear brake of my machine developed a scrape in the rim. I sa

Occasional Comments .--

nothing of the trouble I met in trying to centre that errant shoe. My point is that between the boot pedal and the belt rim there were six unsecured screwed connections—four ordinary nuts, and two threaded pins devoid of nuts. This is indeed design with a capital D.

Chain Spares.

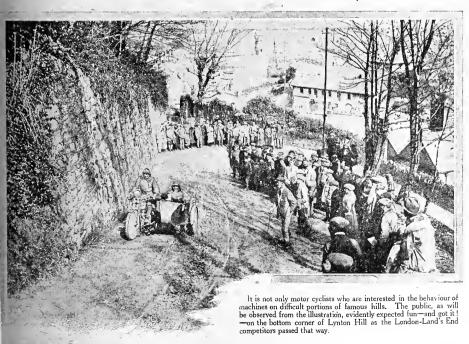
MANY thanks to the kindly correspondents who put me on the track of a few chain spares. I have shown remarkable self restraint, and, in view of the prevailing shortage, have merely bought a few odd links. But my post bag proves that a few provincial dealers can still supply oddments, even though complete spare chains appear to be everywhere unobtainable.

£5 v. £25.

purists will, I hope, excuse my taking round figures to express the comparative cost of full electrical equipment and gaslighting outfits. It is too easily taken for granted that we shall all rely on electric light in the near future. No doubt the competition man and the motor cyclist de luxe will adopt the more convenient system regardless of expense. But the outstanding fact is that an acetylene outfit, whether of the generator or compressed storage type, costs about a fiver, whereas a good electrical outfit tots up to about five times that amount retail. Buyers are already squealing about the cost of motor

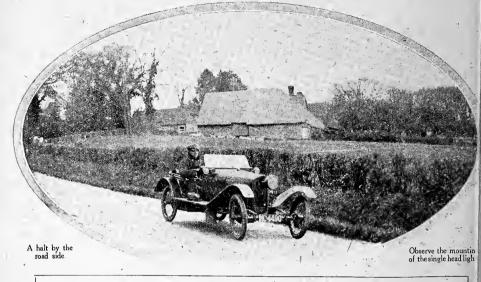
cycling, and there is still far more money about than will be the rule in coming years. Various correspondents have summed up the position of dissolved acetylene with considerable point and accuracy. If this system is efficiently handled by the manufacturers, it is barely inferior to electricity in convenience and reliability, and is unquestionably a great deal cheaper. Between it and the portable generator system there can be no comparison whatever, any more than the latter system can hope to compete with electricity except in price. The firms who have the right to produce dissolved acetylene possess a gold mine if they will only exploit it properly. Two friends of mine have just obtained quotations; in the one case the cost of D.A. was £3 15s. exclusive of lamps; in the other case, £23 78, was quoted for electric lighting, inclusive of lamps, but the motor cycle manufacturer concerned did not recommend this costly outfit, as it had given him quite a bit of trouble in other cases. These figures are significant. If the high prices now obtainable for motor bicycles have led some traders to imagine that a £20 extra for lighting is a mere bagatelle, let them reflect that there are thousands of motor cyclists who cannot and will not pay over £100 for a solo mount; and that sundry firms intend to produce masses of £50 machines within a year or two. A £20 extra on a £140 machine is not frightfully formidable; but a £20 extra on a £50 jigger is quite another pair of shoes. Acetylene lighting is not dead yet.

AN AWKWARD BEND ON A FAMOUS HILL.



ROAD TESTS OF NEW MODELS.

Impressions of Two Hundred Miles Running on the G.N. Four-wheeler.



THE G.N.'s SALIENT FEATURES.

Engine: 90° twin, air-cooled, 84 mm. bore, 98 mm. stroke, 1,098 c.c. capacity.

Transmission: Shaft to countershaft, thence by chains to rear axle. Three speeds and reverse.

Dimensions: Length, 10ft. 6in.; width, 4ft. 4in.; wheelbase, 8ft.; track, 3ft. 6in.; ground clearance, 9in. Weight: 61 cwt.

Wheels: Wire type, 650 × 65 mm.

Steering: Bevel geared.

Price: £215 Tourist Model complete, hood, screen, speedo-

meler, etc. Vitesse Model; £250.

A LTHOUGH the G.N. is a small car, it appeals particularly to motor cyclists because all the components of the chassis have been developed along motor cycle lines until no part from front axle to tail light is either unfamiliar or temporarily incomprehensible. All motor cyclists will recognise in the side starting-handle a substitute for the kick-starter, as which, incidentally, it is sometimes used. As to dog clutches and chains, disc clutches, and expanding brakes, all these can now be found in various forms on the modern two-wheeled machines.

On the road the G.N. handles well; its gear change is easy, so easy, in fact, that the sorriest novice could make neither mistake nor noise once he had become accustomed to the peculiar movement in changing from first to second. Both foot and hand throttles are provided, and each can be used with equal facility. On a really bad road we found the car inclined to wander under the succession of violent road shocks, but this is almost generally the case when a motor cyclist first takes the wheel, or having been used to lorries in the M.T., gets on a very much lighter machine. No machine as light as the G.N. is easy to spring so that all conditions may be suited, while the proportion of passenger weight to chassis

weight makes the presence or absence of the second passenger very noticeable on bad surfaces. Give a good, or even an average, road surface you is spin along merrily for mile after mile, be the reexceptionally hilly or just flat, while on severe gradies the lowest gear ratio is a boon and a blessing. The congine is naturally not so quiet as a water-cood "four," and withal has an extremely peppery exhaus the there is no doubt about the liveliness of machine nor concerning its speed.

Satisfactory Air Cooling.

Since the G.N. has been for some years an accompetitor in most long-distance trials, its air-coop system may be said to have proved itself, and may add that during some 200 miles of testing at mandas, the cooling was the last thing to think above either, in traffic, on hills, or during a fast streed in, the application of either briake yet had bedden, the application of either being rather harsh, may particularly in the case of the foot brake, but again there is no doubt as to the power of either pairs shoes.

During the time that we had the runabout, circustances caused it to be left standing in the rain or

Road Tests of New Models -

over an hour, yet the exposed plugs took no harm and restarting was not difficult. In traffic you could scarcely have a more manageable machine, and the slow running of the engine is beyond reproach. With hood, screen and lighting set, spare wheel, and a comfortable seat, there is little cause to envy even the long super-cars which cost four times the money, for

it all comes down to one thing—the G.N. is value for money. The fact that its price is approximately the same as a sidecar machine of similar power shows that Messrs. G.N., Ltd., have seriously tackled the production problem, and have achieved what many have thought impossible. Moreover, the prices are not provisional, and for twelve months a consistent output has been kept up. It was one of the original British cycle cars, and to-day holds its place in the front ranks of light four-wheelers.



(Left) The G.N. on one of the dangerous corners on the Brighton Road. Note that the ordinary fences have been replaced by wire ones.

(Right) A rear view of the G.N., taken within a few miles of Brighton.



A REAR SPRINGING PROBLEM.

The Necessity for having the Carrier on the Spring Portion of the Machine.

N the case of rear-sprung machines, the problem of springing the carrier in unison with the frame is one which adds yet another knot to this already notty proposition. The object to aim at is, of ourse, an absolute minimum of unsprung weight, ut, if the carrier and rear mudguard be sprung, a ery considerable clearance must be left between the heel and the guard. This is undesirable, not only tom the point of view of appearance, but because ut, accumulated on the inside of the guard, is apt come in contact—with the wheel when the springing aches its extreme limit. The binding, which would ten momentarily occur, would very soon demolish the ead of the tyre, and might cause serious sideslips at seed on a greasy road.

But, though there are difficulties in the way of bringing the rear mudguard, there is no great diffiilty in springing the rear carrier.

We can take it that, given any choice in the matter, e average rider would prefer the system of rear ringing which gives him a sprung position for his t, etc., to one which forced him to accept the long-lt inconvenience of worn-out tool rolls, and of having sling the delicate articles of his personal gear und his neck to save them from destruction. We us arrive at the conclusion that the system giving the

"absolute minimum" of unsprung weight will be most sought after, and that other systems, though they may present a neater appearance, cannot be regarded as permanent, because the advantages offered by the spring carrier are only second to those of a spring position for the rider.

Is a Wide Range Desirable?

In the old days of pleasure touring, I often sighed for a machine which would enable me to carry my goods and chattels so that they would not be jolted to pieces.

Provided that the action and reaction of the springs be sufficiently deadened by friction, very slight motion of the frame would ensure the comfort of the rider, and it would seem that many manufacturers are overambitious as regards the range of springing, thereby adding many difficulties to the problems of design. The greater the range of springing the greater the difficulty of retaining wheel alignment, the greater the difficulty of retaining wheel alignment, the greater the wear on working parts, and the greater the clearances that must be allowed; while that "luxurious floating motion" is difficult to obtain without some sacrifice in the nicety of the steering at high speeds. Personally, I would vote for the system giving a limited range and the aforesaid "absolute minimum," in preference to one which compelled me to carry my gear as unsprung weight.

London-Land's End: The Results Analysed.

Why such a Comparatively Big Percentage of Failures in Reliability Trials?

Γ cannot be questioned that any owner

A of a modern machine would undertake a journey of 314 miles without fear of failing to accomplish the journey to a set schedule of 20 m.p.h., and in ninetynine cases out of a hundred he would reach his destination to time. In the course of a year a large number of motor cyclists make similar journeys, and the sum total of their stoppages may amount to a change of plug, a broken belt, or a punctured tyre: Yct, put these same men in a competition-like the recent London-Land's End event, and the percentage immediately falls

Why is this?
For the monotoring public to learn that of the seventy solo machines which started in this competition only 80% finished conveys an impression that motor cycles are not so reliable as they have been led to believe. The percentage of finishers in the sidecar class was only

66% of the starters, and in the light car class, 69%.

From the viewpoint of sport, all interest would cease if the awards were much more numerous, but the figures given above relate to finishers only.

That 80% of the solo riders finished may be taken as a good figure. But is it? In analysing the awards, we find that only 60% secured gold medals, that is, accomplished the journey without loss of marks; this figure represents 75% of solo riders who finished. Not quite 20% of the solo finishers secured silver medals for accomplishing the distance without heing more than fifteen minutes early or thirty minutes late at any of the controls. Gold and silver medals together make 72% of the competitors who started on the trial.

The Siderars and Runabouts.

The sidecars were less fortunate; in fact, only 66% of the starters finished. Such a percentage in a strenuous trial, over a series of the worst hills in this country, would be good. Of course, such hills as Porlock and Lynton places this year's Jarrott Cup Competition almost in the same category, especially since the surface of Lynton was bad. Neverthe-

less, intending purchasers of sidecars take the results too seriously hesitate before investing in a machine the second type a parallel to the second type as the second type

apparently so unreliable.

That only 69% of the light finished reveals that the average six is very little less reliable than the average light car, and few buyers hesitat buy a light car because of any car on this point. Therefore, trials retained and anyone viewing them should ren ber that there are many things trial which are not encountered by motor cyclist who uses his machine touring, and that the average of could cover the route of almost any in organised without trouble. For a pleasure, perhaps, he would not atture average 20 m.p.h. over bad roads a make non-stop climbs of, the see hills. In the meantime, these riders in compete in the trials are doing good in assisting to improve the breed of 1 acycles

Individual awards of the Trial are

on page 426.

Reminiscences of the Trial.

Incidents Observed by "The Motor Cycle" Representative on the Route.

THE 4 h.p. Coulson, ridden by R. B. Clark, appeared to be running very smoothly at such times as we met it. The machine was fitted with a novel spring fork combining leaf and coil springs.

Watson Bourne had a 24 Blackburne engine fitted in the frame of his 4 h.p. machine. Unfortunately, the plunger of his gear striking lever fell out, and, in consequence, he had trouble on hils through the low gear jumping out.

W. E. Brough is an old stager who is not often seen in competitions nowadays. All the more credit to him that he succeeded in taking his 5 h.p. Brough and sidecar through to Land's End. He was unlucky enough to lose his way, and was, consequently, late at Launceston. His number was 13!

Those who like to see a big twin which will just tick over when running light and develop plenty of power at low speeds should watch Holroyd's twin Blackburne, which is marvellous in this respect.

Another old hand, V. Olssen, rode an 8 New Imperial solo. High-powered machines seemed to be popular, though Hugh Gibson piloted a 2½ Clyno two-stroke and finished with a clean sheet.

C. W. W. Cooper (23 Douglas), the youngest competitor in the trial, arrived safely at "the End," but his father was less successful. We noticed his 3 Lea-Francis being wheeled out of the line at Launceston.

C. W. Bairstow had a nasty accident during the descent of Countisbury. His Indian and sidecar overturned, and he and his passenger were pinned underneath.

The 8 Zenith and sidecar driven by R. Charlesworth finished with a curious fracture in the front sidecar connection, but was still going strong.

The roads between Bideford and Holsworthy and just outside Launceston were particularly wicked, but Bodmin Moor provided the finest stretch we have seen for many a long day.

McKeand's flat twin Harley purred along beautifully, and the rider had bad luck in suffering a sooted plug on Lynton after the descent of Countisbury.

Narrow roads after the top of Porlock were responsible for at least one amusing incident, for two rival pressmen met and had great difficulty in passing.

H. Karslake made his first appearance in competition work since demobilisation. He rode a 7 Ariel solo, and was, naturally, not worried by hills.

Considering the weather conditions, the surface of Porlock was in a wonderfully satisfactory state. The same cannot be said of Lynton, though a fairly dry but narrow path under the rocks provided a passable surface for solo and sidecar machines.

The Tamplin four-wheeler duly arrived at Land's End, and spectators evinced considerable interest in the Rover and A.B.C. air-cooled light cars, both no competition work.

What a trial for bringing out he old-time competitors! Early in the or towards the tail, familiar faces at the second of the trial of the second of the procession, while W. B. he and C. T. Newsome, two woll-kinds motor cyclists, were at the tail in the cars. Gibb, by the bye, lifted the up in this class.

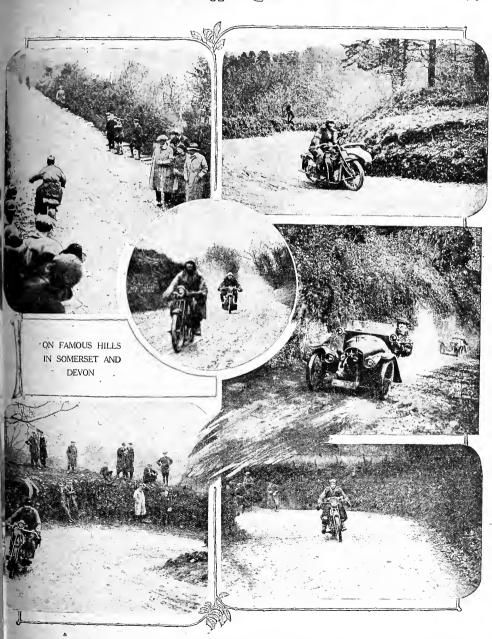
The two 8 Royal Rubys_kept together, and made fine ascents of Ly Hill. The Matchlesses also were ticularly noticeable as a group.

P. Pike's O.K. Union was fitted a three-speed Albion countershaft. The engine he used was that employed the Inverness-Land's End run, and rider swears by the new Progress pl

J. A. Newman had a coach-built at attached to his 3½ Sunbeam, but we clean ascents of both Porlock and Ly P. W. White, on a similar outfit, puless fortunate.

Many a competitor who had not reviously encountered North Devon sorty would have been glad of more tin admire the views.

The name of Parracombe appearing the route does not imply an ascent obsidered "Beggar's Roost." The hibst of Parracombe village which competes had to tackle is nothing out of the ordinary for that part of the world



Competitors in the recent London-Land's End Trial are shown negotiating different parts of Porlock, Lynton, and Artington Hills.

LONDON-LAND'S END RESULTS.

The following are the individual awards in the motor cycle classes :

Solo Motor Cycles.

JARROTT CUP WINNER. T. S. Sharratt (4 Triumph)

OLID MEDALS.

Rugh Gibbs (2) Girage-Davidson)

R. C. Staunton (4 Triumph)

L. C. Staunton (4 Triumph)

V. Gaylord (5 Zenith)

V. Gaylord (5 Zenith)

V. Gaylord (5 Zenith)

V. Gaylord (5 Zenith)

H. Karslake (6-7 Ariel)

F. A. Longman (3/4 Ariel)

F. A. Longman (3/4 Ariel)

F. A. Longman (3/4 Ariel)

F. A. Compan (3/4 Ariel)

F. A. G. Spikms (7-9 Hardey-Davidson)

R. B. Clark (4 Blackburne)

H. F. Edwards (7-9 Hardey-Davidson)

B. C. Redvers Johnson (3/2 Humber)

G. C. Redvers Johnson (3/2 Humber)

H. F. A. Applebee (4 Indian)

W. G. Belyer (5 Triumph)

H. A. Colliver (4 Indian)

W. G. Belyer (5 Triumph)

H. C. Culver (4 Indian)

W. G. Belyer (5 Triumph)

P. J. Battecknap (6 Blackburne)

F. M. J. Staunton Bourne (2/4 Blackburne)

F. Mighell (4 Triumph)

F. J. Battecknap (6 Blackburne)

F. Mighell (4 Triumph)

F. J. Battecknap (1/4 Indian)

E. Potter (1/4 Chilling)

F. M. Battecyon (4 Indian)

E. Potter (4 Allon)

E. Potter (4 Allon)

L. Way (3/4 Triumph)

H. R. Harveyon (4 Indian)

E. Potter (4 Allon)

E. Potter (4 Allon)

E. Potter (4 Allon)

H. M. Batten (3/4 New Scale)

H. Minton (3/9 Norten)

H. M. Batten (3/4 New Scale)

A. W. Brittain (3/9 Symbeam)

L. Reprofes (4 Brough) T. S. Sharratt (4 Triumph) COLD MEDALS

SILVER MEDALS.

Sidecars and Cycle Cars.

PETTYT CUP WINNER. W. H. Elce (10 Morgan Grand Prix) GOLD MEDALS.

Coll Medals.

Charleworth (8 Zenith s.)

A New Coll Medals.

A New Coll Medals.

A New Coll Medals.

B Green (8 New Imprint s.c.)

H. Dale (8 Royal Ruby s.c.)

E. A Apey (8 Royal Ruby s.c.)

E. A Apey (8 Royal Ruby s.c.)

E. A Aikken (7-9 Indian s.c.) and and s.c.)

E. A Aikken (7-9 Indian s.c.) and and s.c.)

E. A Aikken (7-9 Indian s.c.) and and s.c.)

E. A Hiken (7-9 Indian s.c.) and and s.c.)

W. Pattison (10 Morgan)

D. Bradbuy (4 Norton s.c.)

D. Bradbuy (10 Norton s.c.)

D. Bradbuy (10 Norton s.c.)

J. A Masters (7-9 Harley-Davidson s.c.)

J. A Masters (7-9 Harley-Davidson s.c.)

F. J. Ellist and Indicatures s.c.)

F. J. Ellist and Matchless s.c.)

E. D. Hardee (8 Matchless s.c.)

D. Martin (7-9 Harley-Davidson s.c.)

J. D. Martin (7-9 Harley-Davidson s.c.)

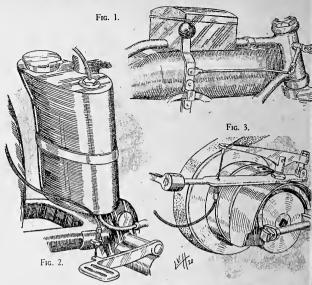
F. J. Watson (6 Ariel s.c.)

C. R. Collier (8 Matchless s.c.)

C. R. Collier (8 Matchless s.c.)

SILVER MEDALS. T. F. W. Wright (7-9 Indian sc.) G. S. Wright (7-9 Indian sc.)





GADGETS SEEN AT THE RICHMOND MEET.

(1) Twist grip control connected to Indian clutch lever; the carburetter is operated by Bowden mechanism. (2) A seat tube oil tank, with foot-operated pump, on a Triumph (3) Handle-bar Bowden control for an N.S.U. pattern gear fitted to a 6 h.p. Bat.

NO AWARDS.
W. E. Brough (c) Brough (sc)
F. E. Jones (8 Matchless sc.)
S. Godwin (10 Castle Three)
F. W. Applebee (44), B.S.A. sc.)
R. E. Dernton (8 Sunbeam sc.)
G. E. L. Dernton (8 Sunbeam sc.)
J. Simpson (6-8 Rex sc.)
J. Simpson (6-8 Rex sc.)
J. G. Sandord (4-6 Rover sc.)
T. J. Ross (8 Matchless sc.)
E. Atking (9 Matchless sc.)
E. Atking (9 Matchless sc.)
G. Packman (8 Matchless sc.)
G. Packman (8 Matchless sc.)
G. H. T. Lecthoworth (7-9 Harrley-Davidson sc.)
DISQUALIFIED.

DISQUALIFIED.
J. Mackenzie (6 Humber)

Cup Scores.

SOLO MOTOR CYCLES. SOLO MOTOR CYCLES.

1. T. S. Sharratt (4 Triumph), winner of Jarrott Cup.

2. F. A. Applebee (4 Indian Scout).

3. F. Mighell (4 Triumph).

SIDECARS AND CYCLE CARS.

1. W. H. Elee (10 Morgan G.P.), winner of Pettyt Cup.

2. C. Chapman (10 Morgan).

3. G. Nott (8 Matchless).

The individual results in the light car class are dealt with in this week's issue of our sister journal, The Autocar. It is interesting that the winner of the Lester cup is W. B. Gibb (10 Douglas), who is well-known as a motor cycle competition rider.

The fact that the cups were present by Messrs. J. Pettyt and C. Lester in old member of the Committee) for as sidecar and cycle car, and for the hicar classes respectively, was unfortunally omitted from the programme.

CANE SIDECARS.

DESPITE the undoubted popularity the coachbrilt sidecar, there is still a large number of buyerful the cane type of body. This deman agenerally from motor cyclists of existence who prefer the flexibility to withstand hard wear with the company which is a characteritic of the company of the coache of the coach damage, which is a characteristic of b who have found the wood construsted in body unsuitable in hot climates.

The modern cane sidecar is a different proposition from that of the cane chair days, and, made of clay woven solid reed cane, well upholst it compares very favourably on point of finish with the coach-built by

Makers specialising in this type of are now somewhat limited. It will, the fore, be of interest to a number of wreaders to know that Edward Bowse of 46, Burley Street, Leeds, well-known many years as a specialist in cane by work, is again marketing cane sidecal

The Bowser No. 2 is a tandem-scor capable of accommodating two adults. and sells, with chassis and tyre, for £35 sor body only £14 8s. 9d. Single-star types are also marketed, includin a sporting model.

TABLE OF RESULTS.

	Started,	Finished.	Cups.	Gold Medals.	Silver Medals,	No Awards.	Dis- qualified,	Retired.
Solo motor cycles	6.4	56 43 18	I I	42 24 *14	1 i 1	16 -	1	14 22 8

^{*} In the case of one light ear, additional award under consideration.



IN THE DEVASTATED AREAS. (Top) Many visit the battlefields on a sorrowful errand, to see the graves of those who have passed over; the graves registration surveyors who assist them use motor cycles in their work. (Centre) The motor cycle and sidecar is useful in carrying both people and goods in the ruined towns. (Bottom) Halt at a wayside estaminet on one of the old battlefields, near Chateau Thierry.



Some Calculations showing how the Cost per Mile Decreases as the Mileage Increases.

NE is often asked how much it costs to run a motor cycle, and the answer to the question is one which must always be of considerable importance to the ordinary purchaser, who is usually a man of distinctly limited means.

Unfortunately, it is never possible to give an exact answer, and it is possible that this uncertainty about what expenses may be involved deters many potential

enthusiasts from taking up the pastime.

The truth is that expense is greatly affected by a large number of factors which are mostly unknown in any particular case. Quite apart from the obvious fact that a big twin and sidecar will cost much more to run than a baby two-stroke, there is a very big personal element.

I do not think it would be any exaggeration to say that the expenses of two riders of different temperament—quite apart from questions of skill—riding

identical machines might differ by as much as 30% or more, if taken over long periods. Indeed, I believe that one might spend twice as much as the other. If you must always have the very last word in machines, if you are too lazy or too busy to do all cleaning and repairs yourself, if you want the very latest and best accessories, and if you always drive your machine to the limit of its capacity, you will find that you can get through a surprsing amount of money in the course of a few seasons. If, on the other hand, you take a pleasure in doing everything yourself, if you study economy, and enjoy the process of "making things and if you drive steadily and carefully, you will find that motor cycling is one of the cheapest amusements going for the amount of fun you get out of it.

How Costs are Increased,

from London after a dance. a vile night of wind, rain, and sleet, and

about three miles from home my back tyre, which had been giving trouble all day, finally went flat for good and all. Back tyre repairs on this machine are never pleasant, and it was clearly a case for deciding whether . to spend the greater part of some time labouring dolorously in the mud, and dark, and wet, probably ruining my dress clothes the while, or whether to

abandon the 'bus, walk home, and send out a break down gang the next morning. Problems of this kin are, fortunately, fairly rare, but their solution depend largely on temperament and are likely to make a bi difference to running costs. The temptation to slin the machine into the local garage and leave the worl men-to do some minor repair what time you g and get lunch is often strong, but it must be stern repressed if you are really out for economy.

Then again there are all sorts of incidental expense which may be indirectly incurred-such as meals : hotels instead of at home—but there are also incident. savings of train fares and taxis and sometimes I myself, for instance, living within twen miles of London, find it cheaper to go up-e.g., for a dance-by road and to come home again afterware than to travel by train and to put up at an hotel.

If the machine is used regularly for business pu

poses or for any journeys which wou otherwise be done by train, this savin may be very important, and the net co of keeping a machine would be muc lower than if it were used solely for joy-rides." Even here the person factor is important, for much wi depend on whether you normally trav first-class and by taxi or third and I tube or 'bus.

It is a common practice to sta running costs in terms of cost per mi run. This is sensible enough, but should be remembered that, quite apa from the personal factors which I have just mentioned, the cost per mile wil vary greatly with the total mileage run This is of great importance to the ma who is trying to estimate how muc if at all, he will save by doing journeys by road rather than by rai I have, therefore, worked out table and curves of running costs for differe types of machines running over differe distances. I have taken three type as representative, the solo lightweigl supposed to be about 21/2 h.p. two

four-stroke; the standard type of 31/2 h.p., and the biggish twin with sidecar. These, I think, are a that need be considered for purposes of illustration Anyone interested in other types of solo or sidec machine can interpolate.

The most difficult item to assess is depreciation which depends so largely on the care with which

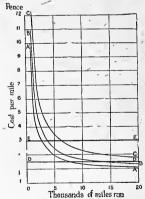


Fig. 1.—The curves show at what mileage it becomes cheaper to travel by train than The other night I was driving a well-known make of three-wheeler down from Lordon of three-wheeler down heavyweight. BB, solo mediumweight. CC, heavyweight. DD, train, third class. EE, It was train, first class.

Running Costs .-

the machine is treated and the buying and selling skill and luck of the owner. Some people have a genius for this sort of thing, while others seem fated always to buy dear and sell cheap.

I have been obliged, of course, to make certain assumptions and guesses, and, therefore, the curves must not be taken as being really accurate. They serve, however, to show how the cost per mile decreases inversely as the distance run, and how each type of machine compares with railway travelling in the matter of expense.

I have assumed moderate prices for the lightweight, the 31/2 h.p. machine and the sidecar outfit; I have reckoned interest on capital at 5%, and insurance for the three machines at £2 15s., £3, and £5 respectively. Tax, registration, driving licence, and overalls I have put down at £5 in each case.

I have assumed that the machine is bought new and is sold at the end of the year, and have accordingly allowed £15, £20, and £30 for de-

I estimate that petrol will cost

preciation.

about .45d. per mile, at present, for the lightweight, .55d. for the 31/2 h.p., and .75d. for the sidecar train, first class. Oil, .08d., .11d., and machine. .13d.; but this will vary greatly with the make of machine and the speed at which it is driven. The last factor makes it very difficult to allow for wear

and .3od., for the "three cases respectively.

of tyres, but I have reckoned these at .17d., .2od.,

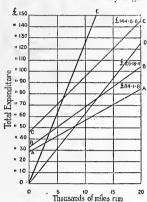


Fig. 2.—Showing the total expenses of the various forms of travelling for distances up to 20,000 miles. AA, solo lightweight. BB, solo mediumweight. CC, heavyweight and sidecar. DD, train, third class EF.,

I have assumed that the owner will be able to do all running repairs, and I have allowed the sum of $\int_{0.5}^{\infty} 2 \cos x$ in each case for the renewal of worn parts after 10,000 miles.

These are only rough approximations and are bound to vary a good deal in individual cases, but I do not

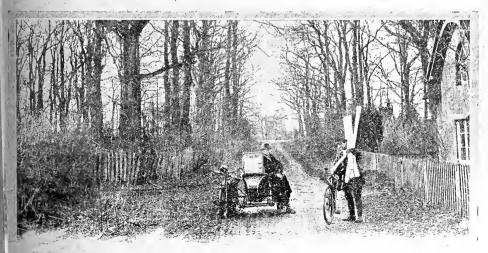
think that the curves are misleading in the main. They show (fig. 1) that the lightweight begins to get on terms with the train at about 2,750 miles for first-class travelling, and about 7,500 for third-class; the corresponding distances for the 31/2 h.p. are about 3,500 and 12,000 respectively.

The sidecar outfit, driven solo, would not have a chance against the third-class train until about 35,000 miles had been covered. But if the fare of the passenger is counted in, it begins to score at the 6,000 mark.

The same thing is shown in a different way in fig. 2. This gives the total expenses of the various forms of travelling for distances up to 20,000 miles.

These calculations are based on the assumption that a new machine is purchased at the beginning of the year. If the owner buys secondhand, the charge for depreciation will be much less, but expenditure on repairs will be higher.

So much depends on the individual driver and special circumstances that the figures given might be greatly modified in any given case. I think, however, that they may show how running expenses are likely to turn



ON ESTATE WORK. Owing to the high price of small cars, the sidecar is now being used more extensively by estate stewards. In the above picture the owner of an Ariel is discussing internal combustion engines with the handy man, who tends the electric light plant in his spare time.



NEW IDEAS IN ACCESSORIES.

Brief Notes on Many Devices Recently Submitted.

An Adjustable Lamp Bracket.

REQUENT annoyance is caused when, after purchasing a lamp bracket for the sidecar, it is found that the position of the tang makes the lamp, when fitted, point



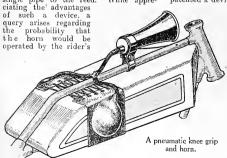
An adjustable lamp bracket.

in an undesired direction. A novel fitting produced to obviate this diffi-culty is shown in the illustration. The tang is held in the end of the bracket by means of a washer and nut, which latter, when slackened,

enables the lamp enables the lamp to be adjusted in the required position, after which the tightening of the nut holds the tang rigidly by the bracket. This accessory may be purchased from Messrs. Dunhills, Ltd., 359-361, Euston Road, London, N.W.1, price 4s. 6d.

Operating the Horn by the Knees.

WITH the idea of operating a horn · without having to hands from the to remove the handle-bar, hands from the handle-bar, Messrs. Alexander and McLay, of 15, Cranbourne Avenue, Park Road, N., Birkenhead, have patented the device illustrated. It will be seen that it is intended to embody two bulbs in kineepads, from which rubber pipes are carried to a Y connection, thence by a single pipe to the reed. While appreciating the advantages of such a device, a query arises regarding the probability that



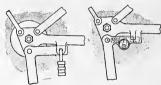
knees at other times than when wanted. Probably it would be possible to have a valve near the reed which could be operated by a small lever on the handlebar by means of a Bowden wire.

The advantages of such a horn, if The advantages of such a horn, it properly controllable, would be approximate to those of an electric horn, and it should meet with a ready demand. We understand that the inventors are open to negotiate with accessory makers

for the manufacturing rights.

A Lock for the Stand.

IT will not be very long before every motor cyclist will either fully insure his machine or have it equipped with an efficient lock to prevent it being stolen. Even when a machine is insured,



Two methods of locking the motor cycle stand in position.

the owner should take every precaution against theft, as, apart from the moral, aspect, there are difficulties attending the purchase of a new machine.

We are glad to see that inventors are We are glad to see that inventors are turning their attention to the scope that exists for locking devices. Personally, we favour fitments which prevent the machine being wheeled altogether; and in this connection Messrs. Merring and Jones, Alderley, Stepps, Glasgow, have patented a device for locking the stand.

In one form, the lock is embodied in the stand arm, the bolt of the lock being inserted in a socket in the frame member. This may be open to criticism on the point that mud would probably fill up the orifice. The other form illustrated uses a padlock, which obviates Apparently part of the lock has to form an integral portion of the stays, in which case it limits the use of the invention to new or reconstructed motor cycles, Another

criticism is that the device would be found of greatest value on solo machines only, as with modern sidecars the weight is usually too much to induce the owner to lift the machine on to the stand.

A Speedometer Drive Protector.

A CORRESPONDENT, Mr. F. I Tippett, 31, Charlton Road, Blacheath, London, S.E., has invented and patented a device for protecting the gear wheels of the speedometer transmi sion. The idea originated in his havin to renew the driving gear wheels of h speedometer so often, owing to grit ge ting in between the cogs and causin wear to the parts.

The device consists of a casing encle ing the two gear wheels, and fitted wi a V shaped grove on the exterior, that any mud dropped from the fro wheel runs clear away.

> V-SHAPED GROVE

A speedometer gear wheel protector.

The section of the edge cover assum the shape of an M, and Mr. Tippe claims that this shape makes the protect suitable not only for speedometer ge wheels, but for other purposes as we such as belts, chains, belt pulleys, h cones, etc., of motor cycles.

A Useful Motor Cycle Cove

THOSE of our readers who have oft to leave their machines exposed all weathers will find the not cycle cover brought out by the Howa Car and Cycle Cover Co., 41, Fetter Lar London, E.C.4, to be an exceeding useful accessory. The cover is made water and rot-proof canvas, shaped fit over a motor cycle or motor cycle a sidecar. Its top is designed to prese a sloping surface to the weather, so the

Again the



Scout

makes a

100 per cent. success.

SCOUTS compete in the

London-Land's End Trial

GOLD MEDALS

Mr. F. A. Applebee on his Scout also ran second for the Jarrott Cup.



Send for List.

HENDEE MANUFACTURING CO.,

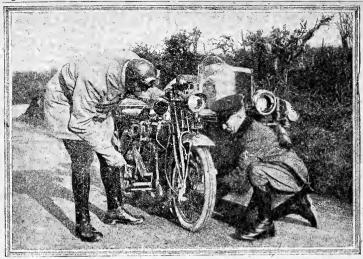
"Indian House," 366-368, Euston Road, London, N.W.

Telephone: Museum 1643.

Telegrams: "Hendian, Euscood. London."

AUSTRALIA—109-119, Russell Street, Melbourne. AFRICA—
"Indian House," 122-9, Commissioner Street, Johannesburg;
"Indian House," 599, West Street, Durban: "Indian House,"
Strand Street, Port Bitzabeth.

.n answering this advertisement it is desirable to mention "The Motor Cycle."



"A ROADSIDE ADJUSTMENT."

The A.A. patrol lends a helping hand.

"CARRYING ON."

How new A.A. members will benefit by the example of the "First Hundred Thousand."

THE present season will undoubtedly be a record one for the motoring world; deliveries are being speeded up; the output, in certain works, has been increased by 100 per cent. during the last three months, relations between employers and employees are better—in fact, all branches of the industry are "carrying on" to the best of their ability, and ensuring their share of the increased production, which is vital to the life of the nation.

Already there are more motor cyclists on the road than ever before, consequently, the ubiquitous A.A. Badge is even more in evidence, and, as a result, the Automobile Association's benefits of membership have been further increased.

During the last twelve months the Association has instituted "Mechanical First-Aid" Machines, a Day and Night Roadside Telephone Service, a "No Cash Deposit" scheme for members taking their motor cycles abroad, Roadside Motor Fuel Supply Stations, and it has extended the Free Legal Defence and Advice Scheme to cover civil cases in addition to the defence of members in respect of summonses under the Motor Car Act.

One would naturally conclude that the subscriptions had been raised to cover these extra benefits, but this is not so, and the subscriptions remain the same as in 1905, when the Association had only a few patrols on the roads between London and the South Coast.

This has been made possible by the "mas membership of the Association; new practi benefits being added as the income from member subscriptions increases."

To day the A.A. has more than 110,0 members, the number is growing at the rate of nea 2,000 each week; therefore, the Association is a to provide Road Service which, for completen and efficiency, cannot be approached by any otlemotoring organisation in the World,

This service includes, in addition to the privileges mention above, free assistance by khaki-clad A.A. patrols on all principal main roads of the country, home and foreign tour facilities, engineering assistance, officially appointed hot agents and repairers, special insurance facilities, etc., etc means of this service the member is looked after the whole the he is on the road, and he is prepared for such emergencies breakdowns, delays, bad road conditions, unsatisfactory haccommodation, incompetent repairers and other discomfo

Therefore, if you are not already a member of the Atmobile Association, you should, in your own interest, join no and participate in the advantages which have been built p by the subscriptions of the "first hundred thousand" member

Full particulars of all A.A. benefits are contained in booklet, "The Key to the Open Road," a copy of which a be obtained, post free, from the Secretary. The Automote Association, 21, Fanum House, Whitcomb St., London, W. (2)

Motor Cyclists in London are invited to call at Helquarters, where a staff of experts is always in attendance give information on any question relating to motoring.

If unable to call, send a postcard to-day, and the boost will be despatched by return of post



A useful waterproof "cover all" for a motor cycle.

water-shed is formed, which effectually rotects the machine against the most iolent downpour.

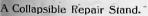
It is also designed so that it may be olled up and strapped on to the carrier. The device should be a great boon to hose who have to leave their motor cycles emporarily out of doors when garage ccommodation is not available, and hould be extremely useful to those happy notorists who possess week-end cottages which have not any motor house accomnodation.

A Useful Accessory.

AN exceedingly useful tool for motor cyclists is the P. and P. combined belt punch and cutter, which not ally cuts the belt to the required length, ime drills a hole, but at the same

exactly the right distance from the end of the belt. The blade is of the best Sheffield steel, and is detachable, so that it can be sharpened if necessary. Many owners of belt - driven

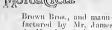
machines will appreciate the value of this tool. It is made by the P. and P. Engineering Co., 135, Richmond The P. and P. combined . Road, Shoebury-ness, Essex.



belt punch and cutter.

MOTOR cyclists who are fond of tinkering, and garage men who do this in the course of business, have ow the choice of several back-ache-iving stands upon which a machine may e placed for repairs or adjustments. The itest to be brought to our notice is nown as the Marnie, sold by Messrs.





factured by Mr. James A. Marnie, of the Cen-tral Cycle Works, High Street, Montrose, N.B.

As will be seen, the stand is collapsible, so that when not required it can be stored con-veniently. It consists of a wooden platform, 7ft. in length and 20in. wide, provided at each end with hinged steel legs. The machine is run on to the platform when the latter is flat on the ground; the rear wheel

is then raised on to its stand, and the front end of the stand lifted up. A long lever at the rear end assists in raising the plat-form to a horizontal position, also bearing upon the cross member of the stand on the machine to prevent movement. Lowering the frame is apparently just as

A simple and efficient design of leg shield.

simple, the inventor claiming that one person can raise or lower the bench without undue exertion. It would appear that for safety's sake a second person should stand by in case the machine overbalanced.

A Combined Mudshield and Footboard.

AN especially efficient pair of mud-shields and footboards is being marketed by Messrs. Henry, Duke and Co., 82-84, Church Road, Hendon, London, N.W.4. The mudshields, which

extend well above the rider's knee, are pro-vided with side valances, which shelter the feet from mud splashed from passing vehicles. Placed sufficiently low to enable the air to pass over the cylinder, a sheet steel guard fills the gap -between the two leg

shields, and extends backwards under the crank case, protecting the latter from mud thrown up by the front wheel. The mudshields are screwed to Footboards, which are held by brackets mounted on either side of the footrest spindle, whilst a corrugated aluminium plate is fixed to the top of the board.

A Waterproof Suit.

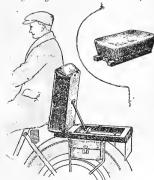
W E have lately been trying a suit made by Weatherproofs, Ltd., 10, Lovell's Court, Paternoster Row, London, E.C.2, and were able to test it to the full on the occasion of a recent trial in heavy rain.

The suit is made of heavy waterproof twill, and the coat is a little longer than the ordinary motor cycle coat, affording some protection to the knees. It is wellmade and perfectly waterproof.

A Combined Pillion Seat and Back-rest.

CRITICISM often urged against back-rests on motor cycles is that they impede the rider when mounting or dismounting. This objection has been overcome, however, as far as it can been overcome, however, as far as it can possibly be overcome, by a device provisionally protected by Mr. C. R. Mills, of Learnington, and which will shortly be marketed by Mesrs. John Denby and Co., Upper Weil Street, Coventry.

Briefly, the accessory consists of a wooden frame with suitable clips for standard motor cycle carriers. Hinged at the front end of this frame is a board on which is mounted a well-upholstered cushion supported on twelve coil springs. cusmon supported on twelve coil springs. In its horizontal position, it forms an excellent pillion—seat, but when not required for this purpose it can be lifted into a vertical position, where it is retained by a spring catch, and so forms a comfortable back-rest. The spring catch consists of a strut secured at right angles to a transverse bar, the



A double purpose pillion seat.

latter being free to slide laterally to a limited extent. A tension spring pulls the strut into the upright position as the seat is raised, and also moves it sideways, so that it catches beneath an abutment at the highest position.



The Editor does not hold himself responsible for the opinions of his correspondents, All letters must be addressed to the Editor "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

CYLINDER CONSTRUCTION.

Sir,-I would like to ask if any reader has experienced aluminium cylinders internally electro-plated with iron or cobalt. Probably the cylinder is to be plated first with copper, then with iron or cobalt, which can be of a great thickness, but I doubt if it will stand against the tempera-

Rasunda, Sweden.

INFLATED PRICES.

Sir,-I have been keenly interested in the correspondence which has recently appeared in *The Motor Cycle* with regard to prices for motor cycles at the present time, and, as a business man, I am keenly interested to know what course the motor cycle trade are taking in the case.

There is a motor cycle agent in my district who has apparently obtained a Triumph, model H, 4 h.p. This he shows in his window to-day. It is listed by the Triumph people at £103, on which, I presume, he gets his usual trade allowances. His price to-day (of which I have two witnesses) is £150. This is not including sidecar, accesssories, or any extras.

I therefore take it that, apart from trade discount (which I happen to know is quite substantial), he is endeavouring to make an extra £27.

Cannot the Triumph Cycle Co. do something to prevent this sort of thing occurring?

I note this agent also has a sign outside which reads "R.A.C. Agent." E.J.L.

seems to be an excellent instrument.

its rather rich mixture until the engine warms up. not out to criticise, and merely wish to learn more of wha JOHN HOLLAND.

PETROL ECONOMY.

Sir,-Being a keen motorist, and anxious to try anythin to reduce the cost of motor spirit, a friend advised me t get fitted a patent combination known as the No. 5 Atomise with angular vanes, and made by the Atomiser Co., of Eas Boldon in Durham.

Accordingly, I had fitted to my new 1920 8 h.p. Sunbear combination these appliances, and decided to give them fairly severe test.

Having recently made a return journey into Scotland of 164 miles on three gallons on the machine as delivered from the makers, i.e., about 54 m.p.g., I thought, being sceptical these figures were too good to be beaten. I therefore set or on March 13th, and in the North met wild weather, snow and half a gale, and on my return on the 15th experience similar conditions.

Now, my friend assured me I should save 25%, so I wen carefully into it, and the mileage worked out at 185 with consumption of two gallons six and a half pints-just abou

65 m.p.g.

In the interest of enthusiastic motorists, like myself, decided that inventions of this description at the presen time should not be missed, hence my writing you.

T. E. SMITH.

CARBURETTER DESIGN.

Sir,—I read with much interest the account of the Eta carburetter in The Motor Cycle recently. It seems to me a most promising design, and I look forward to reading further particulars of its performance later.

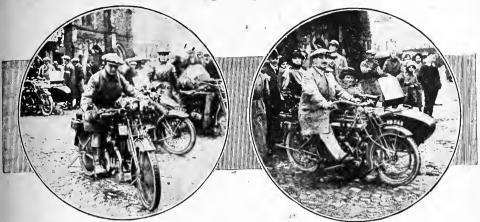
There is, however, one point on which I should be grateful to the inventors for enlightenment. Mr. F. Strickland, writing in The Autocar of March 13th, says: "If reference can be made to Mr. Brewer's book on carburetters, it will be seen that the flow of petrol increases very rapidly with the rise in temperature, owing to the decrease in viscosity. It is, therefore, quite impossible to get the same proportion of petrol to air at different temperatures. and the difference is so great that it is evident that no carburetter, without some adjustment, can be even approximately right through the variations usual in an engine in our climate." I should much like to know how the inventors of the Eta get over this diffiinventors of the Eta get over this alm-culty. It does not seem very desirable that the jet, or valve, as it is more correctly called, should be adjusted from day to day by inexpert riders. Is it possible that the injector device can correct for temperatures?

Presumably, the heating up from the engine can be allowed for by setting the mixture on the weak side (when cold), and relying upon the pilot jet and



PRIZE-WINNING LADIES AT RICHMOND. Miss S. F. Wilson (2½ h.p. Levis), who travelled 59 miles, and Miss E. Dent (2½ h.p. 1915 Douglas), who had the best kept machine, gained the Motor Cycle Manufacturers' Union and The Motor Cycle prizes respectively.





AT THE RECENT MEET AT RICHMOND (YORKS).

W. H. Dodds (3½ h.p. Sunbeam), winner of The Motor Cycle prize for the most ingenious idea (electric lighting conversion).

C. H. Zissler (1917 4\frac{1}{4} h.p. B.S.A. sidecar), who had the best kept machine at the meet.

HOW TO BE POPULAR.

Sir,—May I point out one reason which I think is partly the cause of motor cyclists not meeting with the entusiastic welcome that they might desire at many hotels. I participate regularly in trials, large and small, and I have repeatedly noticed that competitors rise from the table without any thought of tipping the staff. None of us would think of omitting this function if we were hunching alone in similar quarters, and it is hardly sporting to take advantage of being one of a crowd. It may not affect us personally, but it injures the crowd, and adds to the difficulties of trials organisers. A lunch of this kind means much more work for the hotel staff than ordinary routine luncheons, and therefore I would propose that at these sporting events trials secretaries make some provision for the passing of the hat round to the sportsmen concerned. If we are going to ride in trials at all, we may as well conduct ourselves like the rest of civilisation.

B.

FINISH OF NEW MACHINES.

Sir,—Might I take up a little space in your paper with reference to the "finish" of a new machine, of which I have just taken delivery. In view of the great interest which this outfit arouses when drawn up in the City, I think it necessary to point out to potential purchasers of outfits that there are many things which go to make a perfect machine. First, the sidecar. In fitting the press studs to which the cover is attached it would appear that the fitter had put his thimb or hammer on the wet varnish, leaving five blobs which are a constant eyesore. When the screen was fitted, it was necessary to cut away some of the wood work. Instead of touching up the job afterwards, the white wood is visible. Underneath the door is a stain 5in. long, which has been varnished over. These little matters, while trivial, are very annoying, as, unless the machine is perfect when new, the owner feels very little interest in keeping the appearance in order.

Regarding the machine itself, it was found that none of the security bolts had been tightened, the nuts being just started on the threads. This is easily remedied, but it would have annoyed me considerably had I ruined a new tyre through this cause.

The sight feed Inbricator leaked badly, but was, of course,

In conclusion, it would appear that manufacturers do not pay sufficient attention to the little details which mean so much. This is regrettable, as the machine in question runs perfectly, and is one of the most enjoyable mounts I have ever ridden. I am an enthusiast over this particular make, but the one thing which would make me change my allegiance

would be a machine to which real attention had been given to detail and finish.

to detail and huisi.

After all, having paid £210 for an outfit, one expects the "goods"; otherwise I would sooner have the price made £215 if it would save me the annoyance of having those five brown blobs for ever in front of me.

A. BROWN.

ELECTRIC LIGHTING.

Sir,—As a hard rider for some years, I agree with "Ixion" that the electric system with dynamo is the most convenient yet produced. But experience has shown that the dynamo must be gear or chain-driven: leather or spring belts are not reliable enough. Also, can "Ixion" tell me of an accumulator that will stand up for long to high speed touring (unless it is housed in the sidecar, but I often tour solo)? It leaks acid, cracks its case, or else the plates break off the lugs. Why are accumulators placed under the saddle where they get all the bumps? Is not the top of the tank, up in front, the proper place? Why are not all head lamps made with an additional small bulb to light with the big one, so the darkness does not get up and hit you when the

big one burns out?
Electric light is fine when it works, but there is room for a lot of improvement on the usual installations.

Madrid. F. S. ROWE. [We have used a Fuller Block accumulator mounted on the footboard with satisfaction.—Ed.]

Sir,—Having read your article on "Electric Lighting on Motor Cycles" in a recent issue of The Motor Cycle, it has occurred to me that your readers might be interested in the experiences of one who has tried it without success, for I, too, like your contributor, "W.D.S.," have sworn a mighty oath, but have gone back to acetylene again. Some of the points may be a warning of what to look out for. I used a 4 volt accumulator, and ran side and tail lamps, in series, using the ordinary 2 volt pocket pea lamps in these, and an 8 wat 4 volt bulb in the head lamp. For the wiring I tried various kinds of flex, but they all suffered with wet, oil, petrol, and collected dust and dirt, and soon looked shabby. The best I found was Henley's cab tyre sheathed cable, as used for portable lamps in workshops, etc. The only troubles with this were it split (outer covering only) if squeezed at all under the Bowden wire clips—not at first, but after a day or so, according to the amount of distortion caused by the clip; also, the ends at the lamps, terminal board, etc., must be supported, and the weight not taken by the strands of the conductor in the terminals. The C.T.S. wire is oil, petrol and wet, but not benzole, proof. My greatest trouble was inability to keep the acid inside the accumulator, or even to the inside of the accumulator

box. I originally carried this inside the sidecar in much the same manner as "W.D.S." suggests, but what with the acid creeping and splashing about, it got through the box, saturated the woodwork and upholstery of the sidecar, to my great dismay, and might easily have caused damage to the shoes and skirts of my passenger. I then transferred the accumulator to a new box, treated inside and out with acid proof paint, and fixed it to the chassis near the attachment of the head facts the original property of the property of the property of the side of the property of the ment of the back forks, the only place available to gct a safe fixing, and where acid could do the minimum of damage; nxing, and where acid could do the minimum of damage; but the jarring and vibration were too much for the cell, it loosened the plates, opened the seams in the top of the cell, and let the acid out, and eventually jumped a hole through the bottom. Two accumulators have been served in this manner, also flakes loosened by vibration caused shorts between the plates, in spite of the perforated celluloid separation fitted.

I can sympathise with anyone's feelings who experiences being suddenly plunged into darkness on a dark, wet night when travelling along a country road at, say, 30 m.p.h., and when he has got over that, as he hunts for and remakes the broken connection to his accumulator or terminal board. the broken connection to his accumulator or terminal board, and, perhaps, has to find a substitute for the missing screw, or finds that the wire is just too short to reach the terminal. Here I might point out that pretty spiral ends to the wires have a way of catching in the rag or your coat sleeve button when cleaning the machine down, and also they have weight sufficient to cause fracture of the strands of wire under vibration; besides, they collect dust and dirt, unless the whole is encased in a box.

These thirses do haven and from experience I can I

These things do happen, and from experience I say I would rather clean out my generator, blow out tubing, change stopped up burners on the road at night, than have the other thing. When this is done you can get going again, and these troubles with acetylene can be guarded against by proper inspection before starting out, but those of electric lighting I say no most decidedly. With acetylene I always carry a metal polish tin of spare water, carbide, and spare burners.

When I can have a dry battery capable of giving a good steady four to five hours suitable light for a combination, with the battery either rechargeable or capable of 300 hours with the battery either recentrigeable or capable of 300 hours light before renewal, and of a reasonable price and weight, then I will go back to electric lighting again. Dynamo and dry battery is the nearest to perfection so far, but look at the cost and weight of it all.

Ryde, I.W. ONE WHO HAS HAD SOME.

A COMFORT TEST.

Sir,-I was exceedingly interested to read in The Motor Cycle of the suggested machine for measuring vibration. have had such a machine for a long time. It is very simple, and can be fitted to the carrier of a motor cycle which is then driven over a marked course. An exact register is taken of practically every shock received, the whole experiment occupying about thirty seconds.

Comfort, as you very truly state, is most important, and, I think, should be regarded as a part of efficiency.

A. M. LOW, Major. HONOUR TO WHOM HONOUR!

Sir,-I should be obliged if you would insert the following in your valuable journal, of which I have been a reader since 1903.

Having trouble with my magneto, I took it to a .Birmingham firm for an estimate, having to wait several days for this. Finally, I found the charge was £4 12s., which I thought was out of all reason, and, taking the magneto to the Silverdale Manufacturing Co., I was absolutely astonished at the price quoted for repair, viz., 15s., and

the repair would be guaranteed.

I may state that I am not interested or connected in any I may state that I am not interested or connected in any way with the Silverdale Company, my letter being to give the firm a recommendation to "Brum's" motor cyclists.

L. S. DAVIS.

DESIDERATA.

Sir,-Being a motor cyclist of twelve years' standing, may I suggest a few points for the genii in construction to meet with their brainy inventions?

(a) Bad roads may be fashionable for some time to come, therefore the front wheel mud must be dealt with. It never has been even scotched in most machines.

(b) Nor has the problem of a real spring frame. We sit so far back on the machine that the c. of g. is uncomfortably near the resultant road shocks.

(c) Comfort is a great thing—we get it sometimes in the Army. Why not on motor bicycles? Men with short the army. Why not on motor breyeles? Men with short fingers seem to get a lot of cramp from the handles. Personally, I am of that persuasion, although I hold that T.T. bars and pneumatic grips discount the after effects 50%. There is also a sponge rubber grip that does not wear quite-as well, but is good stuff.

(d) About engine construction. Cylinder flanges are too small to get at the holding-down belts and nuts.

(e) Adjustable tappets are a doubtful curse when they get old in the head. "Get a new one," you say, Yes, when it jibs twenty miles from nowhere, and you have to take down the cylinder if you have a spare.

(f) It does not require enormous mileage before induction

valve guides form air leaks.

(a) Why not eccentrics on the half-time shaft, adjustable tappet sleeve on the eccentric rod, and overhead valves? No fear of noise, want of oil, or nearly so much wear.

(h) About carburetters. Some do not suit all machines.

Many do not work with benzole; few have petrol strainers, I say it is the duty of the carburetter to do the straining and keep the tank clear of such fitments.

(i) All leaks exist uncontrollable in the split of the induc-

tion pipe union, which is often clamped with a clip ring

and-screw,

(i) They are embodied in the air intake, which cannot be closed in many makes when starting from cold. I have put a cork in or fitted a trap door. A brass gazze diaphragm and flooding works well. But, after all, it is a ghastly waste of juice. My old Triumph starts when I need it with the contract of out flooding or priming. In the millennium each maker will produce his own carburetter with his mount.

produce his own carbinetter with his mount.

(k) Transmission. With a kick starter and clutch, either chain or belt, or both. The cheapest is the best. Scotland is bad, but try Cornwall! I had an endless belt once. It was topping for a few thousand miles. But if we must have ended belts, why not invent a fastener to tighten as

well as fasten?

(1) The cost of everything is simply outrageous—even lamps. Cannot a lamp be made of three or, at most, four stampings, fittings extra, and generator-half a dozen makers please note? A rooking price is as bad a defect as an inefficient article.

(m) Now we have discs everywhere. Why not disc wheels, and have done with spokes and the bore of washing

and painting them?

(n) Look at the little front brakes that continue to be issued. Surely the business end of the brake must grip on a belt rim of the right size to fit a front wheel, in ordinary spring forks without radical alterations.

I am aware that many improvements might be added to the list, but that can be better accomplished by your other correspondents with greater breadth of experience. But we find in these days that no machine embodies a large number (to say nothing of a complete number) of such refinements. C. ANDREW.

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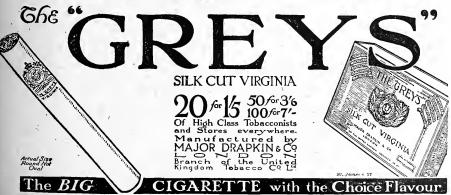
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Times to Light Lamps.

Apr.	15th				p.n
1,	17th		• • • •	8.27	,,
,,	19th		• • •	8.30	,,
**	21st	•••		8.34	12

L.C.C. Index Marks.

The London County Council has been assigned the following additional index marks: XB, XC, and XD. This brings the number allotted to London up to twenty-four.

The M.C.C. Team Trial.

The course this year will be similar to that utilised last year. Consistent driving will be tested in the following manner: Each competitor must check his time for the first circuit, and must endeavour to make the two subsequent circuits as nearly as possible the same time.

Isle of Man Races.

It has now been definitely decided that the flying kilometre, race on the Douglas Promenade will take place on Friday morning, June 18th, owing to the fact that certain riders will not have access to their machines on the 16th, the date originally suggested.

Racing in New Zealand.

Ou February 7th the Pioneer Sports and Motor Club held a race meeting on New Brighton beach, Christchurch, the results of which are as follow:

FOUR MILES SOLO HANDICAP (Private Owners).
1. G. Henderson (7-9 Harley-Davidson) . scr.
2. W. A. Thrner (3½ B.S.A.) 60s.
Time, 5m. 58s.

FOUR MILES POST HANDICAP.
1. L. F. Poore (7 Excelsiot).
2. F. Haworth (7 Harley-Davidson).
Time, 3m. 57s.

How to tell the Date of a Harley-Davidson Motor Cycle.

All Harley-Davidson electrical machines, except those made in 1916, are prefixed by the letter L. When this is not the case the machine is equipped with magneto ignition.

For the year 1915 the number terminates with the letter K: for 1916, the letter N: the 1917 and subsequent models are prefixed thus before the ambor-L.17.T; 1918, L.18.T; or 1919, L.19.A; 1920, L.20.T.

L.19.A; 1920, L.20.T.

If any manufacturers like to send us similar information, which would be of assistance to our readers, it will be duly published.

·· Chat ··

Important South African Competition.

In the annual hill climb held by the Natal M.C., on Huntleys Hill, near Durban, F. A. R. Zucher put up the fastest time on his Douglas, thus winning the Douglas Trophy for the second year in succession. He covered the 600 yard course in 32½ sees. R. Ruzer, riding a Royal Ruby, was second.

Westmorland M.C.C. Open Hili-climb.

We have received a correction in the results of the above hill-climb held at Easter. In class 12 for 501 to 750 c.c. machines on formula, the results were: 1, B. Hill (3½ Scott); 2, J. H. Fox (5 Matchless). Jesse Baker, who was credited with first place, rode a 400 c.c. A.B.C., which, of course, was out of its class.

A.C.U. Consul's Badge

We reproduce on this page a photograph of the new consul's badge recently issued by the Auto Cycle Union. In future all consuls of the A.C.U. will display this badge on their machines, and will thus be readily recognised by members. Motorists displaying it are especially qualified and equipped to assist A.C.U. members, and have undertaken to do so within their respective districts.

The duties of an A.C.U. consul are many and varied. He is, for instance, at all times ready to assist members



Machine badge for A.C.U. consuls.

Special Features. ROAD TESTS OF NEW MODELS. LONDON-LAND'S END RESULTS.

regarding the selection, purchase or sale of a machine. He will advise them in any technical difficulties they may experience in the running or care of their motor cycles; or will, if circumstances require, make an expert examination and report upon any machine. The local consul will also assist members in legal, insurance, touring, and other matters.

The consuls are each responsible for a radius of about twenty-five miles from their respective local headquarters, additional ones being appointed in especially populous districts.

Second-hand Prices.

There is a noticeable increase in the number of second-hand machines for sale, which, at this time, seems to indicate that new models are now getting on to the road in some quantity. We saw quite a number of the very latest on the road during the Easter holidays. As might be expected, under the circumstances, there is a slight fall in second-hand prices generally, but no appreciable decline can be expected for some time to come

decime can be expected for come
to come.
Highest and Lowest,
A.J.S., 1914, 6 h.p., sidecar
1916 and later
Allon, 2-stroke, 2-speed
Bradbury, 4 h.p., single-speed, solo £35-£48
B.S.A., 44 h.p., 3-speed, sidecar £85-£135
Calthorpe-J.A.P., 27 h.p., 2-speed £33-£54
Clyno, 2-stroke, 2-speed
5-6 h.p., 3-speed, sidecar £85-£130
Douglas, 24 h.p., W.D
4 h.p., 3-speed, sidecar £95-£145
Enfield, 3 h.p., twin, 2-speed
6 h n eideanr (88 fri6
Harley-Davidson, 3-speed, sidecar £140-£190
Humber, 31 h.p., 2-speed
Humber, 31 h.p., 2-speed
Indian, 1914, 7-9 h.p., 2-speed, sidecar £90-£115
1919, 7-9 h.p., 3-speed, sidecar £105-£185
James, 44 h.p., sidecar
Levis, 21 h.p., single-speed
21 h.p., 2-speed
Matchless, 8 h.p., sidecar
New Hudson, 1914, 31 h.p., 3-speed hub,
and sidecar
5-6 h.p., sidecar £75-£87
New Imperial, 24 h.p., 2-speed
P. and M., 1919, 31 h.p., solo
Rover, 1918-19, 32 h.p., T.T
,, 33 h.p., 3-speed, and sidecar £75-£135
Rudge-Multi, 31 h.p
,, 5-6 h.p., and sidecar £70-£120
Scott; solo
,, sidecar
Sunbeam, 1014-18 32 h.p., solo,
, 31 h.p., and sidecar £132-£145
Triumph, 31 h.p., 3-speed hub £50-£60
The last the same of the same
" This is a second archest cide
car
11
, 8 h.p., and sidecar £120-£170



An Opportunity.

We have heard of a vacancy for a competition manager with a well-known motor cycle firm. The opportunity should be a good one for a well known and experienced competition rider.

Famous Italian Hill-climb.

Considerable excitement was caused during the big event of the Merluza hill-climb held recently. A. Trivellato (Harley) and Tuccimei (Della Ferrera), riding teather riding together, put up a desperate struggle for supremacy, Tuccimei leading well up to the first corner, but being steadily overhauled and beaten by the big Harley. The following were the winners in the variuos classes: 250 c.c., Motosacoche; 350 c.c., Douglas; 500 c.c., Motosacoche; 750 c.c., Motosacoche; sidecar class, Clyno; 1,000 c.c., Harley-

Trivellato covered the three kilometre course at a speed of 77 k.p.h. Last year he created a record by climbing this hill in 1m 59s., at a speed of 91 k.p.h.

Marylebone Town Hall.

Watson, Alderman Duncan J.P., M.I.E.E., Mayor of Marylebone, managing director of the Harley-Davidson Motor Co., Ltd. (England), had, at the recent opening of the new town hall, the honour of entertaining H.R.H. Prince Albert, K.G. Other guests of distinction entertained by the Mayor and Mayoress were Princess Alice (Countess of Athlone), Earl of Athlone, C.M.G., and Viscount Engages. Farquhar, P.C.

More War Honours.

The latest list of honours awarded to prominent figures in the motor cycle industry include the following:

COMMANDERS (C.B.E.).
Lieut.-Col. Claude Vivian Holbrook,
director Department of Mechanical
Transport, Ministry of Munitions, now
director of Triumph Cycle Co., Ltd. OFFICERS (O,B,E,),

Mr. Peter Frederick Blaker Bennett, managing director Messrs. Thomson-

Some of the "tit-bits" in the Western M.C.C. (Glasgow) Trial. (I) D.S. Alexander (23 h.p. Douglas) negotiating the watersplash (27 h.p. Dougras) negotiating the waterspission in Biggar. (2) An Indian rider amidst typical Scottish moorland scenery. (3) J. W. Walker (3) h.p. Norton) on one of the many hills included in the route.

Bennett Magnetos Ltd.; Mr. Geor Frederick Bull, managing direct Messrs. Chas. H. Pugh, Ltd. (Senspr. Carburetter); Mr. Stanton Wilding-Comanaging director Messrs. Burney a Blackburne, Ltd.; Capt. F. M. Gros aeronautical engineer, Siddeley-Dea Motor Co., Ltd.; Mr. A. P. Your. British Thomson-Houston Co.; and N. E. A. Watson, technical director M. Magneto Syndicate, Ltd. Magneto Syndicate, Ltd.

The London to Edinburgh Run.

The London to Edinburgh Run.

This year awards will be gold a silver medals, and no cups will be or tested. Those desiring to enter ment in their application forms membership to the Secretary, Mr. Sour comb May. 34, Gower Place, by first p. Tuesday, April 27th. Members must se in their entry forms to the trials he secretary, H. G. Bell, 77, Stapleton H. Road, Stroud Green, N.

Overtaking on Curves.

Not many weeks ago we uttered caution to novices on the danger of ov taking other vehicles on curves. Thad special reference to the chance meeting traffic which could not be se till too late. A case that recently can under our observation showed that the is not the only source of danger. empty sidecar overtook a car at a le hand bend, and not being able to round the slight curve at the pace it the road, crossed a piece of grass, at removed seven yards of oak paling The driver escaped serious injury, the outfit was badly damaged.

THE RE-OPENING OF BROOKLANDS.

Postponed B.M.C.R.C. Meeting held on Saturday.



Motor cyclists assembling for the first race in the atternoon

As if ashamed of its behaviour on Easter Monday, the weather, which had so effectively spoilt the meeting arranged for that date, provided ideal conditions for the five motor cycle matches run off on Saturday last, April

The first glimpse of the recently re-paired track, glistening in the strong sun-light, and the distant roar of the com-p. ting machines, revived fascinating thrills of the track after many years of anticination.

Thousands of Enthusiasts.

That the popularity of the classic sport continues could be observed by the

many thousands of racing enthusiasts and the long lines of cars and motor cycles on the course. The first race, for solo machines of any class, arranged to start at the Fork at 2 o'clock, was the Victory Handicap, in which a distance of 8 miles 842 yards was to be covered.

of 8 miles 842 vards was to be covered. The competitors passed the Fork twice, and then entered the straight to finish at the grand stand. Of the twenty-seven entrants, twenty starters got away well. Although not entered in the official programme, a very creditable start was made by Mrs. Longden, astride a 2½ h.p. Douglas. Rapid acceleration brought this lady well to the fore, but possibly the wind resistance offered by

her skirt spoilt her promising perform

her skirt spoilt her promising periomance.

J. Woodhouse on his Matchless, athough handicapped to the extent of 12 secs., rode well, whilst J. Emerson, astride a racing A.B.C., literally swallowed up the yards amidst a crackle from his twin exhaust pipes.

O. M. Baldwin on a Matchless had bad luck and dropped out on the second lap, as also did E. Kickham (Douglas), whilst momentary excitement was caused

whilst momentary excitement was caused by the premature appearance on the straight of S. F. Garrett (Indian). who informed a representative of The Motor Cycle that the plug of his front cylinder had failed.



J. Emerson (A.B.C.), who won the Victory handicap and the 500 c.c. sprint race.

Two Douglas entrants. Mrs. E. Longden was the only lady motor cyclist on the Brooklands course.



The start of the 1,000 c.c sprint race.

66 m.p.h. with 400 c.c. Engine.

From the start Emerson maintained a fast speed, and roared in first at the finish

tast speed, and roared in first at the finish well ahead of the runner up, W. A. Jacobs on a Singer, the former rider having lapped at 66.7 m.p.h.
Closely pursning, G. J. McIntosh (Singer) took third place, whilst running at a short distance from each other the following finished in the order named: H. R. Harveyson (Indian), V. E. Horsman (V. E. H.), H. Martin (Matchless), and T. Eve (Matchless).

At the finish, Mrs. Longden, who came in well, stated that the track was in places bumpy, otherwise it was a delightful race.

The 2.20 p.m. and 2.40 p.m. events were for cars competing for the Essex handicap, the details of which are described in our parent journal The Autocar.

Sprint Races.

The next race was a sprint of 3 miles 76 yards for motor cycles of a capacity

not exceeding 350 c.c.
Starting at the fork, the competitors covered one lap only, and entered the straight at the completion of the first lap. H. E. Wells (23 Douglas) got away

at speed, and held his pace, finishing little in rear of the winner, T. Eve, on a Match-less, who lapped at 54.2 m.p.h. Closely following came W. A. Jacobs,

on the Singer, securing third place, whilst E. Longden (Douglas) and A. F. Houlberg, on a new and shining Wooler, finished well.

The most enthralling race of the day then followed. J. Emerson (A.B.C.) and D. R. O'Donovan (Norton), two previous record holders on fast machines, were well in the running, and there was much con-troversy as to the likely winner.

Two Duzmo machines were entered, but did not start; equally disappointed were the admirers of S. L. Bailey (Douglas). O'Donovan well to the fore.

Eager faces strained to watch the two

Eager taces strained to watch the two likely winners, visible as two tiny specks in the distance. Slowly they crept towards the stand, O'Donovan leading, Emerson pursuing closely. It was but within 100 yards of the finish that the A.B.C. slowly trept up, the eager specta-A.B.C. slowly crept up, one eager specta-tors gripped the railings; and in a most exciting finish J. Emerson proved the winner. Well in the rear followed V. E. Horsman (V.E.H.), who was then con-siderably ahead of the runners up.

Emerson's average speed was 64.3 m.; The 1,000 c.c. sprint race was of an edistance to the foregoing. Star again at the fork, the machines enter the straight the first time they rear the starting point.

Victory for Eight-valve Engine.

J. Woodhouse on his eight v Matchless proved an easy winner, attained a speed of 75.9 m.p.h. over Iap. O. M. Baldwin, another Match lap. U. M. Balawin, another matter rider, followed, whilst third place secured by E. Remington on a J., engined twin, H. R. Harreyson, on Indian, following. The last race, ar good one, too, was a handicap for the wheeled cars and motor cycles with a cars of any class.

An 8 mile 842 yard course was cove three laps being completed before ente the straight. Three riders only faile start, and the first away, with 1m. start, was O. de Lissa, on a Motosac and sidecar, who secured third place E. B. Ware, in a barking little Mo

with a water-cooled J.A.P. eng started splendidly with a handicar 6s., and roared in at the finish, ahead of W. D. Hawkes on and Morgan. The latter rider was sec

Ware's speed per lap aged 59.5 m.p.h. E. C. Baragwan (Zenith) made good time the last lap, being for In this race, in w there were three Mor and five sidecars, O'D van seemed out of his ment, finishing slow rear of Baragwanath. finishing slowly

(Le't) E. B. Ware (Morgan) leading the field. He won the three-wheeler handicap.

(Right) T. Eve (23 h.p. Matchless) winning the 350 c.c. sprint race.

The Scottish Six Days Trial Routes.

New Ground for Competitors.

John-o'-Groat's Included.

FOR this year's Scottish Six Days, which will be held on July 5th to 10th, a series of new routes have been planned by the Edinburgh M.C. Briefly, the routes will be as follow:

First Day.-Edinburgh, Perth, Amul-

ree, Cockbridge, Inverness.

SECOND DAY.—Inverness, Abriachan, Beauly, Lairg, Tongue, Thurso, John-o'-

THIRD DAY .- Thurso, Wick, Golspie, Lairg, Inverness.

FOURTH DAY.—Inverness, Invernorriston, Clunie, Glenelg, Clunie, Tomdown,

Glendoe, Grantown.
FIETH DAY.—Grantown, Cockbridge, Pitlochry, Kenmore, Crieff, Stirling, Edinburgh.

SIXTH DAY.—Edinburgh, Elmscleuch, Redstone Rig, Stow, Edinburgh. On the first day the test hills will be Amulree, Cockbridge, and Bridge of Brown. Second day, Abriachan. No "special" test hills on the third day. Fourth day, Marruthachan and Glendowill be the test hills; on the fifth, Kenmore; and on the sixth Redstone Rig and Elmscleuch.

There will be special awards for single

gear performances.

A New Single-lever Carburetter.

Simple Variable Jet Control. Fuel Supply Proportionate to Throttle Opening.

THE production of a perfect mixture has, of course, formed the main consideration in the design of this carburetter, whilst, at the same time, the

buretter, whilst, at the same time, the cost of manufacture has received much attention in order to provide

order to provide both an effective and cheap device. A throttle slide, of the usual type, reciprocates in the barrel and is operated by a single Bowde on lever. Rigidly fixed to the bottom of the slide is a tapered needle which fits into the jet orifice.

into the jet orifice located in a brass tube screwed to the centre of the casting. By this arrangement, the lifting of the slide at the same time raises the needle, which consequently increases the size of the jet orifice, and produces a constant ratio of petrol and air at all throttle



Iones and Marchant's

carburetter dis-

mantled.

Easy Starting Device.

Another fitting which the inventors claim to be the most efficient of its kind is a special slow running and starting device. As may be seen in the illustration, a small hole A is drilled in the air intake and a similar hole is bored on the outside of the latter, which, with the orifice A, permits the passage of air to an annular slot cut round the jet tube in the mixing chamber. These holes are, at will, obstructed by a plunger operated

by the lever B. When the throttle slide is nearly closed and the hole A is opened, the induced air rushes, at a high velocity, over the aperture A, and causes a strong suction on the jet which produces a rich mixture. At larger throttle openings, the second hole, located outside the inlet pipe, comes into operation at atmospheric pressure.

Great Controllability.

During our trial run on an old and obstinate 8 h.p. twin, fitted with one of these carburetters, the docile manner in which it carried both rider and passenger up steep gradients, on bottom gear, at a speed less than a walking pace, effectively demonstrated the use of the plunger device. A touch of the throttle gave one an impression of the rapid acceleration possible under most strenuous circumstances. The facilities offered for adjusting the mixture, whilst in the saddle, need no comment. This can be done with greater accuracy than when the machine is stationary.

We have also tried the carburetter on a Blériot-Whippet light car, on which make it is now a standard fitment. It behaved remarkably well on this vehicle, giving ample acceleration and plenty of power, while the slow running was all that could be desired.

This carburetter is marketed by Messrs. Jones and Marchant, 1, Baker Street, Weybridge, Surrey.

AN AWKWARD PREDICA-MENT.

WHILE testing an automatic carburetter we had a curious accident the other day. The first time a long journey was taken over rough roads, and when about forty miles from the start the engine suddenly misfired and, made a peculiar noise, which led one to suppose that a valve had broken. Not anticipating that such a trouble was possible, as the speed had not been particularly great, and the machine in question was not given to breaking valves, we were not surprised to find that both valves were intact, and it was a few seconds before the trouble was located. It was then found that the carburetter casting was faulty, and that it had broken off close to the clip fastened on to the short inlet pipe.

Unfortunately, we had no insulating tape on board and no wire, but eventually we took a piece of rag from the tool-bag, wrapped it tightly round the fracture, and, after several attempts, succeeded in starting by placing the hand partially over the air inlet. The engine fired, and went off at a high number of r.p.m., and, owing to the inevitable air leak it was.

owing to the inevitable air leak it was, of course, impossible to throttle down. A garage proprietor, Mr. Carnegie, of Blindley Heath, was at first inclined to treat the repair as an impossible one: but, with a little persuasion, he quickly got to work, and fitted a couple of sleeves to give all the support possible to the fracture. The fracture itself was bound with insulating tape, and the carburetter was then scientifically wired into position by means of tough iron wire, which was first twisted round the air inlet, then wrapped round the nearest stay above it, to give vertical support, then brought round the cylinder, and twisted up as tightly as possible. Further wrappings of wire were then made round the portion which encircled the cylinder so as to get the maximum amount of tension, and on the second attempt the engine started, and the remainder of the journey, 150 miles in extent, was satisfactorily accomplished

IMPORTANT DATES.

Fri. May 21st—
M.C.C. London-Edinburgh Run.

Sun., May 30th—
Motocycle Club de France Grand Prix Race
Tues., June 15th—
Junior T.T. Race, Isle nf Man.

Thurs. June 17th—
Senior T.T. Race, Is'e of Man.

Mon., July 5th. to Sat., July 10th—
Scottish Six Days Trial.

Wed. and Thurs., July 7th and 8th—
Arbuthnot Trophy Trial.

Wed., July 7th—
Union Motocyclist de France et Automobile Club de l'Ouest, Grand Prix Ra e for Motor Cycles and Cycle Cars.

Thurs., July 15th, aad Fri., July 16th—
Irish Endto end Trial.

Sun., July 25th, to Aug. 1st— International Six Days Trial in France. Sun., Aug. 1st, to Wed., Aug. 4th— Aoglo-Dutch Trial.

Mon., Aug. 23rd, to Sat., Aug. 28th -A.C.U. Six Days Trial,

AIRMAN ON THE ROAD

From Cockpit to Saddle

LYING, except for the select few, is now over, and the delirious thrills obtained during the war period by the thousands in the R.A.F. are a thing of the past. The joys of "aerobatics," performed upon a perfectly rigged 'plane with the engine tuned up to its utmost capacity, are now unfortunately few and far between.

Those dives upon the late enemy, with the Vickers

spouting death, every wire screaming, and the whole of the fabric of the 'bus threatening instant disintegration; those short and sharp, but distinctly sporting "scraps" among the clouds; and, finally, those blessed moments of repose between "stunts" which were, at that time, so much appreciated, are rapidly passing into dim memories.

Comparisons.

It is said-and it must be confessed, with a certain amount of truth—that it is difficult for an airman to give up flying. But 'planes are no longer avail-able for the thousands of demobilised pilots. They must seek new fields in which to obtain the modicum

must seek new fields in which to obtain the modicum of excitement, which is, to them, the essence of life. Previous to the war the majority of flying men were ardent motor cyclists; thus, being deprived of their latest love, they are naturally returning to their first. After all, there is a great deal of similarity between 'planes and motor cycles—both are capable of high speeds, both require skill to manipulate correctly, and both will provide an inexhaustible supply of real thrills. In fact, it must be admitted that the motor cycle in many ways provides more excitement than the aeroplane. At high speeds on the road it is fatal to allow one's attention to wander for even a fractional period, attention to wander for even a fractional period, while the apparent speed of a motor cycle is much greater than the plane, provided the latter is at any appreciable height. For example, 120 m.p.h. at 10,000 feet appears to be a mere crawl. It is only when landing or approaching another 'plane



travelling in the opposite direction that the enormous speed is realised.

On comparing the control of land and air machines, we find that it is necessary to balance a motor cycle, and to corner fast it is essential that the machine be leaned over to the correct degree if a spill is to be avoided. An aeroplane also has to be balanced, but in two directions at once, laterally and longitudinally. Both machines must also be steered, and both are extremely sensitive in this direction. When essaying turns in the air the correct degree of bank must be given in exact proportion to the acuteness of the turn. If too much is applied, the machine slips inwards, while if the turn is flat, the machine

slips outwards, and a wide turn is the result. When taking delivery of the new road mount the ex-pilot immediately notices the absence of the beautifully fitted up dashboard with its multitudinous collection of aero instruments, and for a while is conceive a very derogatory opinion of the humble ground slogger. Later, with the engine tuned up and run in, he realises that he has a most efficient substitute for his beloved "Camel" or "Snipe."

Sensations.

And when in mood an occasional "blind" on a fast machine up a steep hill is comparable to a "zoom," a rush down a similar hill on full throttle "zoom," a rush down a similar hill on full throttle (it all is clear) to a nose dive, a number of hairpins give the impression of a series of vertical turns, while even the "loop" is sometimes successfully emulated, albeit quite involuntarily. When on the road and the distant hum of an aeroplane comes down to earth, the motor cyclist becomes an airman once again. He almost invariably slows up to search the sky, and, having sighted his confrere of the air, his mind goes back to other days. Once an airman always are airman at least at heart an airman, always an airman, at least at heart.



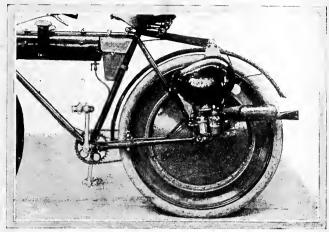


A Curious French Design.

An Auxiliary with Friction Drive

THE Fly-Voisin motor-propelled bicycle, which has just been put on the French market, has some rather unusual features. The rear wheel of the bicycle is changed for a disc wheel to bicycle is changed for a disc wheel to which a big diameter pulley is riveted. The engine is a single-cylinder Voisin two-stroke of 1½ hp., pivoted on the bottom rear extremity of the bicycle frame, and driving the rear wheel by means of friction. A coil spring tends to keep the driving pulley in contact with wheel effect is obtained by compressing this spring and slightly raising the entire engine and mechanism. A petrol tank is clipped into the frame, just below the top tube. With this engine it is claimed that a speed of sixteen miles an hour can be obtained:

The experimental model of this little cycle attachment was on view at the Paris Salon, but the design has been somewhat modified since that date. It will be noticed that a Zenith carburetter is fitted.



A motorised bicycle of French origin, possessing several unusual features.

CLUB NEWS:

Activities among Clubs and Results of Many Members' Competitions.

North Wates M.C.C.

A club has recently been formed with A cruo has recently been formed with headquarters at Denbigh, and the follow-ing officers were appointed: President, Mr. W. Edwards; vice-president, Mr. J. Bonner Thomas; treasurer, Mr. G. Jones; and hon. sec., Mr. S. V. R. Jones, 1, Ruthin Road, Denbigh.

Ealing and District M.C.C.

A hill-climb will be held on May 1st, about twenty miles from Ealing, on a hill the position of which will be made known later.

There will be classes for solo and sidecar motor cycles. Information can be obtained from the secretary, Mr. F. A. Longman, 17, Bond Street, Ealing.

N.M.C.F.U. (Coventry).

The annual general meeting was held on the 31st ult., when the business of the last year was discussed. The treasurer's report was interesting, and showed a balance of £40.

A run will be made to Bidford-on-Avon on the 18th inst., starting from Swan Lane, Gosford Green, at 1-45 p.m.

Middlesbrough and District M.C.C.

A blindfolded "starting up" competition was held after lanch on the petition was held after lunch on the occasion of the run to the Richmond Meet on Good Friday, the best times being made by F. Sheppard, 39s.; Dingle, 41s.; and R. Pickering, 42s. Later in the afternoon a speed-judging test was held over a 6½ mile course, resulting as follows: first, T. Wright (.3 m.p.h. error); second, E. Turnber (.7 m.p.h. error); third, W. Meyer (.85 m.p.h. error); error).

Mansfie'd and District M.C.C.

A general meeting will be held on the 26th inst., at 7-30 p.m., at the Masons' Arms, Leeming Street, Mansfield. All motor cyclists in the district are invited to attend.

Cork and District M.C.C.

A reliability trial was held on the 5th inst., from Cork to Glengarriff and back, a distance of 120 miles. The roads were good except near the finish, where a detour was made to include a stiff hill. Here several failed, while others made particularly good climbs.

Birmingham M.C.C.

The awards in the Sangster Cup Trial to Barmouth are now announced as under : to Barmouth are now announced as under: Sanoster Cup.—"W. J. Woodcock (3½ Ariel), CLASS A (Passenger machines above 600 c.c.).—Gold medal, "H. B. Denley (8 Morgan); silver medals, "L. Newey (6-7 Ariel se.), H. Bennton esc.), and "T. F. Walton (4 Norton se.); for a sec.), and "T. F. Walton (4 Norton se.); for a medal, "Howard R. Davies (6 A.J.S. sc.). CLASS B (Passenger machines below 600 c.c.)—Gold medal, T. Peck (3½, Ariel sc.); silver medals, (4½, B.S.A. sc.); bronne medals, C. Oerton (4½, Ariel sc.), J. A. Cole (3½, Sunbeam sc.), and H. C. Jennens (3½, James sc.), bove 600 c.c.).—Gold medals, A. Booth (5-6 Indian).

CLASS D, (Solo machines below 600 c.c.).—Gold CLASS, D, (Solo machines below 600 c.c.).—Gold CLASS, D, (Solo machines below 600 c.c.).—Gold CLASS, D, (Solo machines below 600 c.c.).—Gold

medal, A. Booth (5-6 Indian).

CLASS D (Solo machines below 600 c.c.).—Gold
medal, "W. J. Woodcock (3½ Ariel); silver medals,
SOL A Dalby (3 Triumph), "Beginton 19
(4½ BS.A.), "G. Denley (3½ Sunbeam), "A. E.
Rollason (3½ Ariel), R. E. Pugh (2½ Levis), "R.
W. Duke (4 Triumph), H. L. Buriey (4 Verus),
Levis), "B. E. Pugh (2½ Levis), "R.
W. Duke (4 Triumph), H. L. Buriey (4 Verus),
Levis), "B. E. A. Peters (4 Triumph),
H. H. Peters (4 Triumph), J. C. Walker (2½
Edmund-Jay) J. N. Roberts (2½ Verus), and J.
G. Orford (2½ Imperial).

G. Orford (2½ Imperial).

AMATEUR PRIZE.—Gold medal, *H. B. Denley (8 Morgan).

* Made clean climbs of Bwlch-y-Groes.

Burnley and District M.C.C.

The following awards were made in the seventy-five mile reliability trial held on the 28th ult. Gold medal and prize for class over 770 c.c., won by J. Hartley (8 Royal Ruby sc.), 5\(\frac{3}{2}\) marks lost; silver medal, won by B. Cooper (8 Royal Enfield sc.), 8 marks lost; bronze medal and sc.), 8 marks lost; bronze medal and prize for medium weight machines, won by P. Duckworth (41 L.M.C. sc.), 9 marks lost; special prize for machines up to 770 c.c., won by W. Baker (6 Ariel sc.), 12 marks lost; special prize for lightweights, won by A. H. Thomas (23 Couleas B) with a cast 12 marks [23]. Coulson B), with a loss of 121 marks.

Dublin and District M.C.C.

In connection with the reliability trial held at Easter, the following results are announced: Dunlop Cup and sidecar prize, annonced: Dunlop Cup and sidecar prize, D. Allen (4 Norton); lightweight prize, Major J. A. H. Waters (2\frac{1}{2} Enfield); gold medals, P. H. Hurse (4\frac{1}{2} Enfield); gold medals, P. Sambeam), S. G. Smith (4 Norton sc.); silver medals, J. Browne (2\frac{3}{2} Douglas), J. J. Nolan (4\frac{1}{2} B.S.A. sc.), R. Howison (7-9 Excelsior sc.), W. J. Rumers (4, 2, Effeld a.) Burney (8 Enfield sc.).

Manx M.C.C.

The results of the Manx Club's reliability trial were as follows: Time

Club News .-

Warrington M.C.

A sporting hill climb is being held at Daresbury on Saturday, the 17th inst., starting at 2.30 p.m. There are five starting at 2.30 p.m. There are five solo events, three for sidecars, and one for light cars, making a very interesting programme.

North Lindsey A.C.

Starting from the Crosby Hotel, Scunthorpe, a very enjoyable run was made to Scamblesby on Easter Monday, to witness the hill-climb which was being held by the Lincoln A.C. (M.C.).

Despite the unsettled weather a good number turned out, which augurs well for the future of this recently formed club

Norfolk M.C. and L.C.C.

The following officers were elected at the first general meeting of the club since the war: President, Mr. W. IR. Spelman; vice-president, Mr. W. Lincolne Suttors; secretary and treasurer, Mr. C. Suttors; secretary and treasurer, Mr. C. N. Hurn; Captain, Mr. A. Adcock; committee, Dr. Blake, Messrs. R. O. Clark, G. Boswell, H. Chapman, M. Bagshaw, and F. Sexton; timekeeper, Mr. A. Wyatt.

Public Schools M.C.C.

A route-finding competition has been arranged for the 24th inst. Riders will meet at Bridge House Hotel, Staines, at 1.30 p.m., and will receive a paper giving instructions as to the route to be followed, also a sealed envelope containing the place of destination in the event of getting lost. Entries, with fee of 3s. 6d., must reach the hon. sec., Mr. H. B. Browning, by the 19th inst.

Members entering the London-Edinburgh run will be given consecutive numbers so that they can ride together. Entries should reach the hon. sec. by the 24th inst. The club will give a prize to each rider obtaining an award.

Scarborough and District M.C.

Among the classic events of long standing, the Scarborough Club's hill climb has always been a popular Yorkshire event. This year over ninety riders competed in the twelve classes. The results are now announced as follows:

peted in the tweive classes. Ine results are now announced as follows:
CLASS 1 (Scooters).—1, R. Cawthorne (2% Autoglider); S. V.
E. Grange (2% Autoglider). C. M. C. Carage (2% Autoglider). S. W.
E. Grange (2% Autoglider).
CLASS 2 (Lightweights up 2, 25 Cc.).—1, J. D.
Triumphl; 3, Riley (2% Triumph).
CLASS 3 (Lightweights up to 550 Cc.).—1, R. W.
Pickering (2% Douglas); 2, L. A. Ruuton (2% Wooler); 3, T. Twentyman (2%) Limond-Jap).
CLASS 4 (T.T. machines up to 550 Cc.).—1, R.
S. F. Seatle (3% Norton). A. Hall (3% Triumph);
CLASS 5 (T.T. machines up to 1,100 Cc.).—1, T.
S. F. Seatle (3% Norton); 2, N. Invinon (8 Indian); 3, W. Marriott (8 Harley-Davidson).
CLASS 5 (T.T. machines up to 1,100 Cc.).—1, C.
J. E. Seatle (3% Norton); 2, Thornton (7 Ariel); 5, C. Robinson (4 Norton).
CLASS 5 (Standard touring up to 1,100 Cc.).—1, E. Seatle (3% Norton); 2, Thornton (7 Ariel); 5, C. CLASS 6 (Standard touring up to 1,100 Cc.).—1, E. Seatle (3% Norton); 2, Thornton (7 Ariel); 5, C. CLASS 6 (Standard touring up to 1,100 Cc.).—1, E. Seatle (3% Sorton); 2, Thornton (7 Ariel); 5, C. CLASS (4) (Standard touring up to 1,100 Cc.).—1, E. Seatle (3% Sorton); 2, Thornton (7 Ariel); 5, CLASS 9 (Sidecar up to 1,100 Cc.).—1, E. Robavies (6 American Excelsior); 2, A. Shaw (8 Class 10 (Cycle cars).—1, W. Marriott (10 Grande Trix Morgan); 2, Miss Halliwell (10 Grande Trix Morgan); 2, Miss Halliwell (10 CLass).

Carden),
CLASS 11.—Withdrawn,
CLASS 12.—1, Douglas Pickering (19 Eric Campebill); 2, E. Macliwaine (10 Hampton); 3, J. Il.
Leunty (10 Calthorpe).
The fastest time of the day was put up by G,
Illi (Triumph), in Class 6—1m. 16]s. He wins
the Traumer Cup.

MOTOR (YCLE

Future Club Events.

Apr. 16.—Sutton Coldfield and N. Birmingham A.C. Annual Dinner.
Apr. 17.—Bolton and District M.C. Social Run.
Apr. 17.—Inch and District M.C. Exploration Run.
Apr. 17.—Ithley M.C. and L.C.C. Social Run and Gynkhano.

Gymkhano. 17.-N.M.C.F.U. (Barrow-in-Furness).-Reli-

Apr. II.—N.M.C.F. U. (Barrow-in-Furness).—Reliability Trial.
Apr. R.—North London M.C.C. Run to Harlow.
Apr. R.—Birmingham, M.C.C. Run or Fartown.
Apr. R.—Surmingham, M.C.C. Run of Fartown.
Apr. R.—N.M.C.F.U. (Leeds). Reliability Trial.
Apr. R.—Lucypool M.C. Single Gar Trial to
Apr. R.—Lucypool M.C. Single Gar Trial to
Apr. R.—Lucypool M.C. Run to

Apr. 18.—Liverpool M.C. Single Gear Trial to Apr. 14.
Apr. 14.
Apr. 15.—Middlessmor. 16.
Apr. 15.—Middlessmor. 16.
Apr. 16.—Middlessmor. 16.
Apr. 18.—Sindlessmor. 16.
Apr. 18

****************************** Grimsby M.C.C.

At a recent meeting of local motor cyclists held in Grimsby, it was decided to form a club. Mr. Peet c/o the Bend Cigar. Co., Victoria Street, Grimsby, will be pleased to hear from any riders who are interested.

Carmarthen M.C. and L.C.C.

An inter-club hill-climb was held on Good Friday near Pentrecourt. The course was about 1,100 yards long, and the surface was good. The following were the results in the five events:

CLASS I. (not exceeding 300 c.c.).

1. T. L. Thomas (2½ Eagle-Villiers) .. 1m. 50s.

CLASS II, (not exceeding 350 c.c.).

1. W. E. Bridge (2¾ Verus) 1m. 15s.

CLASS III. (not exceeding 567 c.c.).
1. Dr. A. Lindsay (3½ T.T. Norton) ... 593s. 49 £s.

CLASS IV. (Uulimited),
1. Dr. A. Lindsay (3½ T.T. Norton) ... 49ås
CLASS V. (Sidecars and Three-whoelers),
1. J. Thomas (Norton sc.) 1m. 18s.

Kiveton Park and District M.C.

A club to be known as above has been formed at Kiveton Park, near Sheffield. The secretary is Mr. C. Robinson, 1, Wales Road, Kiveton Park, Sheffield, with whom all who are interested should communicate.

Howden M.C.C.

An interesting course of fifty miles, including York and Garrowby Hill, was selected for the opening run of this new club. The winner was E. Featherstone (Triumph), while second and third places were second and W. Deitstein Hills. were secured by A. W. Bristoham (Rudge Multi) and B. Shaw (J.A.P.).

Stroud and District M.C.

The first annual dinner since the war was held at the Premier Café, King Street, Stroud. Forty-seven members were present, and it proved a most en-iovable and successful function, several new members being enrolled.

Lincolnshire A.C. (Motor Cycles).

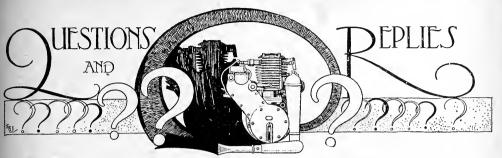
The opening event of the year was a hill-climb at Scamblesby on Easter Mon-The various events were well supday. The various events were well sup-ported, and a very enjoyable day was spent in spite of the heavy showers which fell at intervals throughout the afternoon. The 'results were as follow: Class up to 350 c.c., winner J. H. Brookes (Douglas); 500 c.c., 1. Kochler (Norton); 650 c.c., J. S. Plastow (Triumph); unlimited class, L. Forinton (7-9 Indian); sidecars unlimited, A. W. Grocock (8 Zenith sc.), L. Forinton made the fastest time of the day.

North London M.C.C.

The inclement weather failed to damp the spirits of the members who attended both Easter events. The slow climb held on Saturday at Northlaw was very keenly contested, the winners being A. J. M. Ivison (4 h.p. Douglas sc.) and S. F. Colman (4½ h.p. James). The Captain's surprise event on the Bank Holiday took the form of a run to Tring, at an unknown schedule speed. Again Colman was the winner of the club prize, being nearest to the pre-arranged schedule



Another photograph depicting public interest in motor cycle events. The scene was at the recent Staxton Hill climb, and shows the crowd of spectators assembled at the worst bend of the hill.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand comer of envelope, and should be kept distinct from questions bearing on technical subjects.

Capabilities of a Two-stroke.

(1.) I require a machine mainly for business purposes, but should like to get out on it at the weekends into the country. Do you take such hills as are encountered in Cheshire and Wales? (2.) What is, in your opinion, about the mileage to the gallon? I should think ahout eighty or ninety miles. What speed should be obtained on the level? (5.) Can a kickstarter and clutch be fitted to a 23 two-speed two-stroke?—L.G.B.

(1.) If fitted with two-speed gear a 23 h.p. two-stroke machine should be capable of climbing any of the hills you would meet when touring in North Wales. (2.) 80 or 90 m.p.g. is a good average consumption for a 23 two-stroke engine, and 55-40 m.p.h. might be attained on the level. (3.) A two-speed gear box incorporating clutch and kick starter can be fitted.

Building a Wind Waggon.

I have been contemplating building a wind waggon for the last four years, now I mean it in earnest, having read your recent entitle on the subject. Will you kindly give me some idea as to the following items: (1) To what firms should I apply for a propeller, say, about 4ft. 6in.? Should it be four or two blade? (2.) What would be the maximum revolutions for a propeller this size without air slip? (3:) Would a 10 h.p. twin engine be strong enough, and would you advise direct coupling or geared up or down?—J.S.B.

(2.) We should recommend that you obtain copies of the technical journals devoted to flying, where you will find the advertisements of several makers of propellers, any one of which would no doubt meet your wishes. (2 and 5.) The answer to both these questions entirely depends upon the type of propeller selected. In our opinion, the best thing would be to decide on, say, a 10 h.p. engine, ascertain its normal revolutions per minute, and, armed with this information, approach the propeller makers who, with these data, could design you the most efficient type. Alternatively, if you obtain the propeller first, the manufacturer could inform you of the power which would be required to drive it at its most efficient speed.

Noisy Machine.

I have a 1913 CampionPrecision 44 h.p., and whilst out
riding I had the misfortune to
lose the ends of the silencer. I
have fitted two ends, made of
tin, sheet iron. The machine used to
run fairly quietly, but now the explosions seem to be much louder. Should

rim larry quiety, but now the explosions seem to be much louder. Should there be any fittings inside the silencer to deaden the sound? If so, please inform me what they are and where I can obtain them. Can you enlighten me how to get the machine to run more silently?—H.S.

We are of the opinion that the extra noise made by your engine is caused by the "ringing" effect produced by fitting a thin sheet metal end instead of the thicker cast ends which are fitted as standard. There are no internal baffles in the silencer fitted to your machine, and you can overcome this difficulty by fitting thicker ends and running a pipe with a fish tail end from the silencer to the rear of the machine, supporting it from the chain stays.

Using an Old Frame.

I am in possession of an old type Quadrant loop frame, and am desirous of fitting an engine into it of 3½ or 4 h.p. Can you inform me of any makes of fairly up-to-date engines (with magneto ignition) which would suit it? The only one which has been suggested to me is the ancient côil ignition Quadrant, which, of course, is out of consideration. —C.G.G.

The best thing you can do would be to obtain a 5½ h.p. engine to your own liking and then have the frame altered by some good mechanic to take this engine. In the majority of cases, it will simply mean cutting the frame and brazing the lugs on to the end of the engine and seat tubes, and then fitting a pair of suitable engine plates, in order to carry it. We feel sure that this will be a better solution to your difficulty than endeavouring to find an engine which will actually fit your loop frame, as you might experience considerable difficulty in so doing.



M.C.C. LONDON - LAND'S END COMPETITION.

A picturesque scene on Parracombe Hill. J. A. Masters (7-9 Harley-Davidson) going well

MOTOR (YCLE

Removing a Pulley.

I am overbauling a Swift 32 h.p. motor cycle, Ariel engine, 1912, and find great difficulty in removing the crankshaft pinion wheel which actuates the valve timing gear. A Mabon clutch is fitted, the inner flange of the pulley being just as obstinate as the pinion. Would you be kind enough to advise me of the best method of removing each or either of the above parts?—W.H.A.

The trouble you are experiencing in removing the centre timing pinion is very common on any engine which has not been down for some considerable time.

It may be very carefully levered off by means of two small levers exactly opposite each other, but great care must be exercised when utilising this method. Any garage of repute would be able to loan you a special tool which would draw this pinion off without the possibility of causing any damage. With draw this pinion on without the possi-bility of causing any damage. With regard to the pulley, if the nut which holds it on is loosened, say, three or four turns, and the whole crank case assembling held up by means of the pulley itself and a sharr tap given to the end of the engine shaft, the pulley should become loosened. Here, again, great care must be taken not to damage the shaft or pulley. If there is a real first-class engineer in your town, we should recommend that you allow him to do this, as no doubt he would charge very little.

A Damaged Machine.

I have a 1918 machine, and owing to the low gear not engaging properly I took it to a repairer to have it put right, and, to eatisfy myself, had the gear box taken down and examined before Dox taken down and examined before I left, and it appeared all right, with the exception of adjustment. As he could not finish the job that day I was to call for it on the Saturday, but did not do so. On the Sunday, apparently, a mechanic took it out, and had an accident, considerably damaging the machine. I happened to go to letch the the Monday as it was being the machine. the hadrine. I happened to go o feet, it on the Monday as it was being brought in, and attached to the machine was a label showing it had been brought —damaged—by train from a station twenty-two miles distant. The pro-prietor of the garage cays I asked his mechanic to test the motor cycle, which I absolutely deny, and in so doing the right-hand fork broke at the slot, which right-hand fork broke at the slot, which fits on the whicel spindle, thereby causing the accident. When I examined the broken part it had not a flaw so far as I could see. I believe it is a case of joy-riding. Those are the facts. Under the circumstances, what advice can you give me?—W.B.

Undoubtedly, there was no necessity for the mechanic to take the machine such a considerable distance for the mere purpose of a test, and we should therefore suggest that you see your own solicitor regarding this. Without close personal examination, it is very difficult for us to give a depend-able opinion; but, from the facts you have mentioned, we should say that you have quite a good case for the recovery of the cost of repairs, etc. It is very difficult indeed to give opinions in cases like those, as so much depends on the existence of witnesses, etc.

EXPERIENCES WANTED.

"C.T.E." (Salisbury Plain). — Binks carburetter on 3½ h.p. Rudge Multi, more particularly most suitable jet sizes.

"F.D." (Kingston).—Binks carburetter on a single geared 24 h.p. Levis. Advantages over standard carburetter as regards power and economy.

READERS' REPLIES.

Occasional Stopping of Engine.

A recent correspondent, J.H.N., com-plains that he has had some trouble with his machine slowing up, and yet it will immediately start again. I once had the same trouble myself with my machine, a 3½ h.p. Bradbury and sidecar. It occurred some seven or eight times in a mile or so, and I was at a loss as to the cause, for the engine would immediately start again first kick. At last, however, I discovered that it was nothing more nor less than the skirt of my coat occasionally getting over the air inlet of my carburetter and being held there by suction. EN 1168.

Two-stroke Troubles.

I notice that several of your readers have had trouble with their two-stroke engines falling off in power. I own a Royal Ruby lightweight, fitted with a Villiers mark I engine 1914. I found that it was fairly fast on the level, but slow on hills. Suspecting back-pressure, I drilled the silencers, and the result the benefit all coverate in the result with the strong strong the result with the strong strong the result was the strong strong strong the result was the strong strong the strong stron I drilled the silencers, and the result was beyond all expectations. It now flies up all hills, and is plenty fast enough on the level, with the roads as they are now-a-days. I also get easier starting from cold. Of course, it makes more noise, but it is no worse than many other two-strokes. I also find oil consumption is much less. Perhaps this tip rould be result to other readers. this tip would be useful to other readers (if they do not object to a little noise), if you could find room in your valuable space to publish it. L. R. King. space to publish it.

RECOMMENDED ROUTES.

NEWCASTLE TO RUSHDEN (NORTHANTS). _T.R.

Newcastle, Durham, Darlington, Northallerton, Boroughbridge, Doncaster, Ret-ford, Newark, Grantham, Stamford, Norman Cross, Huntingdon, Buckden, Kimbolton, Higham Ferrers, Rushden. Approximately 210 miles.

BIRMINGHAM TO BOURNEMOUTH.—S.L.
Birmingham, Henley-in-Arden, Strat-ford-on-Avon, Shipston-on-Stour, Wood-stock, Oxford, Abingdon, East Isley, Newbury, Whitchurch, Winchester, Rom-sey, Cadnam, Lyndhurst, Christchurch, Bournemouth. Approximately 154 miles.

EXETER TO DUNMOW (ESSEX) via OXFORD. -G.H.T.

Exeter, Honiton, Yarcombe, Chard, Ilminster, St. Petherton, Ilchester, Win-canton, Mere, Wyle, Amesbury, Durring-ton, Pewsey, Burbage, Savernake, Hungerord, Vantage, Hanney, Osford, Wheat-ley, Thame, Aylesbury, Tring, Berkhamp-sted, Boxmore, St. Albans, Hatfield, Hertford, Ware, Widford, Hadham, Bishop's Stortford, Takeley, Great Dunmow

SPARKLETS

Hints to Bleriot-Whippet Users.

A useful handbook telling the owner how to drive and look after the Blériot-Whippet, a cycle car of great promise, with which we have had considerable road experience.

Ruby Cycle Co. and the T.T.

The Ruby Cycle Co., have decided not to enter for the Tourist Trophy this year, as they are putting all their energies into the new factory, with a view to increasing production.

Triumph Prices Up.

Taking effect from the 12th inst., prices of Triumphs are as follow: Type H, £110; Type S.D, £122; Type D, £92; Type H Combination, £160; Type S.D. Combination, £172; Type L.W., £70.

Skootamotas Also.

We are asked by Messrs. Gilbert Campling Ltd., 1, Albemarle Street, Piccadilly, London, W.I., the makers of the Skootamota, to state that the new price will be £55 at the works, and will not include lamps or free registration.

An Appointment.

We hear that Mr. W. Reid Watt, late sales manager of the British Piston Ring Co., Ltd., Coventry, has been appointed sole Midland and S.W. of England representative for Messrs. Hegworth and Grandage, Ltd., piston ring makers, Bradford, and also sole distributers for the Earlsdon Valve Co., Coventry.

Price of the Cleveland.

Owing to a clerical error on the part of Messrs. North Western Motors, Ltd., Norton Street, Liverpool, the concession-naires for the two-stroke Cleveland, the price was stated in the Buyers' Guide to be £75, whereas it should have been

A Flywheel Magneto.

A magneto of the flywheel type has been designed by the Runbaken Magneto Co., Ltd., of Derby Street, Manchester, and although they do not anticipate that it will replace the conventional type, they will be pleased to place particulars interested.

Wolf Motor Cycle Prices.

We are advised by the Wulfruna Engineering Co., Ltd., of Wolverhampton, that they have been compelled to advance the price of all models of Wolf motor cycles. The new prices are as follow: Model B, with two-speed Ablion gear, £65; Model B, with Sturmey two-speed and kick starter, £71; Model C, with Ablion two-speed gear, £70; Model C, with Sturmey two-speed and kick starter, £76.







LAND'S END

EASTER TRIAL.

ANOTHER DEMONSTRATION OF

Indian RELIABILITY.

3 INDIAN SCOUTS ENTERED

3 GOLD MEDALS
AND SECOND PLACE FOR THE

JARROTT CUP.

Powerplus Combination, complete with Dynamo Lighting and Speedometer.

Price £218:10:0. - DELIVERY IN ABOUT 3 WEEKS.

Write for Catalogue to the Sole London Agents-

GODFREY'S LTD.
208, Gt. PORTLAND STREET,
LONDON, W.1.

'Phone: 7091 Mayfair (2 lines).





The Cleveland Motor Cycle

In four short years, the Cleveland has gone all over the world and won a name for itself. Clevelands are used by thousands of satisfied owners from one end of the earth to the other. The Cleveland blends light weight with quality and gives maximum service at minimum cost.

The Cleveland was the only light weight motor cycle adopted by the United States War Department for overseas service.

Petrol consumption 100 miles per gallon. EARLY DELIVERIES.

Manufactured by :-

The Cleveland Motor Cycle Mfg. Co., Cleveland, U.S.A.

SPECIFICATION: -

Two-stroke motor. Unit power plant.

Worm drive transmission. Direct drive magneto.

26"×3" tyres. Low saddle position. Weight 175 pound.

PRICE £85.

A limited number for immediate delivery.

Concessionnaires for British Isles: -

North Western Motors, Ltd., Mersey Chambers, Covent Garden, Liverpool.

MOTOR CYCLES FOR SALE. Auto-Wheels.

WALL'S Auto-wheel de Jaixo, ridden about 150 miles, with Phoenix special traine cycle combination states, with Phoenix special traine cycle combination index processes, 226; would separately, sown by appointment, North London.—Box 3,002, vio The Motor Cycle. [3791]

BATS for early delivery, apply, Redford Garage [5305] Walsall, 'Phone: 270.

D Waisali, Phone: 270.

B'll Telin, and Sh.p. Combinations; early de-liveries.—Longman, Fisherton, Salisbury. [4330]

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— Sh.p. Bat combination; delivery in about 10 (4705)

1912 34h.p. Bat, good going order, fast, new tyre and helt; £28, offers.-99, Derby Rd., North-

1913 6h.p. But-Jup, 3-speed, kick starter, Cowey, lamps, horn, fine condition; 60 gns.—Guyatt, 90, Natal Rd., Strentham. (4407)

£40.-314h.p. Bat, spring frame, adjustable pulley, Bosch, Senspray, fast, confortable; any trial-Bax 494, cto The Motor Cycle. [3722

8-10h.p. Bat-Jap Combination, overhauled, enamelled as new; £70, or lightweight part exchange.—
W. Whitty, Walberton, Arundel. [4550

BAT-J.A.P. 6h.p. Late 1914 Coachbuilt Combination, Armstrong 3 speeds, kick starter, splendid con-dition; £80.-136, Lambeth Walk, London, S.E. [3473 BATJA.P., 8h.p., 5.speed, clutch, C.B. sidecar, 3 lamps, Cowey speedometer, Binks, enamel and plating new, mechanically perfect; £90.—Randall, 88. Church Rd., Barnes, S.W.

C50.—Bat.Jap combination, 4h.p., 2-speed, cylinder reground, new piston, sporting sidecar, lamps, speedometer, luggage carrier; any trial after 5.30.—19a, Lytchett Terrace, Richmond, Surrey.

190.—Bat-Jan Combination, 91.P., 2-speed, cylinder reground, new piston, sporting sidecar, lamps, or speed, cylinder speed of the speed

Beardmore

LANCASHIRE (West) and Cheshire.—Beardmore Precision, the most advanced and practical motor cycle yet designed.—Enquiries invited by J Blake and Co., 110, Bold St. Liverpool

Beaumont.

JUST Delivered, unpacked,—Beaumont, 25/h.p. Black-burne, 2-speed countershaft, kiek start, handle-bar clutch; first 96 gms. seeures, list price; bought car-Mitchell, Glyn House, Tilford Rd., Farnham. [551-5

Blackburne

BLACKBURNES.—All models.—A. J. Young and Co., Ltd., Newmarket.

19²⁰ 4h.p. Blackburne, under 600; offers over £100. [X8769

CROW Bros., High St., Guildford, are old Black harms agents, and lavite enquiries. [X7945] H-B.BLACKBURNE, 1920, in stock, 25/h.p., 2-speed, kick starter, clutch.—Moss, Wem. [X8751

BLACKBURNE, 1920, 4h.p., 3-speed; after 6.30; uffers.-27, Holmsdale Av., East Sheen, S.W.14 WAUCHOPE'S, 9, Shoe Lane, London.—Early delivery of 4h.p. and 8h.p. Blackburne machines.

Here of ahp, and Sh.p. Blackburne machines.

[ARIV Delivery of the Celebrated Elockburne machines from the accredited acents—The Lankerter longineering Co., Motor Cycle Dept., 63, Brighton Rd., institution.

[2089]

[1920 New Blackburne 4hp. Combination, packed ready for export in cases, uccessories, many spares; the state of the combination of the comb

Bown.

920 Bown Villiers, new, 2½h.p., 2-speed, 1 starter and clutch, in stock.—Frank Whitwo 39, New St., Birmingham. [X8 kick itworth,

Bradbury.

BRADBURY Combination, 4h.p., 2-speeds, etc., good condition.—Shrublands, Kempsey. [3333 BRADBURY.—Order now to avoid disappointment.— The Walsall Garage, Wolverhampton St., Walsall.

BRADBURY 4h.p. Combination, Bosch, B.S.A., 2-orthumberland. Wellington St., Lemington, IX9924

Description of the product of the pr



Machines quoted below are for immediate delivery. Our stock has run rather low after Easter, but we are continually having machines coming in every day. So don't waste time, give us a call, and we are sure you will be satisfied.

Combinations.

1920 A.J.S. Combination, spare wheel, as

MATCHLESS Combination, magdyno lighting, new.

1920 MATCHI.ESS Combination, standard model, electric lamps, speedometer.

1920 HENDERSON Combination, fitted with Henderson Elite Sidecar, dynamo light-ing, brand new.

1920 B.S.A. Combinations, 2 in stock, all-chain drive, also chain-cum-belt model. Both new.

.1920 31 h.p. SUNBEAM Combination, Snn-beam de luxe Sidecar, brand new. 1920 6 h.p. ENFIELD Combination, magdyno

lighting, hood, windscreen, very small mileage. 1919 6 h.p. ENFIELD Combination, hood,

speedometer, indistinguishable

1919 5-6 h.p. JAMES, Canoelet sporting Sidecar, very fast outfit.

Solo Machines.

1920 N.U.T., magdyne lighting, in stock. 1920 31 h.p. SCOTT, T.T. bars, exceptionally fast.

1920 4 h.p. SLACKBURNE, T.T. bars, toot-

1920 I.O.M. RUDGE-MULTI.

Henderson Elite Sidecars in Stock for immediate delivery.

We are Agents for the tamous Dinky Sidecars, all models in stock.

We are London Agents for Castle Three-wheelers. Deliveries commence soon,

First-class Combinations wanted for spot High prices paid for good machines.

J. SMITH & CO., 16, HAMPSTEAD RD., LONDON, N.W.1.

MOTOR CYCLES FOR SALE.

Bradbury

BRADBURY 4h.p., 2-speed, clutch, tyres new con-dition, re-chamelled; 250; trial.—Perey Miller, Corrilhead, Braunton, Devon. [4312

A. h.p. Bradbary, 1912, Bosch, B.B., good tyres and belt; £27; seen by appointment.—R. H. Gunn, 6, Rockleaze Av., Sneyd Park, Bristol. [3505]

9, Reference Av., Surya Patta, Interest.

BRADBURY 4'4) p. 2-speed countershaft, coach sidecar, all chain; £80, or near olier-Allison, clo Wardill's Garage, Garshalton, Surrey. [4677]

4 h.p., Bradbury Combination, 3-speed, clutch, B.B., 44 Bosch, 3 imags, sound maning older; £60.—[561, mill, George Terrace, Willington, Durham, [3744]

19 14 Bradbury C.B. Combination, 4\(\frac{1}{2}\)h.p., 3-speed S.A. hub, clutch, Beech, B. and B., lamps, horo, in perfect condition; \(\pmu 68.-\)R. Walker, Barby, nr. Rugby.

19 16 Bradbury Coachhuilt Combination, recently running order, accessories; £105.—Apply, 108, Contral Drive, Blackpool.

BRADBURY 4h.p. C.B. Combination, 3-speed hnb, clutch, Philipson, Dunlops, complete lamps, horn, excellent order; seen by approintment, £60.—
Thornton, 83, Orchard Rd., Erdington, Birmingham,

BRADBURY 4h.p., absolutely as new, ninminium discs, black and gold (1920), T.T. bars, large variable puller, all on, very posh and speedy mount; \$70, or near offer—Williams, 63, Wightman Rd., Harrich 1978, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979, 1979

Brough.

NEW 5-6h.p. Brough; delivery this month.—
Markovitz, Tideswell, Derbyshire. [4322

SOUTH Stanordshire Agents for Broughs, early de-livery guaranteed, Bedford Garage, Walsall. Phone: 270. [5304]

BROUGH 1915 Flat Twin, countershaft, new tyres and helt, overhauled, very fast; £90.—Turnill and North, Peterborough. [4035]

BROUGH, 31/h.p., 3-speed hub gear, new tyres and helt, perfect condition; price £60.-Apply, Wakley, Street, Somerset . [4391

SOUTH Lancashire, North Cheshire, and Isle of Man only.—Brough enquiries.—J. Blake and Co., Official Dealers, Liverpool and Manchester. [6588] Official Dealers, Liverpoor and Bankers.

3 1h.p. Brough, V twin fixed engine, a.o.i.v., new 22 tank, back tyre, belt, wants timing, owner going away; £30 for quick sale.—37, Powis Rd., Preston, IX8695

10 16 Brough 31/sh.p., flat twin, overhead valves, Stur-lamps, all ecomplete; £85.-D. Burns, 27, Hoxton 8t., Shoreditch, N.1. [3451

BROUGH 3/sh.p. Flat Twin, 2-speed, overhead valves, just fitted new cylinders, pistons, valves, belt, clain and spicokets, good tyres, spare cylinders, 2 pistons, 2 valves, 4 rings: any examination; very fast; 75 gns.—Preece, Mortimer, Berks.

Brown.

4 h.p. Brown Coach Combination; hargain, £50 H.S., 33, St. Stephen's Rd., Bow, E. [36 BROWN 315h.p., 3-speed, free engine, nearly new tyres; £50, or nearest.—Tanner, Sutton-Benger.

 $B.s.a. - The \begin{tabular}{ll} B.s.a. \\ B.s.a. - The \begin{tabular}{ll} Walsall & Garage, & Walsall. & Booking & orders \\ for all models; rotation & deliveries. \\ \end{tabular}$ B.S.A. Combination, 31/sh.p., all chain drive; £4. Jackson, 304a, Duke St., Barrow-in-Furness

B.S.A. Combination, 1919, Nov., mileage 600, perfect; £150.-56, Northumberland Rd., Coventry, [X8818]

B.S.A., 19144, chain, 5 speeds, Cowey, lamps, fully equipped; 69 gns.—Smith, 31, Walbrook, Lon-

BRAND New 1920 B.S.A., T.T. model, special engine; list price.-53, Cooke St., Old Trafford, Manchester. [4202

B.S.A. 1916 4h.p., 3-speed countershaft, K.S., chain, as new; £75; after 5.-82. Church R. Mitchau, S.W.

Altcham, S.W. [3858]

B.S.A., 3½h p. clutch, lamps, horn, speedometer, splendid condition; £54.-11, Baroness Rd., Hackney Rd., E 2

B.S.A. 1919 Combination, fully equipped B.S.A. 1919 Combination, fully equipped B.S.A. Leyton (opposite Baker's Arms).

19 B.S.A. 4h.p., 3-speed countershaft, kick start, K. Model, in first-class condition; 83 gns.—Taplin, 159, Hornsey Rd., N. [4536 £80.-B.S.A 44/h.p., Model H, as new, only wants seeing; don't wite; call any time.-103a, High St., Wandsworth, S.W.18.

excel-

R.S.A

B.S.A. 1915, Ser 1915. Monthly of the service of th

19 19 B.S.A., 41/h.p. Montgomery sidecar, screen, lamps, and spares, any trial; hest offer. — 32, Gillingham Av., Gillingham, Kent. [3420] B.S.A. 1920 Combination, nearly new; £162/10.— Clifford Wilson Mig. Co., 70, Royal Hospite Rd., Chelsea, S.W.3. Kensington 7113. [433

BARGAIN.-6h.p. twin B.S.A. 3-speed countershaft combination; too powerful for owner; offers wanted.-Marshall, Butcher, Sonthborough. [4505]

1920 41/h.p. B.S.A. Combination, Model H, brand new, just uncrated: £165.—14, Owen Mansions, Queen's Club Gardens, West Kensington. [4588]

WAUCHOPE'S, 9, Shoe Lane, London.—Early de-livery of new B.S.A. machines anticipated; book now. 3½h.p. B.S.A., second-hand, £52/10. [4707 B.S.A. 4½h.p., Watsonian sidecar, 1916, just bauled, Volex electric lighting; what offe Write Matthews, Priddy Wells, Somerset.

B.S.A. 1920 Model H, chain drive, with B.S.A. 1920 side ar, dynamo lighting, brand new, just arrived.

-Wilkins, Simpson, opposite Olympia, London. [3850] B.S.A., December, 1919, Model K, combination, lamps, Klaxon, Cameo, almost, new; £130.—Capt. Andrews, Blurtpore Barracks, Tidworth. [4545]

B.S.A. 1920 Combination, lamps, nuder 40 miles; £12/10.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Kensington 7113. [4340 B.S.A. Combination, 4½0.p., 1915, all chain drive, lamps, mechanical horn, perfect running order; £95, or nearest.—Arm, Duke St., Wellington, Salop. [X8657]

B.S.A. Combination, 1919, sidecar 1920, a really perfect lot; £128 lowest; Sunday, 10 o'clock—Binder, 20 Elm Gardens, Hammersmith, London, [4701]

10 16 B.S.A., 4½h.p., 3-speed countershaft, guaranteed just as new in every way, ready for any tour; price £90.—G. W. Green, Millgate, Thirs. Tel.: 18643

B.S.A. 1917 Coachbuilt Combination, 41/h.p., 3-speed, kick starter, excellent order throughout; £125.—Kington, 2, King Edward Parade, Norbury, S.W. [3931]

B.S.A. 1920 44h.p. Combination, Lucas Magdyno lighting set, only done a small mileage; £185.—Elce and Co., 15-16, Bishopsgate Av., Camomile St., Elce.3.

1915 B.S.A. and Canoelet Minor C.B. sideor, T.T. bars, lamps, B. and B. carburetter: #97/10; exchanges.—Newnham 223, Hammersmith Rd., W.6. [3703]

B.S.A. 31/h.p. 1912 Combination, belt drive, Mill-ford sidecar, Capao carburetter, Bosch mag., 2 speeds, pedal start; £68.—Mandes', 100, Gt. Porting 8t., London.

19 17 B.S.A. Combination, 3 speeds, countershaft, clutch, kick starter, tully equipped, excellent condition: £120. — 15, Warwick Court, Holborn. Central 4735.

10 18 B.S.A., coachbuilt sidecar, 3-speed counters shalt, chain drive, kick start, lighting set, Klaxon, apron, any test; 108 gns. lowest.—Fairview, Gordon Rd., South Woodford. [4204

Gordon Rd., South Woodford. [4204]
19.17 484b.p. B.S.A. Coachbuilt Combination, excellent border; any trial; 2.115; evenings after
130 bear of the state of the

1919 R.S.A. Sh.p., new, only ran 600 miles, in perfect condition, and all accessories; £100, or exchange for Glyno combination with lox sidear to suit traveller, or light car and cash.—50, West Hill, East Putney.

1920 B.S.A. Combination, as new, chain, luggage carrier, screen, electric lamps, accumulators, localize shields, tools, hora, complete valve; £150.—Write, Dowell, 40, Finborough Rd., Kensington, S.W.10.

F.O.C.H. have a 191: B.S.A 414h.p. Model H, hully equipped, in excellent order.—Fair Offer Car House, 5, Heath St., Hampstead (sar Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, in cluding Saturdays.

B.S.A. 1916 4½h.p., 3 speeds, clutch, kick starter, chain drive, hamps complete, new tyres, speed-ometer, wind screen, mechanical horn, tools, many sparses; aprly before 7; must sell; 2115.—39, Barnsole Ed., dillingham, Kent.



DO YOU WISH TO SELL YOUR MOTOR CYCLE?

We purchase for spot Cash all standard makes. and pay top prices.

Call with your machine at our new and additional showrooms 52-53, SUSSEX PLACE, SOUTH KENSINGTON, S.W.

or if inconvenient to call, send us full description and price.

PISTON RINGS

to fit all motor cycles—James 2-stroke. Levis, Villiers, 4-h.p. Douglas, 1/5 cach. New Hudson 2-stroke, Baby Triumph 1/9 cach. Triumph, Precision, B.S.A., Rudge, P. & M., Cilyno, 2/r cach. 4 Precision, Brathury, 2/5 cach. Postage or Piston rings 30.

VALVES

to fit all Motor Cycles—Douglas 2‡ and 4 h.p., Enfield 2‡ and 3 h.p. Peugeot 3/6 each Triumph, P. & M. B.S.A., A.J.S. 5/- each. Rudge 5/3 each, J.A.P. 5/- each.

Postage on valves 3d. extra.



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Wholesale: 38, Alfred Place, W.C.1,

Garage-Tottenham Court Road. Phone—Museum, 1240. Kensington 7260. Telegrams— "Dynametro. Westcent, Londou."

MOTOR CYCLES FOR SALE.

RSA

B.S.A. 1920, chain-counhelt, B.S.A. No. 2 sideca many and screen, spare helt, Klason, brelly cop hims size scatter reason for disposars, best offer over £150; Nort London district; private owner.—Box 3,057, c/o 748 Motor Cycle.

Calthorpe

19 19 Calthorpe-Jap, 2%h.p., 2-speed; £58.—Killiel S.E.A. College, Wye, Kent. [433

10 19 Calthorpe 2-stroke, Enfield gear, head £59,-Prince, 2, Nicholas Street Mews, C CALTHORPE 1919 2%h.p., Enfield 2-speed clutch perfect, accessories; £55.—36, David Lane, Shawell.

CALTHORPE-J.A.P. 234h.p., Enfield, Amac, Sories; £45,-2, George Place, Dongola Rd., To tenham, N.15.

CALTHORPE, late model, 2-speed Enfield, good codition; £44.—Hobden, Armorel, Uxbridge Ric West Acton. [43]

CALTHORPE 25(h.p., 2-stroke, 2-speed, perfect co dition: £40.—Poster, 156, Kirkhem St., Plumster Common, S.E.18.

CALTHORPE 1920 J.A.P. Enfield, 2-speed new, just arrived.—Wilkins, Simpson, Olympia, London. 19 2 Mh.p. Calthorpe-Jap, Enfield 2-speed, clute lamps, bors, excellent condition; 255. Ashle Willingham, Gainsborough.

CALTHORPE 1920 23/h.p. 2-stroke models Enfield gear, £66/3; immediate delivery.-and Co., 275, High St., Acton, W.5.

and Co., 275, 111ga St., Action, W.S.

CAITHORPEJA.P., 24thp., 2-speed, new corbible, belt, chail, stored 3 years; £45, or exchange late Levis or Radon—193, Upper Tooling Rd., 32

19 15 23thp. Calthorpe 2-stroke, 2-speed, stor during war, and since new tyres, helt, thorough overhauled, inclusined condition perfect; £40, 3d 6-Chandler, 19, Chelmsford Rd., Leytonstone, 18

Campion.

CAMPION 4½h.p., J.A.P. engine, Bosch mag., speed, lamps, horn, tools, in perfect order; 2:

-P. Cragg, Scredington, Folkingham, Lincolnshi

1934 Campion Combination, 4½h.p., 2 speeds, counishart, K.S., foot clutch, all-chain direc, Bos B. and B., enjine just decarbonised and valves regrous new chains, etc., mechanically period, havanee tember; any trial; £100.—18, Denton Rd., Horney (26, 26).

CEDOS.—The finest 2-stroke ever produced; ladies gentlemen's; order now for spring delivery—Blake and Co., Lancashire's leading motor ey dealers. Liverpool and Manchester.

Chater-Lea.

19 20 Chater-Lea 25(h.p., 2-speed, 2-stroke, in sto Frank Whitworth, 139, New St., Birminghe CHATER-LEA Enquiries Invited by J. Blace at C. Co., leading motor cycle experts, Liverpool a Manchester.

CHATER-LEA, 8-10h.p., 3-speed, C.B. outfit, or hauled and repainted; £95.—109, St. Leonar Rd., Mortlake [X85]

CHATER LEA C.B. Combination, 8h.p., 3 s. hod, screen, spares, good condition; £105. Estcourt Rd., Fulham, S.W.6.

CHATER-LEA, fitted with 1915 7-9h.p. Indian, n
Binks, cancelet sidecar, good tyres, perfect, wi
spares; £48.-47, Millbrook Rd., Brixton, S.W. [40] CHATER-LEA 8-10h.p. Combination, siderar net new, hood, wind sereen, powerful machine: 295 Janes and Adams, 101, High Rd., East Finchley, [46]

CHATER-LEA 8h.p. Combination, 1915, 3 countershuft, all-chain, electric lamps, speedd splendid condition; £110.—16, Hoddesden Rd., dere.

CHATER-LEA Sidecar Combination, kick strongly model wanted; full specification, price, letet only.—Stephens China Stores, High St., Woodferen, Essex.

F.O.C.H. have a Chater-Lea 8h.p. combination, speed, fully equipped, excellent order.—Fair Of Car House, 5, Heath St., Hampstead (or. Hampste Tube Station). Phone: Hampstead 3752. Hot 9-7, including Saturdays.

Chater-Lea-De Dion. CHATER-LEA 234h.p. De Dion, Bosch magneto. and B. carburetter, sporty and low, ride av £29.-90, Telford Av., Streatham.

Chater-Lea F.N.

19 d Chater-Lea, F.N. unit, new Senspray, near new tyres, condition excellent; must sell; bgain, £35.-125, Central St., City Rd., E.O.1. [45]

B28 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the Issue.

Chater-Lea-Jap. 4h.p. Chater-Jap, clutch, lamps, etc., first-class condition; £45.—Hall, 70, Josephine Av., Brixton Hill, London, S.W. [3821

19 19 Chater-Jap 4h.p., Maboa countershalt, American Splitderl mag., drip leed, tyres perfect; £65, first deposit secures.—Walters, 105, Farleigh Rd., N.16.

CHATER-LEA-J.A.P., 4h.p., Amac, Bosch, lamps, tools, necessories, spring carrior, perfect condition, expert inspection invited.—Call, 154, Harticled Rd., Wimbledon. [1521]

CHATER-LEA-J.A.P., 8h.p., 3-speed countershift, clutch, handle start, discs, long exhaust, a very lower last, and sperity machine; £75,—Harrison, Eugene House, Walton-on-Naze (5888)

CHATER-LEA Combination, 8h.p. J.A.P., 3-speed-countershuft, clutch, C.B. sidecar, lamps, speed-ometer, Klavon, few spares; 90 gns.—H. Wood, 117, Griffin Rd., Plunstead, 127,

CHATER-LEA-J.A.P. 6h.p., coarbuilt sidears, book and sparse serven, tyres new, tools and sparse, tyres new, tools and sparse, tyres new, tools and sparse, tools and sparse serven tools and sparse sparse serven tools and sparse sparse

CHATERLEA Combination, No. 7, 8h.p. J.A.P., Cardibulli Siderar, disc wheels, car tyres, and specific states of the combination of the combination

Clyno.

CLYNO Lightweight in stock, list price -Brook Bros., [3761

CLYNO 8h.p.'s and 2-strokes .-- A. J. Young and Co. Ltd., Newmarket. [01]

CLYNO Brand New 215h.p. 2-speed Model in stock; no waiting.—Moss, Wem. [X8748

1915 Clyno Combination, spare wheel, electric lights; £115.-17 Uxbridge Rd., Hanwell. [3595 1916 Clyno Combination, 6-8h.p.; 100 gns., lowest; seen evenings.-51, Kendall Rd., Beckenham.

CLYNO Combination, 1917, 5-6h.p., 3 speeds, countershaft, 4 interchangeable wheels; £150.-53, Russell [4651]

Rd., N.15. [4851] CLENO Combination, 5.6h.p., in good going order, 3-speed, K.S.; price £100.—French, Engineer,

1920 Clyno Lightweight, two in stock at makers' list price; £75.—Rhosha Motor Co., Mawney's, Rd., Romford.

Komford.

Chow Bros., Guildford, West Surrey Clyno spents, Dave large contracts for 8h.p. combinations and 2khp. plathweights.

WALCHOPE'S, 9, Shoe Lane, London.—2khp., Clynos, new, 1920 models, 2-speed gear; £75; delivered from stock.

CLYNO 2-speed 2-stroke; £70; delivery from stock.— Julian, 84, Broad St., Reading. Biggest dealers to the Soath. 'Phone: 1024.

CLYNO.—New 1920 2-speed 2-stroke models actually in stock.—Chandler, Reyre and Williams, Hitchin Herts. Phone: 165 Hitchin 10063

19¹⁴ Clyno Combination, hood, wind screen, spare wheel, speedometer, 3 lamps, accessories.—21, Chertser Rd., Woking. Offers. [3471

CLYNO Concebnit Combination, 6h.p., 1906, 3-speed, interchangenble wheels, splendid condition: trial; £105.—Walker, Saddington, Leicester. [X8533

19²⁰ Brand New Clyno 2½h.p., 2-speed, clutch, horn; owner, bought combination; hest offer ever £70.—1, Gosforth Rd., Southport. [3818 CLYNO 1920 2-stroke, 2-speed and clutch, brand new, actually in stock at makers' price; £75.— Wilkins, Simpson, opposite Olympia, London. [3847]

CLYNO 5-6h.p., C.B. sidecar, just overhauled. all lamps, new beavy Dunlop, only wants enamelling; £90, or offer.—Lemessnrier Snuggery, Chertsey. [4301.

CLYNO Combination. 5-6h.p., replated and over-hauled, coachbuilt sidecar, very fast, any trial; £130.-27, Crystal Palace Rd., East Dulwich. [4151

CLYNO Combination, 6h.p., 3-speed, K.S., under 200 miles since overhaul, siderar newly upholstered, etc.; 265.—Appleby, 21, Salisbury St., Blandford. [3753 1919 Clyao 21/2h.p., 2-stroke, 2-speed, hand clutch, oll accessories, perfect condition; 66 gus; seen efter 7 p.m.—Launwood, Hadley Rd., New Bartet.

CLYNO Combination, late model, 3-speed, clutch, and K.S., guaranteed mechanically sound; £115, first cash secures.—Semple, 39. St. Leonards, Dunfermline.

CLYNO Lightweight, 1920, 2-speed, clutch, lamps (electric rear), horn, tools, belt, spares, etc., perfect condition; £66.—Amics, Rowley Bank House, Stafford.

19¹⁹ Clyno Lightweight, December, used going to golf, done 200 miles, electric lighting, accessories; best offer over £70.—Firth, Sunnyside, Meandon, Leeds.

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Black Enamelted Under Trays, for 4 h.p. Douglas. £1

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London.

February 18th, 1920.

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Dear Sirs, "Yous o'the 17th 18th to hand.
I intend having Disc Wheels fitted to my machine.
Could you obtain these for ms, and have then
fitted." Banking you for the moment d? . . . Thanking you for the prompt exceedingly good treatment I have always received from you.

l remain, Yours sincerely, H.S.E.

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CLYNO Lightweight in stock, Orders booked in rotation, tion. Clyno combination orders booked in rotation, delivery from March.—Rothwell and Milbourne, Cow-leigh Gauge, Malvern.

CULYNO,—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re-enamelling, and plating.—The Molineux Garage Co., Ltd., Wolverhampton Tel.: 1160.

CLYNO 6h.p., 2-speed counter-haft, Montgomery wicker siderar, spring chasse, transmission out of order, otherwise sound; best offer over 425; room wanted—Partiridge, Chipping Norton. [3910

CLYNO 6h.p. Combination, spare wheel, completely coverhauled and renovated, re-enamelled black and gold, really smart outfit, any trial, any inspection; after 6; £130.-27, Peldon Av., Richmond.

6 h.p. Clyno Combination, 3-speed, K.S., interchapted bable wheels, one spuro wheel and tyre (tyres good), lamps, horn, etc., excellent condition throughout; £108, any trial—Venton, Avon Rubber, Melksham, Wilts.

19 14 Clyno Combination, 6h.p., 3-speed, kick start, interchangeable wheels, electric lighting set, luggage carrier, in splendid condition throughout; £110.—R. S. Page, Star Inn, Chute, Andover, Hantey

CLYNO Combination, 1917, 5-6h.p., in excellent condition, all lamps, D.A. lighting, tools, horn, pump, hood and sereen, spare wheel, tyres nearly new; 2130, no offers.—L.H., 26, Villa Rd., Brixton. [Atter 5 p.m.]

CLENO, J.A.P. Sh.p. Combination, 3-speed, hand clutch, bought new November, 1919, lamps, horn-car point of the combination of the control of perfect order, not trial 2150, the combination of Carburetter Co., Thomes St. Kingston-on-Thames,

Connaught.

19²⁰ Connaught, 2-speed, clutch model; £80; in-nediate delivery.—Ecomp's Garage, Louth, Educa-tion of the Control of the Control of the Control By Control of the Control of the Control of the Control Salop. (X8668

23h.p. Connaught 2-stroke, 3-speed and clutch, in 4 epleudid condition: £50, ur nearest.—Henderson, Cortes, Lonmay, Aberdeenshire.

19¹⁶ Connaught 2-stroke, 2-speed, perfect condition throughout; nearest £53.—Strictly letters only to W.W., 31. Hampton Rd., Redland, Bristol. [4455]

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COULSON B, 23/h.p., 2-speed, brand new; £100.-36, Lorrimore Sq., S.E.17. [3765]

COULSON B (see advertisement) for combination, cash adjustment.—Greyshott, Cresthill Av., Grays, [4112]

COULSON B 4h.p., single-geared sporting model, mileage guaranteed under 150; £89 lowest.—Greyshott, Crestbill Av., Grays, Essex. [4111

COULSON B 1920 234h.p., 2-speed, spring frame, in stock; list price, 95 gns.—Elce and Co., Bishopsgate Av., Camomile St., E.C.3.

COULSON B.—The ideal spring frame.—Enquiries invited by J. Blake and Co., the motor cycle experts of Liverpool and Manchester. [6578

COULSON B, late 1919 2%hp., speeds, spring frame, all secessories, in excellent running; 80 gns.; owner requiring combination outfit.—M., Forest Honse, East Liss, Hants.

COULSON B. 23th.p., 2-speed, spring frame, lamps, insurance, spares, etc., excellent condition; £85; owner hought combination.—10, Lancaster Rd., West Norwood, S.E.27.

F.O.C.H. have a brand new Coulson B, 2-speed, spring frame; list price—Fair Offer Car House, F. Heath St., Hampstead for. Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, Including Saturdays.

COULSON, Model B, 4h.p. Blackburne engine, spring thoroughly reliable mount; many other machines in stock; latest lists and full particulars of Horoughly easy payment system on application.—Harroda Model Showrooms, 116-118, Brompton Rd. (opposite Moni-Building), London, S.W.,

Coventry Eagle, new, 2-stroke, in stock—
Prank Whitworth, 139, New St., Birmingham.
[K863]

1916 Coventry Eagle 2-stroke, 2-speed, lamps, horn, tools, etc., new tyres, excellent order; £45, or nearest.—D. Norris, Talbot, Mere, Wilts. [3907]

Dayton.

19 13 Dayton 2-stroke, in good condition and run-ning order; £20.—Taplin, 159, Hornsey Rd. [4553

Dayton. DAYTON 2-stroke, 1915 model, fitted with discs, lamps, etc.; £34, a bargain. — 37, Streatham Place, Brixton Hill, S.W. [4215

19 19 Dayton 2h.p., 2-stroke, open frame, 2 speeds, lamps, horn, tools, excellent running order; £46, or near offer; owner buying Scott.—Miss Westbook. 4, Napier Rd., Wembley. [4445]

Diamond

DIAMOND 1919 2½h.p. 2-stroke, little used, splendid order; £45.—Moss, Wem. [X8749

D'IAMONDS.—All models; immediate deliveries.—A. J. Young and Co., Ltd., Newmarket. [0121]
CYRIL WILLIAMS for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. (X8622) JACK HEALY, Cork, official Diamond agent.—Ro tational delivery. No premiums accepted. [648] BEDFORD Garage, Walsall, official agents for Diamonds; delivery from stock; makers' prices.

DIAMONDS.-254h.p. J.A.P., Enfield 2-speed, Villiers 2-stroke single-speed, £55/10; sever in stock.-T. Stevens, 248, Gooch St., Birmingham several

natiock.—T. Stevens, 248, Gooch St., Birmingham.

DIAMONDJA.B., 1919-3, sagine No. 8/1877, Cores

Anon and speedometer, A.K.'s rubber grip, tide;
offer nearest 275.—72, Station Rd., Crayford, Kent.

Douglas. VIVIAN HARDIE and Laue, Ltd., Donglas Special

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DOUGLAS, 1915, running order; £60.—Southgate Garage, Gloucester. [X8789]

19 20 4h.p. Douglas Combination, excellent condition; £158.—Below.

1919 (late) 4h.p. Douglas Combination, specially finished sideour, Klaxon horn, complete electric lighting set, overhauled by makers, unridden since, condition absolutely as new; £160.—Rhosha Motor Co. Mawney's Rd., Romfrod. DOUGLAS 1914 25/4h.p., 2-speed; £50.—71, Oxford Av., Merton Park, S.W.

23h.p. Single-speed Douglas-Motor Cycle; £32, bar-gain.—Akhurst, Dartmouth. [4130]

DOUGLAS, late 1915, fully equipped; £57.-45, Burton Rd., Brixton, London. [4579 19 15 234h.p. 2-speed Bouglas, any trial; £55.— Inman, Othello St., Liverpool. [3479]

DOUGLAS, 25/h.p., 2-speed, good condition; £45. DOUGLAS, 234h.p., single-speed, ride away; £26.— Harding, Hatton, Feltham.'

DOUGLAS Combination, 4h.p., 1915; £98.—Hunt. Elm Hotel, Beckenham, Kent. [4271

3h.p. Douglas, clutch, kick start, good order; £70. 4228 -43, Caledonia Place, Clifton. [4228]

DOUGLAS 25th.p., 2-speed, late model; £52.—23.

Jupiter Terrace, Well Hall, S.E.9. [3826]

DOUGLAS, 1915, 254h.p., 2-speed, lamps, horn; £52.
-Shaw, Park St., Wellington, Salop. [X8725] THREE Late 1916 Douglases, 25(h.p.: 260 to 265.

23h.p. Douglas, 1916, perfect running order: 58 gns.-62, New St., Woodbridge, Suffolk. [4332 DOUGLAS 4h.p. Carburetter, complete with controls; 30/-.-Pace, 1, Centre Av., Acton. [4226

NEW 25(h.p. Douglas, W.D., new lamps, discs, horn, tool bags; £75.—M., c/o Stacey's, Redhill. [4056] DOUGLAS 25(h.p., late 1915, engine overhauled, 2-speed; £53.-251, Norwood Rd., Herne Hill. [4415

DOUCLAS Twin, single-speed, perfect condition, fast; £32.-16, Belmont Rd., Maidenhead. [X8722]

DOUGLAS: £32; 25th.p., perfect, lamps,-16, St. Mary Abbott's Terrace, Kensington, W.14, [3952] 19 Donglas Combination, complete, splendid order; £140.-44, Colegrave St., Lincoln. [4199

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3-SPEED 1915 25(h.p. Douglas, overhauled; £52.—Worsdell, Brampton, near Huntingdo

DOUGLAS 23/h.p., 1918, all accessories, s condition; £70.-41, Gateley Rd., Brixton, DCUGLAS, 1916, 4h.p., 3-speed, C.B. outfit gain, £95.-109, St. Leonard's Rd., Mort

DOUGLAS 1916 W.D. 23/h.p., thoroughly £53.-25, Townshend Rd., Richmond, S

DOUGLAS 2%h.p., W.D., brand new, in crote; deposit.—P. J. Hucker, Hillsbore, Acock's 6 Douglas, 1916, 25th.p., complete lamps, with proofs; 275, near.—4, Greenhill Park, N.W.

19 17 25/h.p. Douglas, complete: 267: ex. Newnham 225, Hammersmith Rd., W.6. 80

6 Douglas 2%h.p., 2-speed, in tip-top cond throughout; 60 gns.—Taplin; 159, Hornsey

2 h.p. Douglases, overhauled, re-enamelied; A Mocyc Garage, Catheart Hill, Junction Rd., DOUGLAS 1914 2-speed, in fine condition; £49 exchange combination.—141, Merton Rd., Wir aob.

DOUGLAS Combination, thoroughly overhau Oxon. Holton Mills, Wheat

19 13 234h.p. Douglas, 2-speed, Bosch, fast, overhauled: £50.—97. Effra Rd. Wimble S.W. S.W.

1916 Douglas, as new, splendid condition; 5
The Aquarium Garage, 5, Manchester
Brighton.

Brighton. Brighton.

DOUGLAS 234h.p., 2-speed, brand new, beautiful chine; 67 gns.-60, Wallingford Av., North sington.

23h.p. 2-speed Douglas, Army renovated, buffer in 1915; £56.—Jennings, Cricketers, Orpin Kent.

1015 Douglas 234h.p., 2-speed, rebushed, good lamps, horn; 265.—Smith, Great Gidding, bofough.

DOUGLAS 1920 23th.p., 3-speed, brand new, London. Simpson, upposite Oly

Douglas 1914 234h.p., tyres and belt good, borough. D OUGLAS 24h.p., engine 38639, Canoclet Moderar; together or separate.—The Ridge, Pl

DOUGLAS, 254h.p., exceptionally fast, beau tuned, all accessories; £60-88, Leigham Tulse Hill.

DOUGLAS 4h.p. Combination, 1916-17, 3-spe exceptionally smart, genuine; 90 gas.-21, Av., Acton.

DOUGLAS, 25th.p., 2-speed, 1916 W.D. model, been ridden; price £70.—Williams, Potten Berkhamstead.

Berkhamstead.

10 19 4h.p. Douglas Combnation, electric ligh screen, as, new; £140,—30, Crystal Palace Ad., Sydenham.

HOT Shaff 1916 Douglas, with every necessory chidney Tun-Sad sent, as new; £2710.—274, Rd., Ehham, S.W.12.

DOUGLAS Z@h.p., 2-speed, 1913-14, spleodid combined to the combined of the combined to the combined of the combined to the

SMITES, Douglas 1914 29th.p., very little used.
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Farm Tube Station.

DOIGLAS 29th.p., 1914, good condition, converted by the lamps, etc.; 255–175, Knolly's Streetham, S.W.15.

Douglas 1915 25th.p., as new, unscratched, uncrated, new tyres; £55.-18, Marlborough Kent Rd., S.E.

DOUGLAS 25/h.p., 2-speed, 1916, tool case, rep footboards, new tyres, splendid condition; 238, High St., Acton.

DOUGLAS 23/h.p., 1913-14, fitted for clutch kick starter, new tyres; £55.—Tel.: Lee 6 994, for appointment.

19 16 Douglas 23/h.p., perfect condition, buffer tyres new, ready to ride away; £58.-59, A. Rd., Brixton, S.W.

19 19 4h.p. Douglas Combination, fully equ guaranteed perfect; 125 gas., no offers.—Wi Fernhill, Horley, Surrey.

23h.p. Douglas, 2-speed, new, unscratched, on twice; bargain, £90.—31, Claremont Rd. andra Park, Manchester.

DOUGLAS 27th.p., 2 speeds, lamps, speedometer, new condition; £50.-202, Manster Rd., Fullam, [3745]

Douglas

OU'GLAS 25th.p., buffer forks, plating and enamed like new, small unleage; 265.—Crown Hotel, udridge Park, Bromley. [4296]

OUGLASES, Homes, 2%h,p., overhauled as new, 255; 1911 model, £28,—Arthur G. Daw, 114, 4xtea Hill, Landon.

OUGLAS 4h.p., 3 speeds, clutch, condition as new has not been registered; £90.—19, Upper Park d., Helsize Park, N.W.3.

I, Heistze Patk, N.W.5.

DUOLAS 1915 2%hp., 2-speed, disc wheels, hamps, born, etc., just overhauded; £65.—8mith, 49. strang Place, Milo End. [3861]

OUGLAS 2%hp. W.D. Model, 2-speed, nucrated hat mouth, as new, all accessories; £72.—81. title Enting Lance, Ending. [13876]

OUGLAS 2Mh.p., 1916, electric, acetylene, shields, plating, enamel, perfect order; 52 gns,-89, Apch Rd., Brixton Hill, S.W.

AMES MOFFAT, Douglas Agent, Yeovil, 244.p., model, clutch, £95, less clutch £90; 4h.p., comeation, £155.—Phone: 50. 9 14 Douglas 25th.p., 2-speed, exceptionally fast, lamps, and everything complete; £52.—aradws, Bodorgan, Anglesey. [4331]

J lamps, and everything complete; £52— tradwy, Bodorgan, Anglesey, Bosch, engine No. 10064, kick start, requires slight adjustment 50—Davies, Meadi, Thatcham. MTHTS—Doughas 1916 274hp., in excellent con-dition; £60.—Smith's, 86, Chalk Farm Rd. (op-site Chalk Farm Tube Station). [0.146. OUIGLAS 4h.p., 3-speed, clutch kick starter, C.A.V. lighting set, 1916, W.D. model, spleadid condi-no; £30.—238, High St., Acton. [4360]

OUGLAS 4h.p., Nov., 1919, excellent condition fully equiped; £125; accept 2¼h.p. part.—Cox. Midland Rd., Peterborough. [4357]

Mölland Rd., Peterberough. (455)
 Mölland Rd., Peterberough. (455)
 OUGLAS 28;h.p., 1916. makers' colours, perfect throughout; any extuniation; 62 gas, bargain., 22, Powney Rd., Maidenhead. (451)
 OUGLAS 1916. 4h.p., C.B. Combiostion, head and rayr lamn, in splendid condition; 295.—Silverdale.
 Thrale Rd., Streatham, 3W.16. (457)

WO 1915 Douglases, overhauled recently, large-born, speedometer, new tyres; £62 each.—Ays rth, Monkhams Drive, Woodford. [3893

9²⁰ Douglas Combination and accessories, done 200 miles, unscratched; list price.—Box 3,047 1 The Motor Cycle. (London district.) [4624]

915-16 2%h.p. 2-speed Donglas, tip-top condition, makers' colours, lamp, horn, etc.; £62, no offers. 57, Little Heath, Charlton, S.E.7. [4279]

57, httm: neuth, Unantwu, S.E.I., http://dx.com/initial-research per defended of the provided and overhauled; £105.—Banister and then 341, Upper St., London, N.I. [3916]
0046/LAS 2½/LD, 2-speed, murated December, 1919 also hately perfect, executionally smort; 62 gas—y. Wallingtond Av., North Keusington. [558]

, Wallington Av., Avrill Acustagon.

DUGLAS 4h.p. Combination, spare wheel, screen hood, lamps, horns, etc., complete, and in excellent dities: £135.-316, Thorold Rd, Hirot. [340]

DUGLAS Combinations, 4h.p., 25/h.p. (5speec, clutch), 25/h.p. (5speec), Agent for Salibury, d District, Lougman, Fisherton, Salisbury. [4326]

9¹⁹ Douglas 25th.p., electric lighting, Stewart horn spare belt, perfect condition, mileuge 200; 75 gns Gleut, Wright, Braemur, Haylands, Ryde. [4513]

OUGLAS, makers' colours, W.D. models; £6: akb.—Clifford Wilson Mig. Co., 70, Royal Hos al Rd., Chelsea, S.W.3. Kensington 7113. [434] Of Thoughas 4h.p. Combination, 3-speed, clutch K.S., top-bole condition, fully equipped, C.B. lear; £10.—59, Aytoun Rd., Brixton, S.W. [4670]

Abn. Doughas, 2-speed, P. and H. lamp set, large 4 Klaron, watertight Bosch, T.T. bars, fast and rebie; first £55 secures.—49, Well St., Harken, [354] OUGLAS, 25 secures.—49, Well St., Harken, [545] OUGLAS, 25 h.p., new, 72 gus.; also second-hand 1915 model, £55.—Gartage, 5, Egion Mers, Berk, Rd., Primrose Hill (near Cholk Farm Tube), [4248] Rd., Frimrose Hill (near Chalk Farm Auce).

19 (Sept.) 4h.p. Doughas Combination, Injest type clutch, Rluxon, gas and E.L., milenge 500; 2150, best offer.—M., 29, Larkheld Rd., Richmond, S.W.

OUCLAS, 1914, 2-speed, spleudid condition, lamps, born, and spares; £55; evenings after 6.-24, oxash Rd., West Side, Clapham Common, S.W.11.

[3549 1919 OUGLAS, 254h.p., 2-speed, uncrated July, 1: perfect and unscratched; bargain, £62, nps.—37, Streatham Place, Brixton Hill, S.W.

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DOUGLAS 1915 25,h.p., 2 speeds, head lamp, tyros seen after 5.—Harvey, Union Brewery, Wandsworth, S.W.

DOUGLAS 1915 25th.p., somi-T.T., speedometer, lamps, hore, full kit, spares, long exhaust, good condition; £60.—Glaslyn, Greenford Rd., Sutton, Sutton,

DOUGLAS 1919 Combination, 4h.p., complete with lamps, tools, etc., in splendid condition; 139 gas.—Motors, Hampstead, 78, High St., Hampstead, 14526

4 h.p. Doughs Combination, 1918, perfect condition throughout, mechanically and appearance as new; £110.-Virgo, 156, High St., Houoslow, W. Phone: 125. [4547]

DOUGLAS 4h.p. 1917 Coachbuilt Combination, iu spleadid condition throughout; bargain, £125.—
Westbourne Motor Co., Westbourne Place, Hove, Sussex. [4143]

19 B Douglas 4b.p. Combination, 3-speed, cluster, K.S., lamps, born, mechanical condition perfect, after 5 p.m.; £120.—Llewelya, Priory, Norwood Green, Southall.

DOUGLAS 25h.p., 2-speed, au exceptionally last and smart machine, makers' colours, uncrated 1919; 62 gus.—Hillier, 216, Portobello Rd., Notting Hill, W.

Hill, w. 3.2h.p. Douglas, 1915 model, mechanically and appearance as new, only wants seeing; £65, bargain.—J. J. Isted, South Road Studio, Haywards Heath, [3500]

DOUGLAS, 1920, Feb., under 200 miles, 2%h.p., 3 speeds, lamps, speedometer, all as new; owner buying combination; £110.—Ganut, Loug Causeway, Peterborough.

19 14 Douglas 2 Mb.p. 2-speed, new Dunlops, speedometer, Tan-Sad, splendid condition, maker's colours throughout; 55 gns.-34, Keith Grove, Sbepherd's Bush. [4026]

herd's Bush. DOUGLAS 27th.p., late 1915, with Bosch mag., fully equipped, nicely tuned engine, paddles off, copper exhaust: first offer £58.—Harrison, 23, Creckerton Ed., Upper Tooting. [4649]

DOUGLASES 2³th.p. always in stock at competitive prices, open till 7 p.n. week days, 5 p.m. Saturdays.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station).

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Phone: Park 4323.

DOUGLAS 2³,h.p., 2-speed, Thompsou-Benuett mag., makers' colours, excellent condition throughout: £45; no. offers or dealers; after 6.—30, Green Ar., Northfields, Loudon, W.13.

10 16 23(h.p. Douglas, 2-speed, T.B. mag., Amac carburetter, Duolops, and footboards, machine in splendid running order; what offers?—45, Temple Rd., Cricklewood, N.W.2.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— 2Mh.p. Douglas M.C., war models, 2-speed gear, semi-17.T. bars, £65 and £75 each; also second-hand 2Mh.p. Douglas, £991.

DOUGLAS 25/hp. military models, W.D., reno-vated, carefully selected and trued up, always choice of several; price £60; seen any time. Watson, 131, Clapham Rd., S.W.

DOUGLAS 4h.p. Combination, 1918, clutch, kick start, hood, Orto acreeu, splendid condition, tyres and bet nearly new; £115, ao ofers.—Writa, D., 60, Leigham Vale, Streatham, S.W.16.

A h.p. Donglas Combination, 1916, engine No. 2144,
Sepeed, K.S., lamps, horn, etc., spare belt, links,
valves, and tubes, ready to ride away; a bargain, £95,
no offers.—Ashworth, 3, Dale St. Bacup. [X8770]

DOUGLAS Sporty Bus, fitted with disc wheels, overhauled to tip-top order: £60; after 7.—Hughes, Lyndhurst, Woodhouse Rd., North Finchley.

19 20 Douglas Combination, 4h.p., complete with Cower horn, 3 iamps, 2 generators, Terry pilliou seat, spare-valve, only fridden 200 odd miles, perfect; £165.—21, Nelson Rd., Bournemonth West. [3448]

10 16 Douglases (2; 2), p., uncrated 1919, re-enamelled and replated, indistinguishable from new; postest Duss on the road; E38 and £72, 20. Treen Ar., Hoggers Corner, Barnes, S.W.13. [4116]

ATE 1919 4h.p. Douglas Combination, disc wheels. Douglas sidecar, Easting wind screen, electric rear and side lamps, everything as new, exceptionally hand some lot; £150.—Greembridge, Rolla Rd., Hextalic.

Douglas.

F.O.C.H. have a 1919 Douglas 2Mh.p., excellent forder, small mileage.—Fair Offer Car Honse, 5, Heath St., Hampstead (nr. Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, including Sat-urdays.

T Appears Ridiculous to Advertise when you have birds. Place your order at once if you want delivery.—Eli Clark, Douglas Agent, 196, Cheltenham Rd, Bristol.

19 (July) Douglas, 25th.p., done very little run ning, very last, and in first-class condition, all accessories; reason for selling, owner having combination; \$80.—Phone: No. 4.—C. H. Hepher, Hadden ham, Ely.

DOUGLAS 2%h.p., 1913, clutch, footboards, Bosch mag., just been completely overhauled, new ankshaft, flywhed, rings, plugs, tyre, belt, etc., perfect condition: Manchester district.—Box 5,060, (4637)

19 (November) Douglas Combination, latest clutch, lamps, large Low and ordinary generator, menanical born, speedometer, leg shields, Orto wind screen, insurance; 2170 — Capt. Cobble, Lorna House, New Rd. Netley, Hants.

1915-16 2½h.p. Douglas, T.T., thoroughly over-hauled, enamelled and plated, new chain, valves, springs, etc. College legsheids, footboards, lamps, Klaxon, tools, tyres good; £65, or offer; after 6.—104, Vineyard Hill, Wimhledon Park.

283.—274h.p. Douglis, bought new makers Feb., 1919. engine 39436, Thomson-Bennett, heated Amatures another 2,000 each, machine just overhauled, run 1,500 miles, sil tools, not war machine, enamelling perfect—E., Marlborough Lodge, Harrow. [3778]

1918 Donglas 4h.p. Combination, K.S., 3-speed, in-distinguishable from new, everything guaranteed perfect, royal bine sidecar, disc wheels, fully equipped, spures; cap trial and examination; burgain, £125.—H. Eurch, 178, Gipsy Rd., West Norwood, S.E. [3547

Ah.p. Douglas Combination, saxe blue sidecar, hand clutch, indistinguishable from new, polished aluminum dises, guaranteed perfect in every detail, new Dunlop extra heavy tyres; best over £110; any trial. 21, Norfoll Rd. Littlehampton; exchange good -21, single.

1 920 Louglas Combination, exactly as new, run under 100 miles, 2 large head lamps, tail, 3 valve, plus, etc., full insurance; 2180 only accepted for delivery immediately.—Buxton, Jacksen's Lanck Highgate. for denve Highgate.

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10:5 (late) Douglas 23(h.p., 2-speed, lamps, horm, semi-T.T. bars; this machine is mechanically perfect, and has done so little mileage that the original enamel, etc., is practically unscratched, indistinguishable from new; bargain, £65, or near.—Bromley Oswell, Hadley, Saloy.

Dulla 23h.n., T.T. unrated 12 months with lighting set, mechanical horn, disc wheels, long exhaust, Pedley grips, etc., guaranteed; subject to any expert examination; price £80.—H., 54, French St., Sunbury-on-Thames.

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23h.p. Edmund, spring frame, 3 models.—Lists from Gourlay's, Fallowfield. 23 h.p. Edmund, spring frame, 3 models.—Lists free from Gourlay's, Fallowfield. [8991

 $\mathbf{E}^{\mathrm{DMUND} ext{-J.A.P.}}_{\mathrm{frame}}$ model, iu stock.—Moss, Wem. [X8750

EDMUND-J.A.P., spring frame, 25/h.p., as new, 1919 machine, mileage under 2001 offers.—57, Gt. George St., Liverpool.

Elswick.

EISWICK, 1916. 3-speed countershaft, 4h.p., kick start, new condition: £58.-202, Munster Rd., Ful-

4 n.p. Elswick-Precision, N.S.U. 2-speed, Bosch, B. and B., T.T. bars, footboards, horn, mirror, lamps, generators, tool buxes, tools, spares, excellent condition: £65.-4, Austin Friars, Stafford. IX8745

Enfield.

3 h.p. Enfield, July (1919), as new, low mileage: £85. -Knight, Sedgley, Staffs. [X8784] 6 h.p. Royal Enfield Combination, perfect condition 7, St. George's Rd., Broadstairs. [39]



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3h.p. Enfield Twin, 1916, T.T., gears, kick, horn, tools; £63.-53, Park Rd., Dartford.

E NFIELD 6h.p. Combination, good condition; -Dusher, 156, Mount Pleasant, Redditch. E NFIELD Combination, 6h.p.; a bargain, £97 Wilkins, Simpson, opposite Olympia, Lond

19 20 Enfield, dynamo lighting set, brand new, used; price £230, no offers.—Tel.; 368 Syde

E NFIELD 1920 2-stroke, brand new, just arri Wilkins, Simpson, opposite Olympia, Londo Enfield 6h.p. Combination, Model 180, just livered; what offers?—Box 2,841, c/o The

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cestershire. Enfield 6h.p. Combination, new, just deligible files. Alexander Rd., Acocks Green mingham.

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19 16 Enfield Combination, 8h.p., wonderful e best offer over £150.—374, Grove Green Leytonstone.

ENFIELD 1918 3h.p. Twin, 2-speed, free enging stort; any trial any time; 271.-12, Birch Rd., Kilburn, N.W.

ENFIELD 244h.p. Twin, waterproof Bosch, extruming order; 225.-Willerton Stables. F water Rd., Weybridge.

19²⁰ Enfield 8h.p. Combination, Magdynamo ing; offers. 626, Lea Bridge Rd., Leytor posite Baker's Arms).

LATE 1915 3h.p. Enfield, kick start, 2 speeds, fast; £50, lowest; after 6.-17n, Lytchet race, Richmoud, Snrrey.

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8 h.p. Royal Enfield Combination, 1919, all 8 sories, perfect condition; £175; reasonable -153, Knollys Rd., Streatham.

19 16 Enfield Combination, Lucas dynamo, 1 Orto wind screen, perfect; £140.—14, 1 shire Mews West, Marylebone, W.

ROYAL ENFIELD 25th.p. Twin, 2-speed, new good running order, ride away; £25.—Isknield Way, Letchworth, Herts.

GENTLEMAN has 1916 4h.p. Enfield combin electric lighting; 80 gns., nearest.—Allen, cliffe, Chislehurst, Kent (uear Station).

19¹⁶ Enfield Combination, 6h.p., dynamo lig fully equipped: £146.—Smith's, 86, Chalk Rd. (opposite Chalk Farm Tube Station).

19¹⁶ 3h.p. Twin Enfield, just overhauled by m fully, equipped, very fast; Brighton dis 70 gns.—Box 2,972, c/o The Motor Cycle.

ROYAL ENFIELD 214h.p., late 1919, 2-speed fect condition, all accessories; a real ba £60.—Jones, Barford, Deddington, Oxon.

6 h.p. Enfield Combination, coachbuilt, 1913, ful sured; £75. Stamped envelope particulars, ett, Junior, 8, Court Rd., Tuubridge Wells.

Sh.p. Enfield Combination, December, 1919, dynamo lighting, Tan Sad pillion seat; given; £220.-J.H.T., 85, Anerley Rd., Anerley.

19 3h.p. Enfield, 2-speed, kick start, P cords, fully equipped, little used, excellent £75.—After 7 at 14, Mall Rd., Hammersmith. ENFIELD 1920 Double Purpose Combination.

En NFIELD 1920 Double Purpose Combination.

Hospital Rd., Chelsea, S.W.3. Kensington 7113.

ENFIELD Combination, 1914-15, 6h.p., good tion, tyres, lamps, speedometer, been cornsed; 2135.—Greenslade, Dulverton, Somerset.

19 16 Eufield Combination, 6h.p., electric h hood, screen, speedometer, first-class condi-£135.—Thomson's Garage, Beehive Lane, Iliord, f

Humber.

Humber.

Coachbuilt Combination, water cooled, 3-speed, ike start, beautiful outfit, in erfect running order; bargain, £80, 149, Osborne A., Preston, Brighton.

10 18 6h.p. Humber, 3-speed countershaft gear, W.C., the Montgomery sidecar, screen, lamps, born, sols, lungage and petrol grid, quick detachable wheels: 140.—19, Bridge St., Blyth, Northumberland. [3533]

FOR Sale, 34sh.p. Humber, with Bosch mag., hump, generator, new wheels complete, new saddle, and il accessories; £55, or nearest offer.—P.E.S., £60 Mr. Fallmot, Liftle Docklands, King's Worthy, Wiachester,

Indian

1915-16 7-9h.p. Indian Combination, any trial; £80.

1914 Indian, 7-9h.p., clutch model; £57.—1h, Uganda St., Selkirk Rd., Tooting.

[NDIAN £46/10, clutch, 5-6h.p. - 16, St. Mary Abhotts Terrace, Kensington, [3724] [NDIAN.-Egertons, Northgate St., Ipswich, can give immediate delivery, 'Phone: 962. [7641]

[NDIAN 1919 7-9h.p., Powerplus model, absolutely as new; 119 gns.—Taplin, 159, Hornsey Rd., N. [4540

18 new; 113 gas.——[4540] 19 15 7-9h.p. Clutch Model Indiau, lamps. Mechorn, spares, little used; £75.—231, Foxhall Rd. Ips-[3592] 1920 Indian 7-9h.p. Combination, gold medal wianer, as new; £225,-27, St. John's Rd., [4148]

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10 20 7-9h.p. Indian Combination, dynamo, new, in stock.—626, Lea Bridge Rd., Leyton (opposite laker's Arms). [4082 aker's Arms).

1915 Indian, 2-speed, clutch, kick starter; £82; Saturday afternoon, or letter.—Bloomer, 120, 3ethune Rd., S.16. [4088]

Shin, Indian clatch, speedometer, lamps, etc., per-fect condition; 70 gas.—Woodward, Oatlands Rd., urpheath, Surrey. [4043] [NDIAN 7-9h.p. Clatch Model, very fast, nearl new tyres, excellent running order; £65.—Hammond, altheethy, Lines. [4285]

NDIAN 1916 5h.p., 3 speeds, clutch, kick stater, fine sporting machine; £38.—Loweth, 6, Mount leasant Rd., Ealing. (3439)

LADIAN T-Shing.

ENDIAN 7-9h.p. Combination, disc wheels, lamps, etc., splendid condition; £110.—Hollands, 9, St amer Road, Greydon. (4278)

19 Indian 7-9h.p., new last September, perfect condition, not done 500 miles; what offers:—Piper, leve House, Tavistock r. (4566)

**NDIAN 7-9h.p. Coachbuilt Combination. 2-speed, clutch, just overhauled; £75; Horley.—Seen at 8, be Village, Charlton, S.E. [4417

1915-16 5-6h.p. Indian, 3 speeds, clutch and K.S., all accessories, perfect condition; £76.—74, Mill-rook Rd., Southampton.

NDIAN. Canadian model, clatch, 2-speed, lamps, horn, perfect condition, very fast; £85.—Turnill ad North, Peterborougb. [4033

14.n. Indian, 1912, 2-speed gear, Bosch, B. and B., 2 all chain, fast and powerful; £35; after 5.—82, burch Rd., Mitcham, S.W. [3859]

NDIAN Combination, 7-9h.p., 1915, 3-speed, lamps, horn, very fast; any trial; £125,—Crown Hotel, undridge Park, Bromley, Kent. [4297

NDIAN Combination, 2-speed, 7-9h.p., believed 1915, newly overhauled; £100, or offer.—Lieut-ruce, Maresfield Camp, Uckfield. [4543]

6-6h.p. Indian Combination, late 1915, 3-speed, K.S., etc., disc wheels, Cameo screen, very smart; £105, 20, Theraton Av., Streatham Hill, London. [4028] NDIAN 1916 5-6h.p. Combination, 3-speed, clutch, ki:k start, Klaxon, all accessories: £105; all in od order.—Bulpitt, 20, Bedford Rd., Guildford. [3936

PORTING T.T. Indian, Swan Oxford sidecar, dynamo lighting, discs, excellent condition; £150. 135, De Beauvoir Rd., N.1. Dulston 2263. [4498]

9 15 Indian 7-9h.p. Combination, 3-speed, clutch, lamps, speedometer, spares, perfect running der: 105 gas.—Stewart, 125, Crescent Rd., Wunderen. [4053]

15 5-6h.p. Indian, 3-speed, kick start, T.T. bors. church, accumulator lights, just re-enomelled and ated; 100 gns.; any time.—Baker's Garage, Friar St., adding.

915 7-9h.p. Indian Combination, theroughly over-handed, perfect mechanical condition, appear-ce equal to new; £120.—Thompson, 22, Cranes Drive, arbiton. [4276]

NDIAN 1913 5-6h.p. Racing Model, clutch, T.T., Klaxon, lamps, splendid condition, inst over-ned; £45:—Wall, Kingsley House, Drayton est Ealing. (55eh.



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19 19 American Army Model Indian, fitted with Mills-Fullord sideear, extra good condition throughout: £160,—Horswill, 42, Bridge St., Chester, Phone: 943.

NDIAN 7-9h.p. Combination, 2 speeds, kick start,
I lamps, horn, etc., in splendid condition, trial any
time; reasonable offer.—Wyndham, North Star, Ealing
Buildings, W.5.

19 Indian Motor Cycle and Sidecar, mechanically sound: £120; would entertain selling cycle only £90, if required—The Royal Garage, 48s, Gillinsham St., Victoria, S.W.I.

TNDIAN, 7-9h.p., clutch model, T.T., 1914 (92F511), TNDIAN, 7-9h.p., clutch model, T.T., 1914 (92F511), overhauled, re-enamelled, and plated, all accessories, including speedometer; £75, or nearest.—22, Cannon Rd., Ramsgate. [4487]

19 15 7-91.D. Indian Combination, coachbuilt side-car, 3-speed, electric lighting, just overhauled and rebushed, front cylinder requires new dome; price £120,-46, Osmond Rd., Hove. (4287

19 20 7-50 pp. Indian, 3-speed, dynomo lighting, indictinguishable from new, mileage 160; first deposit secures, £160; absolute bargain.—Beaucharst, 6, Abbotsfori Rd., Redland, Bristol. [420]

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Loadon.—
Y-9h.p. Indian and sidecar, 1920, Powerplus model, very latest, £215; also 7-9h.p. combination, 1914, electric model, disc wheels, £105. [4713]

1915 Indiaa 7-9h.p. Combination, 2-speed, clutch, spring frame, P. and M. lamps, hora, speedometer, extra heavy Dunlops, new chaine, spares: 100 gns.—Ekins, Catisfield, Farcham, Hants. [4534]

TMDIAN 1919 Combination, 7-9h.p., rnn abont 2,000

Tmiles, electric lamps and horn, dynamo, accumulators, speedometer, etc., in perfect rnnoing order; £190.—Box 3,007, clo The Motor Cycle. [3796

TNDIAN Combination, 1015, 7-9h.p., conchuult side-car, 3-speed, clutch, kick starter, lamps, etc., just been overhouled and repainted, in perfect running order: 2130.—Skeet, 17, St. Peter's St., St. Alhans. [3490]

INDIAN Combination, 1915, 7-9h.p., 3-speed, K. start, dynamo lighting throughout, electric born, whad screen, speedometer, and tools, heautiful outfit; £140; seen any time at 141, Merton Rd., Wimbledon. [4375]

1916 Powerplus Indian Combination, excellent me-chanical condition, cannel unscratched, renickelled, completely equipped, electric lights, etc., good red cook sidecar: £120; any trial.-237, Iffley Rd., Oxford,

sidectr: £120; any trail.-257, Imey Rd., Oxford.

NDIAN 1914 7-9hp., 2-speed, clutch, T.T. med 1911

Most exceptional condition, just overbauled and re-enamelled makers' colours, T.T. bars, spring frame, etc.; £75; exchanges.—R. D. Varty, Thuodersley, Essex.

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all lamps and horn, engine just over-

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King Edward Parade, Norbury, S.W. [3930]

Oh.D. Matchless Combination, 1913-14, 2 speeds, kick carter, clutch, wun belts, new tyres, hump, little feet Cottege, Chrouce Rd., Fleet, Hants.

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Lucas dynamo lighting, enclosed chain drive, hood, screen, luggage, petrol carriers, handsome outfit; 170 gus.—Franks, jeweller, 314, High Rd., Kilhurn.

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19 19 Metro-Tyler, 2 speeds, discs, accessories, new condition; £65.—Capt. Andrews, Gloucesters, Tidworth. (3925)

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Motosacoche.

MOTOSACOCHE Lightweight, 1914, overhauled, new helt and tyre, running; £18.—Bailey, 2u, Castle St., W.C.2. [3499]

MOTOSACOCHE -3/h.p., Enfield gears, B. powerful enough for sidecar; £45.—Turnill North, Peterborough. Bosch

MOTOSACOCHE 2/shp., Bosch, XL-all, Avon tyres, 227, bargain.—8, Shalimar 1kd., Acton, W.S. (4085 MOTOSACOCHE, 13/hp., sound condition, good pulling machine, fully equipped, good tyres, ride away; £24; after 7 or week-end.—195, Grove Rd., Balman, S.W.

New Hudson. NEW HUDSON 4h.p. 1914 Combination, 3-speed; what offers?-W., 3, moss Rd., Wallington 14678

19 19 New Hudson, 2-speed, 2-sroke, complete, smart httle bus.—Nespoli. Swiss Vale, Clevedon. [3729 NEW HUDSON.—Exceptionally early delivery latest 2½h.p. touring models.—Parker's, Bradshawgate. [X8662

4 h.p. New Hudson, 3-speed, clutch, kick starter, ex-cellent condition, 275.-76, High St., Plaistow, E., London.

NEW HUDSON 1919 Combination, splendid condi-tion.—Apply to 109a, St. James's Rd., Croydon. 'Phone: 1087.

NEW HUDSON Lightweight, newly delivered, reason for disposal owner bought car; £80.—W. Connor, Netherby Airdrie. [X8595]

NEW HUDSON.—Immediate delivery from stock of 2-stroke, 2-speed models, at Blackburn and Sons, Station Garage, Spalding. [3539

19¹⁴ New Hudson 2%h.p., 3-speed, clutch, lamps, speedometer, complete; £45.-9, Warwick Terrace, Plumstead Common, S.E.18. [3883

19¹⁶ New Hudson, 4h.p., T.T. model, very fast, tyres, enamel, everything in excellent condition; £45.—91a, Drayton Gardens, S. Kensington. [3770

1913:14 3½h.p. New Hudson Combination, coach -Mousebill Green Motor Works, Miltord, Surrey. [4167 coach -Mousebili Green Motor Wolks, Altitora, Surrey, [4107]
NEW HUDSON 2-trobe, 2-speed, seellent running
order and condition, lacips, hern, numerous eocessories; 247.—Beech House, Brinnington, Stockport,
MARCH, 1920, New Hudson Heltweight, 2-speed,
electric lighting, Wuttord, horn, insurance policy;
cost 293; offers.—115, Earlsfield Rd., Wandsworth.

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NEW HUDSON, 3½h.p., single-cyl., 3-speed counters shaft gear, in good running order; £55.—W. Mountstephen, Motor Cycle Works, Fleet St., Torquay,

NEW HUDSON 6h.p. Coachbuilt Combination, inst re-enamelled and replated, as new; bargaio, £110. —Westbourne Motor Cc., Westbourne Place, Heve, Sussex. [4142]

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New Hudson.

New Hudson 4h.p. Combination, 3-speed, F.
Lucas, Stewart, Miller, good condition, any transfer; £75; must sell.—G., 5 Flat, 8, Powis 14.

NEW HUDSON 2-stroke, 2-speed, practically 1 lamps, horn, pump, and tools, top-hole co-ticon guaranteed; 250 lowest.—Parsons, 22, Drumm Rod. Romford. [4]

L20.—New Hudson 6h.p. combination L dynamo, speedometer, posh lot, hood and scr don't write, call any time.—103a, High St., Wa worth, S.W.19 £120.—New

NEW HUDSON 4h.p. 3-speed Combination, coach sidecar, electric lighting, very good the whole in fine condition; \$87.—Box 3,081.

COMBINATION, 1914 New Hudson 3½hp., rece overhauled, N.S.U. gear, startor, accessories, stondition; £70, or offers.—10, South St., King Hammersmith, W.6.

19 19 (August) 4h.p. New Hudson Combination Speed countershaft, kick starter, lamps, 1 cames wind screen, luggage carrier, spares, insmra £135.—Harper, 13, St. Paul's Rd., Bedford.

10 15 6hp. New Hudson Combination, 3-speed gear (overhauled at cost of £1.5), nearly tyres all round, speedometer, 3 lamps, wind sor £100.—Hall, 46, Westgate, Peterborough. NEW HUDSON, 1915, sh.p., splendid coach combination, Iullest equipment, as new throut; hargain, £120; deterred payments arranged, deposit.—Bunting's Motor Exchange, Wealdston

NEW HUDSON (bargain). — Owner receiving livery combination offers 1920 New Hudso stroke, practically new, done 200 miles; price 70 lamps, tool, and repair outfit and insurance; Lor –Box 501, of 0 The Motor Cycle.

NEW RUDSON Coachbuilt Combination, 1914, 4
S-speed hub gear, clutch, kick starter, Bosch i
B. and B. carburetter, hood, wind screen, outfit is cellent condition; 465.—Write for appointment, 61
4, Dingwall Rd., East Coydon.

NEW HUDSON Combination, 1819 (Septem 4h.p., countershalt 3-speed, kick starter, H. clutch, heavy Dunlops unpunctured, Cameo screen, spare valve, valve springs, plugs, all lamps tools, perfect; £120.—Payne, The Gables, Te Gardens, Letchworth, Herts.

New Imperlal.

CROW Bros., High St., Guildford, have contributed largely for 1920 New Imperials. [X

19 20 New Imperial, 2-speed; 71 gms.; immediat livery.—Kemp's Garage, Louth, Lincs. [X]
8 h.p., Imperial-J.A.P., new, 3-speeds, fitted
Mills-Fullord sidecar; £160.—17, Uxbridge

NEW IMPERIAL 2%h.p., 2-speed, perfect conditions, horn; £55,—Robinson, c/o Lipton, St. Albans.

19 18 New Imperial-Jap, perfect; £55. —
Aquarium Motor Garage, 5, Manchester Brighton.

NEW IMPERIAL Sh.p. Combination, only done miles: £130.—C.S., 14, Swaton Rd., Bow, Tel.: E.3155.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., Lend Brand new 2%h.p. New Imperial, 2-speed from stock; £74/11.

rom stock; £74/11.

2 3h.p. New Imperial J.A.P., 1916, lamps, horr 2 2 3h.p. New Imperial J.A.P., 1916, lamps, horr 2 3h.p. New Imperial Lightweights, 2-speed, of R.S., £52 and £59; exchanges—Newnham, Hammersmith Rd., W.5. Phose: 80.

XEW IMPERIAL 1916 - 2-speed, just rebushed, labora, bools; £45, no offers, after 6 p.m. 42, Thirsk Rd., Clapham Junction, London.

1919 New Imperial Jap 8h.p. Combination, mi 3,000; any trial; £150; after 6 p.m. 42, memuon Rd., Fortune Green, West Hampstead. [19 17 New Imperial 25/h.p., 2-speed, clutch, and starter model. Complete with lamps, in good dition; 50 gus.—M. Bond Smith, East Hatley, S.

10 20 8h.p. New Imperial, special limousette car to match, screen, hood, very luxurious fit: £210; never ridden.—Tel.: 3046, Wall, 104, tain Rd., E.

19 20 New Imperial-Jap, 2-speed, clutch and large set Miller lamps, horn, and tools; livered last week; £86.—P. Morgan, Post Office, Speed, Kilmarnock.

19 '9 New Imperial, 8h.p. J.A.P., with brand specially built sideoar, Easting windson 3 lamps and generators, horn, etc.; a real top combination, last, powerful; price £165.—Healoy, Mansel Rd., Small Heath, Birmungham.

Norton.

DAN GUY, Weymouth.—Big Norton combinate list price; delivery from stock.

JACK HEALY, Cork, official Norton agent,-tional delivery. No premiums accepted.

MOTOR CYCLES FOR SALE. Norton.

19 14 Norton, 4h.p., 3-speed, free cagine, and clutch; £46/10.-270, Mile End Rd. East 3334, [3777 31h.p. Norton, 1914 T.T., 3-speed, clutch, tyres good, fast, and sporty; £65.—Sun Hotel, Burghiteld Common, near Reading.

1917 Norton, 3-speed countershalt, Norton coach sidecar, lamps, all extras; £125,-626, Lea Bridge Rd., Leyton (opposite Baker's Arms). [4084

NORTON, 1918 T.T., hand controlled Philipson, not much used, plating, etc., us new, lumps, horn, kneegrips; reasonable offer not retused,—32, High St., [3489]

N.S.U. Lightweight, 1914, hardly used; £30.-374, Grove Green Rd., Leytonstone. [4592

31h.p. N.S.U., 2-speed, Bosch, B. and B.; £39/10; good condition.-102, Kenyon St., Pulham. DERFECT condition, 31/h.p. N.S.U., new Dinnlop magnum, helt, and horn, spare valves; £30,-42. Park St., Slough, Bucks. (4071

Park st., slough, Bucks.

• hp. N. S. U. and Sidecar (wicker), engine good, free
engine, hand-controlled, m.o.v., Bosch mag. (l.t.),
g. starts easy, trail; first £25/10.—Ford, Sowilnear Wallingford, Berks.

JACK HEALY, Cork, One-conditions accepted.

N.J.T., 1920, delivery in 2 weeks; what offers?

N.J.T., 1920, delivery in 2 weeks; what offers?

Reference only—Bex 3,054, c/o The Motor Cycle, 14631

N.U.T. 1914 4h.p. Twin, Bosch, 3-speed, K.S., lamps, supert appearance; £65.-93, Culverley Rd., Cutford, 6.E.

NUT.—The motor cycle par excellence; regular deliveries from works.—A. J. Young and Co., I.td., Newmarket. [0117

N.U.T.—We are sole wholesale and retail agents for Staffordshire, and ean supply these famous machines for early delivery.—Walsall Gurage. Walsall. Tel.: 444. [722]

19221

1920 (Feb.) 3 h.p. N.U.T., 3-speed, Lucas dynamo lighting, done 500 miles, beautiful little muchine; best offer over £140.—Kennedy, Hascombe Court Goldming. chine; best offer Court. Godalming.

N.U.T. 1914-15 31/2h.p. Twin, T.T. model, N.S.U. gear, 2-speed and clutch, T.T. bers, Dunlop tyres, last sporting machine; £75; exchanges.—R. D. Varty, Thuodersley, Essex.

W. SPARROW, Ltd., Osborne Garage, Yeovil. sole agents for Somerset, including 10 miles radius ct Yeovil, for N.U.T. motor cycles; early deliveries write for particulars. [8395]

1915 N.U.T. 3½h.p., o.h.v., 2-speed countershuft, white discs, long brass exhaust, Bosch, lamps, the, rery fast sporting mount; £60.—Stives, Burwood Park Rd., Walton-on-Thames.

N.U.T. 3/sb.p., oh.v. J.A.P., recently overhauled 3-speed hub, exceptionally fast, new speedometer, Pao Ssd, Lucas set, excellent condition; highest over 675.—Piper, 17, Vicarage Rd, Chelmsford. [4460]

31h.p. T.T. N.U.T.-J.A.P., 1916, special o.h.v. engine, variable gear, W.S.R. jet, new belt, tyres, specdometer, pump, lamp, horn, recently overnauled; £75.—Ondle Cottage, Hadham, Herts. [4239]

N.U.T. 1920 Model 3½h.p., Lucas dynamo lighting electric horn; 140 gns, complete.—Authorised Lon lon agents, Vivian Hardie and Lane, Ltd. 24, Wood dock St. (off Oxford St.), Bond St., W.1. Thone: May all 655s. Book now for early delivery.

O.K. Union, brand new, 25 lh.p., 1920 model; a or offers.—S. Day, rook House, Marden, Ken

1920 O.K.-Union 25%h.p. Motor Cycle, just de-livered; 48 gus.-Central Garage, Carmarthen.

1920 O.K. Junior, new, 2-speed, countershaft, in stock; £65.—Frank Whitworth, 139, New St. firmingham. [X8681] 1914 O.K.-J.A.P., 2-speed, perfect condition, lamps horn; ride away; £36; after 6.—113, Gleneagle 3d., Strestham.

O.K.—New 2-speed 2-stroke, Villiers, in stock.— Chandler, Reyre, and Williams, Hitchin, Herts. [0064]

23h.p. O.K.-J.A.P. 2-speed, T.T. bars, new Easter, 1919; £55; after 6 o'clock any night.—Hall. clossways, Village Rd., Enfield. [4091]

O.K. Janior, 4-ticke, 2-speed, Klaxon, footboards, Manc, Drnids, new tyres; £38.—Over, 59, Lauderlade Mansions, Maide Vale, W.9. (5721)

1912 24h.p. O.K. Junior, 4-stroke, 2-speed, semi-didition, was Wilell saddle, in splendid mechanical condition, was Wilell saddle, in splendid mechanical Jomny Hones, Surioury, near Southampton. (3534)

Omega

OMEGAS, 234h.p., 2-speed, kick starter; regular deliveries.—Longman, Fisherton, Salisbury. (4327 MEGA 1917 23/h.p., 2-speed, first-class condition; £50, or nearest.—Charnwood Cottage, London ane, Bromley, Kent. [4187]

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 Tan leather, Teddy Bear, and fleece lined
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JACKET, wind cuffs, storm collar 40/=
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GREV FLANNET TROUSERS 19 /6, 30 /-, 37 /8 GREY FLANNEL TROUSERS 19/6, Sports Coat, smartly cut and well tailored

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Omega.

OMEGA-J.A.P., 2-speed, and medel de luxe, at 56 and 74 gas, respectively.—Stocked by Lloyd and Son, 29, Station St., Lewes. [1675]

OMEGA-J.A.P. 2%h.p., 2-speed, late 1919, lamps, horn, all accessories, excellent condition; £67.— Write, A., 25, Hopefield Av., N.W.6. [4125]

P. and M.

P. and M.'s at Blackburn and Sens, Station Garage Spalding. [3540

19 14 P. and M., 2-speed, overhauled as new; nearest £45.-496, Foleshill Rd., Coventry. [X8771 CYRIL WILLIAMS for early delivery of P. and M.'s.-Chapel Ash Depot, Wolverhampton. [X8624

P. and M. Combination, C.B. sidecar, complete lamps, etc.; £75.—Dowell, High Rd., Byfleet, Surrey.

etc.; 275.—Dowell, High Rd., Byffect, Surry P. and M. Coachbuilt Combination, 1918, new side-car, perfect, all accessories; £105.—Sheldon, Wheatley, Oxon. [4219]
3 Lh., W.D. P. and M.'s, 1917 and 1918 models, Paris St. Exeter. [40]
2 Downtode; 278.—Mudes' Motor Mart, 100, 2 Lh., P. and M.'s, 1917 and 1918 models, re-2 novated; 278.—Mande' Motor Mart, 100, Perist, Exeter. [40]
3 Lh., P. and M. Combination conclusions [418]
4 LO14 P. and M. Combination conclusions.

1914 P. and M. Combination, coachbuilt, 2 speeds, kick start; £95, or best offer secures, quick saic.

10, Hawthern Place, Clitheroe, Lages. [3606] P. and M. Cembination, rnn 100 miles, 3 lamps (nnused); £120; after 6, Saturday 1; guar-antee.-4, Dollis Rd., Church Ead, Finchley. [4093

P. and M., 1913, with light came sidecar, total mile-age under 5,000, thoroughly good muchine: £65; Sarbiton district.—Box 2,934, c/o The Motor Cyct. [3467]

19 15 31/h.p. P.M., 2-speed, kick starter, lamp, h mechanically sound, stored 1916-1919, enamel plating good; any examination; £59.—Pirie, Cranle

19 P. and M. Combination, as new, new tyres all round, 2-speed, K.S., splendid puller, perfect order; £110,-912, Drayton Gardens, Kensington, S.W.10.

19 18 P. and M., 1920 colours, all accessories, P. and H. lamps, pillion seat, original tyres as new: any trial; £84.—14, Shaftesbury Rd., Highgate, N.19.

19 (August) P. end M. Cembination, Lucas, all spares, fine condition, engine No. 8086S, not a W.D.; £125.–964, Warwick Rd., Acock's Green, Birmingham. [X8766]

PHELON-MOORE, ex-military stores, overhanded and sent on approval, \$73; complete with Millford sidecar, £109.—Maudes', 100, 6t. Portland St., Lou-don; and 100, Paris St., Exeter. [4468

P. and M. Combination, 1914, 2-speed, kick starter, speedoweter, lamps, and spares, perfect condition; seen after 1 p.m. Saturday; £65.—Ponsind, c/o Blakes, Stevenage Rd., Fulham, S.W. [4461

NEW P. and M. Combination, complete acetylene lighting set, horn, tools, Millford sidecar, whole turnout absolutely as new, and not done 50 miles: price £150 lowest.—Lee, The Hagg, Kirkheaton, Huddersfield.

P. and S.

P. and S., 2½h.p., 2-speed; list price, £63 brand new.-R. C. Jacobs, 32, Porchester W.2. 'Phone: Park 4323.

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.— P. and S. 2-stroke, 2-speed model, Villiers engine, £69/15; kick start and clutch models, £77/10; from stock. [4715]

277/10; Irom stock.

F.O.C.H. have a 1919 Sopwith-Pearson, Dalm engine,
F.O.C.H. have a 1919 Sopwith-Pearson, Dalm engine,
Stanger, Child, and kick sturter, excellent order,
Lill stanger, Child, and the control of the Child of

Peugeot.

PEUGEOT 334h.p., U.H., running order; £20.-47. Greaves St., Gt. Harwood. [3710

PEUGEOT, 3h.p., B. and B., new tyres, any trial; £22/10.-109, St. Leonard's Rd., Mortlake. [X8594]

T-9h.p. Twin Peugeot Coachbuilt Combination, just overhuide and regained 2-speed, lick start, Bocova and coachbuilt combination for the start of the start of the start over, accessories; £70 cash; ride away; or exchange lower power solo and cash, ride away; or exchange lower power solo and cash, all, Arngask Rd., Cattord, S.E.6.

Phanomen.

5-6h.p. Phanomeo, complete, 2-speed, free. Bosch mag., engine require: attention, sidecar chassis complete to fit; 20 gns.—Hipwell, Ibstock, Leicester. [4371

PIONEER 2-stroke, 1920, Arden nnit, Dunlop tyres, footboards; £49.-8, Lordswood Rd., Harborne, Birmingham.

Precision.

PRECISION 1916 24th. 245h.p.; bargain cash, 237/10-11, Mariborough Crescent, 18d-lord Park, W. 7/10-11, Mariborough Crescent, 18d-lord Park, Mariborough Crescent, 18d-lord Park, 18d-lor

PRECISION Ecquiries Invited by J. Blake and Co.
the leading motor cycle experts, Liverpool and
Manchester. T6582 1920 31/h.p. Precision 2-stroke, 2-speed, new March, under 600; £78; appointment only.—Winder, 97, Hills Rd., Cambridge. [4184]

PRECISION 44,hp. C.B. Combination, 4-point connection, 3-speed gear box model, lamps, etc.; 285; new appearance.—Harris, Jeweller, Parrock St., Gravesend, Kent. [4382

Cravesend, Kent. [4392]
h.p. Twin Precision C.B. Combination, all accessed sories, engine No. 11571, rebuilt Jan., 1920, in new AJ.S. pattern frame, tank, drip feed, Brampton forks, 3-speed S.A. countershaft gear hox, all new Jan., engine stored Sept., 1914, to rebuilding and overhauled makers, cost of rebuilding, overhauling, and camelling, 251, invoices shown; reason for sale, owner taken, delivery new machine sooner than expected; medine and sidecar unscratched and perfect, any tant, brigain, 2100, or nearest.—Sainsbury, Moor Lanc, Oitherot.

Premier.

19 15 Premier Combination, countershaft; lowest £67.

-1b, Uganda St., Selkirk Rd., Tooting. [3395] PREMIER 21/h.p., 1914, excellent condition; £ after 7.30.—14, Palace Grove, Bromley, Kent

[3807 4 h.p. Premier, 1914, 3-speed, countershait, kick semi-T.T.; £48.-9, Kilmorie Rd., Forest Hill PREMIER 31/2h.p., Bosch mag., B. and B., good running order; £25 cash.—Cardnell. Builder, Steeple, Essex.

PREMIER 21/h.p., 1914, Armstrong 3-speed, Bosch, fine condition; £36.—16, Devonshire Rd., Hack-

пеу. PREMIER 254h.p., 3-speed, clutch, capital condition; £38; evenings.-34, Stratford Rd., near Bell, Hendon. [4166

2½b.p. Premier, new Albion 2-speed, new tyres, lamps, Bosch mag., good condition; £34.—566, Burnley Rd., Todmorden. [X8642]

PREMIER 3½-4h.p., 2-speed, Bosch, seen running; hargain, £38.—Speechley, 1, Gunnersbury Lane, Acton Hill, W.3. [4353

PREMIER 2%b.p., new condition; £45; can be seen any time after 6 o'clock.—Cornell, 44, Queen's Rd., Bury St. Edmund's. [3939

31h.p. Premier, single-speed, recently overhauled, new Amac carburetter, Bosch mag.; offers.—Wailes, Knotty Green, Beaconsfield. [4135]

31h.p. 'Premier, splendid condition, new cylinder, etc., recently fixed; £35, or hest offer.—Harris, Atway Cote, Alcombe, Minehead. [3873]

PREMIER 21/2h.p., 1914, Bosch, B. and B., excellent condition throughout; £35; after 5.—Thornhill Rd. School, Barnsbury, N.1. [4176

19 14-15 3½h.p. Premier, 3-speed countershaft, condition as new; £65; exchange 6h.p. twin.—Hillside, Beechwood Rd., Seagrave, Luton. [3752

PREMIER, 41.p., 2-speed goar box, clutch, handle starting, lamps and horn, take sidecar anywhere; £67/10, or nearest.—Sibley, 106, Market Place, Romford. [4607]

PREMIER Combination, countershaft model, gears and clutch, all accessories, Bosch, E. and E.; any trial; £68.—Cartwright, Watchmaker, 53, St. Anne's Rd., Harrow.

PREMIER (late 1914) 2½h.n., C.A.V. mag., just been thoroughly overhauled, condition excellent.— B. 8. Marshall, Ltd., 53-34, Foley St., W. Phone: Marfair 8906. B. S. Marsna. Mayfair 5906.

PREMIER and Millford C.B. Sidecar, 3-speed countershoft, clutch, K.S., hood, screen, complete; £85; exchanges.—Newbann, 223, Hammersmith Rd., W.6. 'Phone: 80.

1914 Premier C.B. Combination and cover, 3-speed, clutch, kick start, Bosch, B. and B., lamps, tools, spare tyre, etc.; £90, or near.—10, Laugham clutch, kick stools, spare tyre, et Place, Northampton.

PREMIER Combination, countershaft, kick start, lamps, speedometer, spares, all complete, excel-lent condition; £95, or nearest.—Linscott, Corn Mer-chant, Enfield Wash. [3660

DREMIER 2341.p., just thoroughly overhauled and re-enamelled, very fast and economical, has been very little used since new; 537, or exchange higher power; casb adjustment.—Box 3,083, c/o The Motor Cycle.

Quadrant.

QUADRANT, 4h.p., excellent condition, ride away, £35, or offer; apply week-end.—34, Tollington Place, N.4.

QUADRANT 1916 Coachbuilt Combination, 6h.p., countershaft, fully equipped; £85. 228, Heather Rd., Birmingham. [X8601

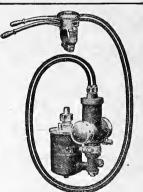
3b.p. Quadrant, new Palmer tyre, tube, belt, carba-retter needs repair; first £8 secures.—Bamford, 13, Selly Oak Rd., Bourneville. [3520

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Telegrams: Carburet, Birmingham. Telephone: East 301.

MOTOR CYCLES FOR SALE.

Quadrant.

QUADRANT 1920 Combination; £135.—C Wilson Mlg. Co., 70, Royal Hospital Chelsea, S.W.3. Kensington 7113.

QUADRANT 1915 4½h.p. Cancelet Combination B.S.A. 3-speed countershaft, all grey finish, Eating; £90, or near offer.—115, Cainsborough R. Crewe.

WAUCHOPE'S, 9, Shoe Lane, London.—N Quadrant combinations and sole machine 4½h.p., 3-speed, clutch and K.S. models, all-drive, 1920 models; book now.

Q UADRANT 3b.p., Dixie, B. and B., drop had frame, new Glincher back, nearly new blet, fobords, etc., ride away; £28/10, or near offer; makell.—McGunu, Royston, Granton, Edinburgh.

Reading-Standard.

READING Standard 10h.p. 1917 3-speed Combition, luxurions sidecar, all accessories, very linsed, appearance and condition just as new; £1507, Warwick Av., London. Padd. 4761.

Regent.

SEND Postcard for particulars of Regent 5-7h.p. twin to us. We can give earliest deliveries these machines.—Ellictt Bros. and Stevens, Cambusla Lanarkshire agents. Rex.

REX 3½b.p., good running order; bargaiu, £12.— School Lane, Cirencester.

REX 6h.p. Twin, in good running order; 30 gn 77. Acre Lane. S.W.2. 31h.p. Rex, Dixie, Amac, ride away; £26. Grange Walk, Bermondsey, S.E.1.

REX 5-6h.p. C.B. Combination, 1913, 2-speed, 1 start, perfect condition; £60.-53, Russell N.15.

REX 6h.p., clutch, and wicker sidecar; £48; a Penge, S.E. (33)

6 h.p. Twin Rex Combination, 1913-14, 2-speed, has start, Bosch; B. and B., lamps, etc., rully instruction, 1920; £67/10.—Lord, 78, Leicester Rd., I Nov., 19 Finchley.

41h.p. Rex Motor Cycle and Sidecar, B.B. ca 44 retter, Bosch mag., Grado gear in good condit 550.—Apply, 124, Old-Kent Rd., London, S.E. (t entrance).

ONE Rex Twin Combination, 6-8h.p., Roc 2-sp lighting set, tools, etc., just been overhau ready to ride away: \$70, or nearest.—Neal B Grocers, etc., 64, Carlton St., Otley.

REX 5hp. Twin, ai.v., Druid forks, 3-speed g good tyres, tubes and belts; kick starter, lately been overhauled, but requires adjustment; voffers? Also coachbuilt sideour for same; offers.—19er, Rothwell, Northants.

REX Combination, 6h.p., 2-speed, handle st faloria sidecar with luggage carrier, just o hauled at Rex works, Coventry, new lamp and be good tyres, in perfect condition; £65.—A. E. Th ton, Church Farm, Stockingford, Nuncatoo. (X8

R OO 4h.p. 2-speed, F.E., Bosch, B.B., semi-mak colours, good running order; £29.—Mac, 13, toria Rd., Upper Norwood, S.E.

1919 5-6h.p. Rover, discs, accessories, spares, fast; £130.—Haden, Sedgley, Staffs. [X8] WAUCHOPE'S, 9, Shoe Lane, Fleet St., Londo 5-6h.p. Rover combination; £125.

YV 5-6h.p. Rover combination, 3\(\frac{1}{2}\text{h.p.}\), 3-speed, Gloria side R OVER Combination, 3\(\frac{1}{2}\text{h.p.}\), 3-speed, Gloria side \(\frac{2}{2}\text{90.}\)-Simmonds, Delaunay Studio, Famboro [3] 19²⁰ 5-6h.p. Rover, with sidecar, just arrived packed; £200.—Young, Misterton, Somerset

I MMEDIATE delivery, 1920 Rover 4b.p. comb tion; list price, £172/10.—Arthur G. Daw, Brixton Hill, London.

19 18 31/h.p. T.T. Rover, Philipson pulley, 1 horn. excellent condition; after 7; £75.-lin, 50, High St., Slough.

1916 Rover Combination, 31/h.p., elect equipped, machine as new; £115.—374, Green Rd., Leytonstone.

19¹⁴ Rover, 3¹⁶h.p., T.T., 3-speed, lamps, h tools, etc., new tyres, excellent order; £60 nearest.—D. Norris, Talbot, Mere, Wilts.

ROVER.—Brand new 1920 Rover combination; price, plus carriage.—Robert C. Jacobs, 32, choster Rd., W.2. 'Phone: Park 4323.

ROVER 1917 3 h.p., 3-speed countershaft, Mill sidecar, lamps, horn, spares; £112; appointmeter, Hartley St., Bethnal Green, London.

31h.p. Rover, 3-speed, clutch, engine just overhall by makers, Bosch, B. and B.; £60.—E. C. J. The Posting House, Hemel Hempstead, Herts, [1] 31h.p. Rover Combination, 1914, 3-speed, late 22 tools born, etc., perfect condition, new bargain, £85.—33, Pembroke St., Middlesbrough, Ya

Rover.

19 13 315h.p. Roys. and Cancelet sporting coachbuilt sideour, Bosch, Binks, 3-speed hub and clutch; 176; seen by appointment.—3, Week St., Maidstone, 14412

ROVER Combination, 1915, 3½h.p., 3-speed, clutcher, pedal starter, lamps, engine and condition percet, stored 3 years; after 5; £80.—110, Sangley Rd., 2attord. [3472

Cover 1919 31 hp., T.T., Philipson pulley, large P. and H. set, herri, kuce grips, in new condition; 190.—Etc and Co., 15-16, Bishopsgate Av., Camonille Id., E.C.3.

DOVER, 3\(\text{Ah}\), 1912, with Watsonian sporting sidecar, 3 speeds, clutch, Bosch, B. and B., in cool running order; nearest \$\pm45\$.—Borrow, Cowplain, 1lants. [4427]

1920 Rover 6h.p. Combination, Middleton sidecar, wind screen, hood, 3 lamps, complete set tools, ot done 500 miles; £210; seen Worcester.—Box [XE649]

5 - Came on the control of the condition of the condition

OVER Late 1919 5-6h.p. Combination, not W. D. model, small mileage, in excellent condition, the Cover horn, speedometer, 3 lamps, and generaous, 2165.—R. J. Rayward, High St., East Grinstead luster.

19 31/h.p. Royer Combination, ridden 500 miles, 19 19 21/h.p. Royer Combination, ridden 500 miles, 19 21/h.p. Lucas of the property of the pro

P.O.C.H. have a 1920 565.5. Rover Combination of the combination of th

ROCH have a 1919 31/h.p. Rover and brand new canch sidecar, 3-speed countershaft, clutch, kick tarter, fully equipped, as new, mileage under 300-bit Ofter Car House, 5, Heath St., Hampstead (nr. tampstead The Station). "Phone: Hampstead 3752. Iours 9-7. including Saturdays.

Chp. Rover Combination (not W.D.), with coachbuilt his coachbuilt his coachbuilt his coachbuilt his conflict with all lamps, speedometer, Klavon born od Cumeo wind screen, 28x3 tyres as new, has only one 900 miles, privately owned; what offers?—Can be een at Temesdie Garage, Ltd., Ludlow. [3789]

[91] 9 Fee-side States, 14d., January, 1578.

[91] 19 Feer 3\(\frac{1}{2}\), \(\text{D}_{\text{.}}\), Philipson pulley, done about the complex condition the condition of the condition that the condition that the condition that the condition to the condition that the conditi

Royal Ruby.

JACK HEALY, Cork, official Royal Ruby agent.— Rotational delivery. No premiums accepted. [6490 OYAL RUBY, 1919 (Aug.), as new, perfect order; 45 gns.—Barratt, 20, Queen's Gardens, W.5. [3994]

OYAL RUBY 25th.p., Villiers engine, Albion 2-speed, condition as new; £43.—49, Well St., Hack-[3455]

OVAL RUBY'S, 3h.p., spring frames; booking orders for early deliveries.—Longman, Fisherton, alisbury. [4325]

OYAL RUBY, 1920, 3h.p., spring frame: de-liveries shortly; book now to secure.—Halifax lotor Exchange, Union St. South, Halifax. [3843] lotor Exchange, Chion St. South, Italian WAUCHOPE'S, 9, Shoe Lane, London.—8h.p. Royal Ruby combination, 1919, fully equipped, acas accessories, Cameo wind screen, Cowey horn; [4718]

OYAL RUBY, Feb., 1919, 234h.p. J.A.P., 2-speed, accellent condition, speedometer, spare chain, helt-g, volves, 115 m.p.g.; 260; after 6 p.m.-4, Rectory rove, Claphan.

OYAL RUBY 1919 8h.p., mileage 250, perfect condition, fully equipped; £185.—79, Castleton Mandas, Riverview Gardens, Barnes; seen any time Putney stage, Premier Place, Putney.

DOXAL RUBY 1916-17 28th.p. 2-stroke, 2-speed, clutch and kick start, aluminium rustless rims, at overhauled, excellent condition; £55; exchanges, B. D. Varty, Tbundersley, Essex. (4234) (708 Sale, late 1919 Royal Ruby Sh.p., Grindley double spring sidecar, complete with lamps, hood, that stepen, apron. and tools, absolutely perfect, not descen, appron. and tools, absolutely perfect, not support the start of the start

ROW Bros., High St., Guildford, Rudge agents, supply at list prices. [X7948

916 I.O.M. Rudge Multi; £80.-374, Grove Green [4595]

Ture Bargains.

All goods sent on 7 days approval against remittance.

SPECIAL CLEARANCE LINES.

GOVERNMENT COVERS. Hardly used, and In fine condition. (Extra Heavy Rubber Studded),

,				Price.	List Price.
28×3	specially	picked		35/~	8o/-
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26×2}	Grooved	Retreac	ls	.30/6	_

NEW CLEARANCE COVERS.

26×21	Skew Heavy Non-skid	.51/8	64/4
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26 X 21	Heavy Passenger	45 /-	60/6
26 X 21	Tourist Trophy	38/6	48/5
26×21	Extra Heavy Keygrip	52/-	62/-
26×2]	Heavy Three-rib	64/6	70/-
26×21	Medium	49/6	62/6
26×28	Tourist Trophy	38/8	50/3
26×21	×21 Skew Heavy N.S.	60 /	75 /4
25 × 21	×2} Three-rib	45/-	55/-
26×21	Skew Heavy Non-skid	60/-	75/4
26 X 21	Skew Round Non-skid	55/3	68/9
26×3 (for 21 rim) Skew Hvy.		
Non	-skid	69 /-	86/I
650 × 65	Three-rib	62/-	70/-

650×65 Three-rib 62/-650×65 Avon Square 69/-64/6 28×3 Avon Three-rib 70/-85/-29×21 Goodyear Rubber Studded (oversize for 28 x 21 rims) 42/-

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# 10DE01		
26×24 New Endless	8/6	10/3
26×21 New Lap-ended	9/6	
26×23 New Endless	9/-	rr/-
26×21×21 New Endless	9/8	11/6
26×21 New Lap-ended	9/-	_
28×3 New Endless	12/9	-

BELTS.

RETREADING & REPAIRS.

THE TYRE HOUSE, 83, Theobald's Rd., HOLBORN, W.C 1.

MOTOR CYCLES FOR SALE.

Rudge.

19 15 Rudge Multi Combination; £80.-374, Greve Green Rd., Leytonstone, [4594]

3 h.p. Radge Multi, as new, equipped, any trial £70.-1, Othelle St., Liverpool. [3477

RUDGE Multi 1920 5-6h.p., just delivered; 115 -Turnill and North, Peterborough. RUDGE, clutch model, £48; C.B. sidecar, £8/10.— Johnson, 333, Acton Lane, Acton. [2498]

R UDGE Multi 3/kh.p., Sopt. 1916, not W.D., fast; £72.—Adensy, Blackness, Growborough. [358]
WAUCHOPE'S, 9, Shoe Lane, Loadon, E.C.4.
5-6h.p. Rudge Multi and sidecar; £99/10. [4719] T.T. Rudge, single-speed, aplended condition, fully aquipped; £45,-36, Lorrimore Sq., S.E.17. [3766

RUDGE 31/2h.p., clutch, 1913, £38; also Rudge Multi, 1917, £82.-13, Bury Park Rd., Luton. [4121

RUDGE Multi 3½h.p., lemps, good tyres, mechanically perfect, fast; £50, offer.—69, Laltwood Rd., Balham. B.W

RUDGE Multi 3½b.p., 1919, all occessories, fost and reliabla; £95.—Beardmore, The Villas, Stoke-on-Trent. 7-9h.p. Rudge Multi, absolutely in stock; £147, plus carriaga.—A. J. Young and Co., Ltd., Naw-

NEW 1920 Rudge Multi 5-6h.p. in stock, immediate delivery.—Rayre and Williams, Hitchin. 'Phone: [4039]

RUDGE.—Wa are Rudge specialists, and can offer early delivery.—Blackburn and Sons, Station Garaga, Spalding.

19 15-16 Rudge Multi, smart, reliable, complete: £65: exchanges.—Newnham, 223, Hammersmith Rd. W.6. 'Phone: 80.

RUDGE Multi 1917 31/h.p., band clutch, klck start, lamps, horn, splendid condition; £70.-56, St. Thomas Rd., Hackney. [4681

RUDGE 1912, clutch, £16 engina repairs by makers last November; £45, or hest offer.—Lambert, High Elms, Stammore. [3527]

1920 Rudge Multi, T.T., new, uncrated; 105 gns.; new permium required, must sell.—Duwell, figured, page 1940, p. 1950, p

LATE 1919 5-6h.p. Rudge Multi, hand clutch, coachbuilt combination; £115; all accessories.—Cherrett, Bracknell, Berks. [3697]

RUDGE Multi 1915 Combination, 5-6h.p., over-hauled by Radge, sidecar new, coachbulit; £115. -Turnill and North, Peterborough. (4031)

19 17 Rudga Multi, trip speedometer, lamps, lambs, knea grips, guaranteed aplendid order; 70 -74, Surrey Rd., Bournemouth.

RUDGE 3½h.p., condition as new, adjustable pulley, fully equipped, including speedometer; sacrifice £50.-5, Howard Rd., Bromley, Kent. [3810

RUDGE Multi 3½h.p., speedometer, P. and H. lamps, born, almost new tyres and helt, excellent condition; £65.—Nelson, Mainsfield. Settle, Yorks. [3635

RUBGE Multi, Sept., 1919, speedometer, lamps, Klaxon, all tools, any trial; £100; no offers—Chubb, 6, Southwood Lane, Highgate, N. [4064]

RUDGE Multi, just overhauled and painted, fully equipped, engine No. 3415; £54; exchange T.T. Scott or Rover.-51, Church St., Wolverton. [3511

19 Rudge Multi, new Swen aporting sidecar, lamps, speedometer, complete; £140; exchanges.—Newnham, 223, Hammersmith Rd., W.6. 'Phone: 80. [3708]

19 15 Rudge Multi, 3½h.p., clutch, condition perfect, new tyres, lamps, horn, Tan-Bad; £65, near offer.—Hillcrest, Old Whittington, Chasterfield. [3898]

31h.p. Rudge, Grado gears, tools, lamps, generator, heavy tyres, smart and powerful machine; £60.

L. Freeman, 6, Church Lane, King'a Langley, Herts.

RUDGE Multi 1916 5.6h.p., with Eudge coschbuilt sidecar, lamps, horn, all accessories, excellent condition; trial; £90.—Steele, 55, High St., Omagh, Tyrone.

RUDGE 31/h.p., 1914, clatch, variebla, hew tyres, excellent condition; 245; evenings after 7 p.m., week-end after 2 p.m. Sat.—4, Mercheston Rd., Cartiord, S.E.

10 16 Rudge, just overhauled, tank repellated by makers, new lamps, excellent running condition; seen by appointment; £60.—Box 3,052, c/o The Motor (462)

19 20 Radge Multi 51/2h.p., I.O.M. T.T., clutch, milenge 500, all scoessories, 100 m.p.g. grasmated parfect; 105 grs.—Haven, Portsmouth Rd., Eshar. Surrey. [4155

10 19 Rudge Multi, 316h.p., complete with Ismps, horn, and accessories, as new, done under 700 miles: £100.—R. Christopher, Broadmayne. Dorchester, Ex7859

- Rudge.

R UDGE Multi 5-6h.p. Combination, bought November, done 480 miles, better than new; best offer over £130; take lightweight part.—Brisbourne, Draper, Uttozeter. [4507]

1920 I.O.M. T.T. Rudge Multi, P. and H. bead lamp, Lucas horn, tools, delivered February; must sell; £105, or acarest.—Smith, Kiln Farm, Bonrne, Faruham, Surrey.

GENUINE I.O.M. T.T. Radge Multi, lovely condition, excellent tyres, lamps, etc., will do from 6 to 62½ m.p.h.; seen any time; £88/10.-18, Cornbill Grove, Balham.

19¹⁴ Rudge Multf 3½h.p. and smart coachbnilt side-car, reliable mount; £75; good tyres, faultiess, electric lights; £75.—Postmaster, 318, Trinity Rd., Wandsworth, S.W.18. [X8526]

RUDGE Multi Coachbullt Combination, excellent condition throughout; cash £75; deferred pay-ments arranged, half deposit.—Bunting's Motor Ex-change, Wealdstone . [4581]

31b.p. Rndge 1914, cintch, pedalling gear, C.A.V., 22 horn, lamps, stored during war, new condition, perfect running order, take 2 up any hill; bargain, 50 gos.—Ordnance, Camp, Lydd. [3726

L ATE 1919 31/2h.p. Rudge Multi, with good new coach-built sidecar, lamps, spore new belt, insurance, run 600 miles; any trial; £125, nearest offer.—Deller, 16, Camden Gardens, Shepherd's Bush. [3404

1919 I.O.M. Rudge Multi, specially coachbuilt Rudge competition sideen; lamps, Klaxon, overlap cam, splendid condition; £120; numerous competition spares.

—14, Church Rd., Moseley, Birmingham. [4365]

FOR Whitsun.—1920 model 3½h.p. Rndge Mnit; Rudge 40 gn. sidecar, owner-driven sloce de-livered, all on; after May 10th; what offers?—Rev. E. Heywood, 127b, Brudenell Rd., Leeds, [X8733

R UDGE Multi, late 1910, 3½hp., special show en-gine, semi-TT bers, copper exhaust, discs, P. and H., aluminum number plates, several minor refinements, fast, reliable; £110.—35, High St., Watford. [3626

fast, reliable; £110.—55, High St., Wattord. [5628]

10 15 354b.p. Rudge Multi Coachbuilt Combination, band clutch, P. and H. lighting est, in nice condition, perfect order; 75 gas, or near; trial any time.—Collyer, 33, Augusta St., Poplar, London, £1.4, 195 5-6h.p. Rudge, 3-speed, new sporting sidecar, uniminum disc wheels, fully equipped, long axhaust, extra pair handle-hare, just overhanded, very hast, what offers?—Tulloch, Cavalry Bernetts, York, 75 and 195 and

31h.p. 1914 Rudge Multi C.B. Combination, electric 2 lamps, horn, tools, tyres good, rear tyre and addear tyre new, new belt, everything in good condition; £70.—Shepherd, 82, Oxford Rd., Dukinfield, Cheshire, or. Manchester.

RUDGE Multi 1915 31/ah.p., clutch, disc wheels, copper exhaust, complete with tools, lamps, generator,, born and spares, in good running order, good sporting, bass 60 gas.—Green, 43, Guillord Av., Surbiton; or 'phone: 670 London Wall.

1010; Who June 10 London Wall. 14124 50 p. mileage 1500, tyres unpnotured, Miller lamps, Klaxon, toolkit, privately owned; can be seen at McGirath's garage, Gillingham, Kent; best offer over £100.—R. H. Horsfield, Bromptoe Barneis, Chetham. [4504]

F.O.C.H. have a 1919 Rudge Multi and Sidecar, 3½ b.p., small mileage, fully equipped, excellent order.—Fair Offer Car House, 5, Heath St., Hampstead (pr. Hampstead Tube Station). Thone: Hampstead 3752. Hours 97, including Saturdays. (8507

BUJGE Combination, 5½h.n., 1914 model, stored during war, just overhanded by makers, tyree prac-tically makers, tyree prac-tically sound bargain, £96.—Dacham House, Heading-ton, Oxford.

Saltley.

IMMEDIATE delivery of Saltley-Villiers 2-stroke, single-speed £56, 2-speed £66.—London concessionnaires, Laocaster Motor Co., West Norwood. A few agencies available. [4242]

Scott.

SCOTTS.-Place your order now with the Bedford Garage, Walsall. 'Phone: 270. [5308

1920 Scott Solo, just delivered, T.T. handle-hars; SCOTT 3%h.p., thoroughly overhanded and re-enam-elled; £45 or offer.—Portt, Midburst, Sussex. [4416]

SCOTT.—Exceptionally early delivery latest touring and sporting models.—Parker's, Bradshawgate, Bolton.

SCOTT.-Immediate delivery from stock of sports models; 120 gns.-At Blackburn and Soos, Station Garage, Spalding.

SCOTT, 1920, with sporting sidecar to match, Lucas lamps, just delivered; £170.-35, St. John's Rd., Selly Park, Birmiogham. [X8730

SCOTT Combination, 1914, for sale, good tyres, screen, etc., any examination; East Sullolk district.—Box 3,044, c/o The Motor Cycle. [4621

S COTT, 1920, mileage 500, Stewart speedometer, mechanical horo, Primer cords, unpunctured, TT. bars; £135, no offers.—24, 2nd Avenue, Selly Park, Birmingham.



Special Lightweights

IVY, 2-stroke, 2-speed O.K.-VILLIERS, 21 h.p., 2-£65 stroke, 2-speed ... CHATER LEA, 21 h.p., 2stroke, 2-speed. SPARKBROOK, 2½ h.p., 2-stroke, 2-speed, Flywheel £70 £75 Magneto BOWN-VILLIERS; 21 h.p., 2-stroke, 2-speed £.65 COVENTRY-EAGLE,21 h.p.,

J.A.P., 2-speed (Sturmey) Kick-start, Hand Clutch £80 P.S.—All Models fitted with Footboards.

FRANK

139. NEW STREET BIRMINGHAM

READY TO RIDE AWAY.

LIGHTWEIGHT.

2-SPEED. 1920 MODELS.

IMMEDIATE DELIVERY DIRECT FROM MANUFACTURERS

£65

23 b.p. Arden Engine, C.A.V. Magneto, A.M.A.C. Carburetter, Albion Two-speed Gear, Chain-cum-belt (Enots drip feed).

MANUFACTURED BY

JOHN BURNS & Co. 103, HOLLOWAY ROAD. LONDON, N.7.

'Phone: North 2347.

Works:

MOTOR CYCLES FOR SALE.

Scott.

19 19 Scott, completely equipped with P. and lamps, Lucas horn, tools, very small mileage, u in good condition; £115.—Layton Garage, High & Oxford. (Private owner.). SOOTT Cancelet Combination, excellent condition and running order, Bosch, Binks, XL'all, owr bought lightweight; 70 grs.—Norman, 25, Beller Rd, Kingston-on-Thames.

COTT, T.T. model, very fast machine, Bosch, Bin disc wheels, lamps, etc., general condition exc lent; price £72; no offers.—On view, Hasting, Ramsgate Rd., Broadstairs. [40]

SCOTT 33(h.p., 1915, mechanically perfect, entured and plating as new, with C.B. sidecar; £90; a trial and inspection week-end or evenings.—Hines, 1 Rock St., Finshury Park, London. SCOTT, March, 1920, 35th.p., 2-speed, K.S., T model, and racing Middleton sidecar to mat exceedingly attractive outfit, as new, lamps, et £165.—Deneholme, The Becches, Carshalton. [40]

SCOTT 1915 Combination, excellent condition, 1 feet running, electric and acetylene lamps, 16 comfortable sideour, speedometer, pillion seat, tools, m 290; seen any time where stored.—126, Lordship La SE.

Singer.

41h.p. Singer, 2-speed gear, and Millford wicker star, privately owned, good condition; price 2-14, Park St., Minehead. [4:

11.p. Singer, 1913, 2-speed, excellent condition 22 thronghout, good tyres, new belt; what offe-Selman, 27, Belsize Crescent, N.W. 3.

Snarkbrook.

Sh.p. Jap-Sparkbrook Combination, recent thoro overhaul; £110; eeen after 7 p.m.—Simpson, Alma Sq., St. John's Wood.

1920 Sparkbrook, 2-speed, latest Mark IV. Vill engine with flywheel magneto; £75; immed delivery.—Kemp's Garage, Louth, Lincs. [X8] SPARKBROOK, 1919, 2-speed, Villiers, L. Bamps, splendid condition; 55 gns., or exchrountershaft Triumph, cash adjustment.—Phillips, Gomore, Dawley, Shropshire.

CPAREBROOK 1919 2-stroke, 2-speed, Villiers, and B., Thomson-Bennett, lamps, generator, thom, pump, splendid condition; 255; appointment a 6,30.—M., Feraleigh, 80, Durhum Rd., East Finel

Sun.

19 18 23/h.p. Sun 2-stroke, 2-speed; £35.-1, lingham Terrace, Catiord.

SUN V.T.S. 23/h.p., 2-speed Albion, 1915, d away; £38.-36, St. Thomas Rd., Hackney. [4 SUN Combination, C.B., 6-8h.p. J.A.P., 3-sj Sturmey-Archer countershaft; £110.—129, Br ley Rise, S.E.23.

SUN-VILLIERS 2-stroke, 2\(\)\(\)h.p., lamps, born, a belt, believed 1917; \(\)\(\)239.—19, Upper Park Belsize Park, N.W.3.

19²⁰ Sun-Vitesse 2-stroke, Burmau 2-speed clutch, unscratched, mileage 100; £60.— Howard Rd., Walthamstow, E.17.

SUN-VILLIERS, 2-speed, slmost new condition, feetly timed, lamps, horn, etc.; only £60; 5.30 p.m.—33, Althorp Rd., Upper Tooting, S.

SUN Combination, 43(h.p. J.A.P., 3-speed, coach cidecar, will go through 3ft. 2in., Bosch, pe condition; 2150.—Box 3,006, c/o The Motor Cycle

SUN-VITESSE 2-speed 2-stroke, good tyres. med cal horn, electric head and tail, semi-T.T. became proceeding India: £38.—Hancock and Bun Engineers, Queen Camel, Somerset. (D)

Sunbeam.

19 18 Sunbeam 31/sh.p., black and gold, ps order; £125, or near offer.—63, Reaksfield Grimsby.

SUNBEAM, standard model, 31/2h.p., solo, delib this week; best offer secures.—Box 2,971, o/o Motor Cycle.

SUNBEAM, 3½h.p., T.T. model, 3-speed, clutch, f Class order; offers.—129, Beechcroft Rd., U Tooting, S.W.

23h.p. Sunbeam, Bosch mag., chain drive, kick sta 24 P and H. lamps; 75 gns.—Hollier, 58, Ou den Rd., Balham.

19 19 Sunbeam Combination, 51/h.p., as new, East screen, lamps, Tan-Sad, etc.; £175.—9, On den Rd., Balbam, London,

SUNBEAM, 31/2h.p., 1915, perfect condition, as new, all accessories: £85. — Gardiner, Castleton Rd., Goodmayes, Essex.

19²⁰ 3½h.p. Sunbeam with Sunheam Sidecar, with Sidec SUNBEAM dh.p. Combination, 3 speeds, kick sit band clutch, mechanically perfect, lamps, absories, etc.; £115.—12, Station Parade, Mucil Hill, N.

B42 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Sunbeam

NBEAM 2^Mlip., 2 speeds, kick starter, chain drive, Bosch, Senspray, lamps, and horn, splendid weight; 276.—Mandes', 100, Gt. Portland St., lon. [4471

NBEAM 1914 25 h.p., 2 speeds, clutch, new K.S., Bosch, Anne, Sterling guards, undershield, etc., condition; 277.—Verity, Longfield House, Hat-Hetts.

NBEAM Combination, 1919 model, ridden very little, new condition, speedometer, horn, Lucas a, wind screen, knee grips, etc.; £180.—Turnill Korth, Peterborough.

17 345, n. Sunbeam (not army model), good tyres, horn. Lucus lamps, brand new, £27 Monthly sidecar, painted black and gold, match motor s, any trial; £140.—King, 13, Hope St., Mill Rd., bridge. [3464]

bridge.

MBEAM Combination, 3½h.p., countershaft 3speed, all coclosed, excellent condition and order,
is lamps, speedometer, tools, 1914, but very little
£125,-356, Lordship Lane, 8.E. 'Phone 363
ham.

hp. Sunbeam, 1915 (May, 1916), 5-speed, h.b. clutch, all-chain; Binks, 6,000, tyres one good one enamel fair, mechanically good, accessories, dynamo inc (not fixed); £105.—Jack Brockbaak 11, Stanton West Diébbury.

119 (October) 3½h.p. Sunbeam and Sunbeam sidecar.
Dunlop heavy tyres, Lucus lamps, Lucus horn,
Sad, tools, spares, etc., small mileage; owner buyrine
De twic; bargain, £180.—Stanbridge,
X8851
Keupstead.

15 4h.p. Sunbeam Coachbuilt Combination, 3-speed chain drive, oil both gent case, lamps, hore, speed-et, wind screen, etc., excellent condition through-been stored; first £112 accepted; each wanted.— be: Croydon 2532. [4258

NBEAM .- We are Wolverhampton agents; spare ABEAM.—We are Wolvermampton agents; spare parts in stock; repairs, overhauls, re-examelling plating under the supervision of Mr. T. C. de la (late Sunbeamland).—The Molineux Garage Co... Wolverhampton. Tel.: 1160. [3458]

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NBEAM 6b.p., 1914, and Gloria sidecar, lamp, hore, speedometer, and all accessories, faultless tition, absolutely perfect throughout; ill-health e of sale; £172.—Apply to Higgins, c/o Mr. y, Station Rd., Newport Pagnell, Bucks. [3162.]

Station Rd., Newpore Faguer, Ducks.
Sunbeam 3/4, p. Combination, leaf springs, etachable wheels, Mills-Fulford sidecar, black-lish, Lucas best head tail lamps, Sunbeam leg A.K. knee grips, Klaxon, perfect; best ofter—C. Southerm, Grocer, Gloucester. Tel.: 189. (4045)

NBEAM 1916 Combination, 6h.p., Lucas dyname lighting, electric horn and bubb horn, spare 4, specdometer, bood and wind screen, spares in 6 2 searly new inner tubes, full set of tools, etc., pleudid condition, 2165.—Gibbs, 25, Osterley Park Sowthall, Middleex. (4430 14430

TE 1916 6h.p. Sunbeam Combination, M.A.G. engice, low mileage, just overhauled, in good ition, any trial, fitted with 700×26 light car is [2 new], electric lighting, spare wheel, sneedot, and other spares; £165, or offers.—Harris, ley Rd., Luddenden Foot, Yorkshire. [4582]

D.C. 4-stroke 23/h.p.; £25.-6, Raddington Rd Portobello Rd., Westbourne Park. D.C., 23/h.p., new engine fitted to lightweight Irame, Bosch mag., Amac carburetter; best offer £25; ride away.—Brokhurst, Harting, Petersfield.

20 T.D.C. De Luxe, 2\(\frac{1}{2}\)h.p., 2 speeds clutch, kie start, electric lights, all accessories, done 50 s; must selt, £62.—27, Shelton Rd., Merton Park, bildedo, S.V.

15 T.D. Cross de Luxe, 21(h.p., 2-stroke, Bosch mag, perfect running order, excellent tyres and sorties; seen any time; 237/10.—Dumbelton, Oran , Boreham Wood, Herts.

EE, braud new 23,h.p. J.D.C. 2-stroke engine.
Dixie magneto, Senspray carburetter, exhaust ble, silencer; or exchange for a J.A.P. engine.—
Leigh Rd., Howe Bridge, Atherton. [4728]

AND New and Ready for Delivery, 25th, p. 2-speed de luxe T.D.C. 2-stroke, E.I.C. direct drive mar-poly carburetre, aluminium footboards, semi-T.T. Druid forks, Albion 2-speed gear, Duolop studded tet, absolutely a perfect mount: my price 450 last applicant—E. Longden, 25, Main St., Shire-ke, n. Mannield. (D) [X8773]

M.C., 4-cyl., water-cooled, coachbuilt sidecar, fitted with wind screen, 3 gears, in splendid condi; £100.—Cosbam, 145, Sydenham Rd., Sydenham

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MBINATION, 31/4, p. Torpedo-Precision, Phenix coachhuit sidear, 3-speed splendid condition, cash; seen veck-end and evenings.—J. Bronnand, Lodge, Elms Rd., Hook, Hants. [4347]



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Triumph.

T.T. Triumph, 4h.p., brand new; £100, no offers -Box 2,933, c/o The Motor Cycle, [346] 1916 4h.p. Triumph, 3-speed, fine order; £83 Bellingham Terrace, Catlord. TRIUMPH, 4h.p., 1914, fast, very reliable machine £50.-45, Iloward's Lanc, Putney. [351

1916 4h.p. Triumph, 3-speed countershaft, as new; 31h.p. Triumph, clutch model, good condition, and fast; 42 gns.-Hipwell, Ibstock, Leicester, [4370]

19 20 Trintuph Junior, new, delivered in Feb.; £70.

-S. Day, Brook House, Marden, Kent. [4355]

19 18 4h.p. Triumph Combination, countershaft, Glored sidecar; £105.—9, Church Rd., Willesden, N.W. (3452 TRIUMPH 4h.p., 3-speed countershaft, Lucas lamps; £75,-172, Eithorne Rd., Upper Holloway, N. (3506

1509 19¹⁴ Triumph Coachbuilt Combination, lamps, tools; complete, £72.-30, Rainbow St., Cambervell. (4128 TRIUMPH T.T., 1919, quite new, knee-grips, Klanou, very fast; £97.-116, Chorley New Rd., Bolton,

4 h.p. Triumph, countershaft, as new, 80 gns.; also C.S., £13.—Denston, 25, Graham St., S.W.1. [4077 TRIUMPH Council Shaft Combination, accessories, per-tect; £125.—19, Flect Rd., Belsize Park, London.

19¹¹ Triumph, with gears and free engine, in fi condition; £45. King, Egrove Farm, Oxford

TRIUMPH Solo. 1918, restored as new by ma new tyres; £88, no offers.—126, Lordship I S.E. TRIUMPH Junior, 1914-15, 2-speed, Dunlop tyres, Bosch mag., excellent condition; £56; exchanges.

TRIUMPH, late 1911, clutch model, stored during war, exceptional condition, almost new, Dunlop tyres, footboards; £45; exchanges.—Below.

TRIUMPH, late 1915, 3-speed, clutch, pedal start, Dunlop tyres, complete with Mills-Fulford coschbuilt sidecar, 4-point attachment, luggage grid, apron, 3 lamps, mechanical horo, excellent condition throughout; 2.75; exchanges.—Below.

R. D. VARTY, Thundersley, Rayleigh, Ess. 19 20 Countershaft Triumph, just delivered; £125, or close offer.—Edwards, 26, Pleasant St., Kiddermiaster. [X8507]

TRIUMPH Combination, 4h.p., 3-speed huh; £75.— Particulars, Wilde, Willesborough, Asbford, Kent. Phone: 4.

TRIUMPH 3½h.p., Bosch, tyres and condition good: £29/10.—Janes and Adams, The Promenade, Palmer's Green. [4516 TRIUMPH 4h.p., 1914, 3-speed, top-hole condition: 60 gas., or exchange lightweight.—141, Merton Rd., Wimbledon. [4374

1919 21/4h.p. Triumph Junior, lamps, tools, very little ridden; £67.—Seen any time at Highlands, Dateshill, Woking. [2613

TRIUMPH, 1913, 3-speed, James Canoelet sidecar, all accessories, perfect; £78.—365, King St., Hammersmith. [4379]

3 h.p. 1910 Triumph, perfect order and condition: £30.-1, Norwood Rd., Herne Hill. Phone: Brixton 1964. [4613

TRIUMPH 31/4h.p., electric lamps, discs, D.R. bars, 5 Cower speedometer, fast; #49/10.—49, Well St., Hackney, E.9. [4535 Hackney, E.9. [4535]
TRUMPH 4h.p., absolutely as new, latest pattern gear lever; £90.—Arthur G. Daw, 114, Brixton Hill, London. [4291]

TRIUMPH, 4h.p., 1914, 3-speed, clutch, as my rery fast; £55. — Blencathra, Highfield Rd, walton-on-finames.

TRIUMPH 4h.p. 1915 3-speed and new sidecer, splendid condition; £100, or near orier.—Routler, Merchant, Bideford.

1918 Countershaft Triumph, overhauled and renovated by Triumphs; £90.-274, Grove Green Rd., Leytonstone. [4589]
WAUCHOPE'S, 9, Shoe Lane, London, E.C.4-

Rd., Leytonstone.

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TRIUMPH, 1918, enamelled and plated as new, compare this with others; 65 gns.-19, Wilcox Rd.. South Lambeth, S.W.8.

19¹⁴ T.T. Triumph, Philipson and clutch, hub, lamps, horn, perfect; £55; after 6 p.m.-6D, Sutton Dwelling, Chelsea. [4303

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B43

MOTOR CYCLES FOR SALE. Triumph.

TRIUMPH, 1912, adjustable pulley, fixed engine model; first cheque for £35 secures the bargain.

John and Sons, Narberth. (3735) FOR Sale, 1913 31/h.p. 2-speed free engine Triumph motor cycle.—Seen Clarke's Motor Cycle Works, London Rd., St. Albans. [3968]

4 h.p. Countershair Triumph, 43125, in perfect condition, all on; £90; Surrey district.—Box 3,061, c/o The Motor Cycle. [4638

TRIUMPH, 3½h.p., clutch model, thoroughly over-hauled, lamps, etc.; £43, bargain.—Woods. Nor-mandy, nr. Guildford. [X8758

LATE 1919 Triumph, Gloria sideear, latest change gear, etc., low mileage; bargain, £145.—66, London Rd., Coventry. 19¹³ 3½h.p. Triumph, 3-speer, clutch, Bosch, excellent condition; 58 gns.—3, Park Rd., Kingston Hill, Surrey. [4408

BABY Triumph, 1919, heautiful condition, all accessories, milegge under 500; £70.—Martineau, Streatham Grove, Norwood. [3856

TRIUMPH 1917, renovated, 3-speed countershalt, new, extra heavy tyres, mag, best, etc.; £85-115, Tream Rd., Plumstead. [4106]

19 T.T. Triumph, 4h.p., lamps, horn, accessories, complete, as new; £100, or nearest offer.—Hewett, Common Rd., Redhill, Surrey.

TRIUMPH 3/2h.p. Clutch Model, cane sidecar, new tyre, belt, Pedleys, Lucas lamps, horn; £55.— 49, Baldwyns Rd., Bexley, Kent. [4087

TRIUMPH 4h.p. 3-speed, clutch, lamps, Klaxon, tool kit, original tyres, as new, 3-60 m.p.h.; £65.-22, Trundley's Rd., Deptford, London. [4139

TRIUMPH 31/2h.p., 3-speed, Sturmey countershaft, C.B. sidecar, accessories, in perfect condition; £95.—115, Tnam Rd., Plumstead. [4152]

19¹⁹ Triumph and Sidecar, 3 lamps and Stewart horn, spare belt and tube, in perfect condition, £140.-43, Finchley Rd., N.W.8. [3880]

TRIUMPH 3%h.p., believed 1913, completely over-hauled, good tyres, belt; nearest £40.—Shiels, 41. Caledonian Crescent, Edinburgh.

TRIUMPH, 1912, clutch, P.S.; Beech, just rebushed, overhauled, adjustable pulley, good tyres; £42, offers.—10, Rodway Rd., Bromley.

TRIUMPH, 1920, and sidear, as new; £165, Childred Wilson Mg, Co., 70, Royal Hospital Ed Chelsea, S.W.3. Kensington 7113. (434 W.D. Counterbast Triumph, 1918, in nice conduction throughout, Luca lighting set; 590—Eq. 47ds, Dudley St., Kidderminster. [X244] condi-£90.—Ed-[X8499

19¹⁹ Triumph, Swan sporting sidecar, practically brand new, Lucas accessories; £140.—Arthur G. Daw, 114, Brixton Hill, London. [4289

19 12-13 Trinmph, new Senspray, Bosch, lomps, generator, adjustable pulley, good condition; £35/18.

-Cromwell Mews, South Kensington. [3857]

TRIUMPH 4h.p. 3-speed, thutch, overhauled and renovated, as new, engine in first-class order; £63. -262, Blackhorse Lane, Walthamstow. [4038]

TRIUMPH Lightweight, 2-stroke, 2-speed, fully equipped, perfect running order and condition: £50.—Grigg, 2, Devon Terrace, Totnes. [4323] TRIUMPH Countershaft Coachbuilt Combination, lamps, tools, pillion seat; £110; exchange Indian.
2, Appian Rd., Old Ford, London. [4414]

19 19 Triumph, countershaft, T.T., sporting sidecar, Complete; £120; offers. — Write, Wilson, McWhirter House, Abbey Rd., N.W.8. [4069]

31h.p. Triumph, 1913 T.T., clutch, Bosch mag., lamps, splendid condition; 248/10; atter 5.30.—45, Cambridge Rd., Hammersmith, W.6. [4333 TRIUMPH T.T. Roadster, late 1919, unscratched, perfect, all lamps, Lucas horn, knee grips, tools, etc.; £95.-64, Montague Rd., Cambridge. [4402]

TRIUMPH 4h.p., T.T., Binks, lamps, grips, speed-ometer, Klaxon; after 6; £48; exchange 2½h.p. J.A.P.-60, Whymark Av., Wood (freen. 3685

19 19 Triumph 4h.p. Countershaft, Lucas lamps, Klaxon, Capac, spare valve and tube, Perfect; 2110, no offers.—51, Cairns Rd., Sheffield. [3381

\$295.—Triumph 4h.p. countershaft combination, in splendid running order; don't write, call any time.—103a, High St., Wandsworth, S.W.18. [4659] TRIUMPH 3'4h.p., 1912, T.T., excellent condition, mechanical horn, all accessories, ride away; near £40.-25, Palewell Park, East Sheen, S.W.14. [4303 31h.p. Triumph and Sidecar, 1913, 3-speed, clutch model, Bosch, mag., lamps, tools, splendid condition; £78.—Stone, Bank Buildings, Cranleigh. [4348]

19 14 4h.p. Trinmph, new 3-speed hub, clutch, lamps, horn, etc., new heavy cover, perfect condition; 280, or nearest -F. Parsons, Meaphan, Kent. [3862

TRIUMPH. 7.T., 31/5h.p., new tyres and belt, lamps, horn, knee grips, tools, overhauled, fast and rehable; £50.-34 Brampton Rd., St. Alban's. [4486 19 20 Trinmph, Model H, and Montgomery De Luxe sidecar, new, unridden; £170.—Scheffler. 233, Regent St., London, W.1. Mayfair 1330. [X8732]

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MOTOR CYCLES FOR SALE

Triumph.

19 15 Triumph, 3-speed S.A., overhauled, r. ennuefled, new tyres, 2 lamps, born, Sterlishields; 285, offers.—Edwards, Ash Vale, Surrey.

TRIUMPH, 4¼h.p., 1918, guaranteed, 3 countershaft, perfect order, good conditional lamps; £85.—Jagger, Claughton St., Kiddern

19 13-14 3½h.p. Triumph, S.A. hub, Bosch sidecar, Easting, Klaxon, lamps, accur £100, lowest; London.—Box 3,009, c/o The Moto

LATE 1913 Triumph, 3 speeds, clutch, Klaxon, Cowey speedometer, tools, unused war; £56, bargain.—72, Longridge Rd., Earls

TRIUMPH 31/sh.p. and Wicker Sidecar, N.f. speed, excellent running order; price 40 Birch, 27, Werrington Rd., Bucknall, Stoke-or

TRIUMPH Countershaft Combination, new 1919, luxurious bulbons sidecar, perfect 2130, or near,—60, Wallingford Av., North Ken

TRIUMPH 3½h.p., Grado gear, K.S., excelled dition, new lamps, horn, belt, tyre, etc.; ar £42, no offers; evenings. 65, Silverdale, Sys. E. £55.—Triumph 1910 31/h.p. combination, wiel car, been overhauled by makers, Roc ger fect running order; bargain.—Tye, Barnby Mo ford.

1919 Triumph (October), complete with 1921 gomery sidecar, spare belt, horn, etc., c as new; £140, or near offer.-11, Dover St.,

TRIUMPH 1914 4h.b., 3-speed, clutch, sidecar, Lucas King of Road lamps annew tyres, tubes, and spares; £85.—Phone Hop.

19 19 Triumph, 3-speed, latest gear char-cellent condition, Mead and Deakin sidecar; £130.—King, 13, Hope St., Mill Re bridge.

1920 Countershaft Triumph, with Sandum back sidecar (blue), with hood and screet new, delivered March 31st; offers?—26, Mor Royston, Herts.

TRIUMPH Combination, 1914, with 1918 b ford sidecar like new, Sturmey 3-speed, Immps, tools, excellent running order; £80,-1, Rd., Dulwich, S.E.

10 12 Triumph, fixed, in guaranteed order, and plate good, semi-T.T.; any trial cination; price 248.—G. W. Green, Millgate, Yorks. Tol.: 36.

TRIUMPH, TT., 3½h.p., dropped frame large tank, lamps, generator, pump, to-good order; £48, or near.—Meadows, Abbots; Rugeley, Staffs.

Rugeley, Stans.

TRIUMPH 1913-14 3½h.p. Combination, cluster, N.S.U., 2-speed, splendid conditionent running order, all accessories; £65,-22, Rd., Hornsey, N.

TRIUMPH Coachbuilt Combination, 4h, model, drip feed, 5-speed gear, clutcused, lamps, etc.; hargain, £87/10.—174, 1Av., Streatham Hill, S.W.2.

19 19 Triumph Combination, Gloria, hood, apron, T.T. handle-bars, P. and H. Horn, tool kit: £140, or nearest.—Thone: Mo Homewood, Hampton, Middlesex.

TRIUMPH, 1913, with 1915 4h.p. engine, N.S.U., tyres and machine in real goo tion; £65, or near offer.—Write, G. S. Ricki ham Garage, Barnham, Sussex.

TRIUMPH Junior, mileage about 250, un and not fully run in, no nunctures, hot tools and repair kit, ideal little mount; lower D. Lavin, Old House, Sonning, Berks.

1913-4 Triumph 34/h.p., 3-speed, clutch, 6 tern wicker sidecar, door apron, tyres goonly 400 miles), 2 lamps, born, excellent of £65.—Harper, Oxford, near Sevenonks.

TRIUMPH 31/3h.p., 2-speed, clutch mode mag., all tyres new, accessories, Lucar speedometer, complete tool kit, ready to the £55.—C/o Freeman, Brighton Rd., Redhill, S

TRIUMPH, late 1014, 3-speed clutch, ki just overhanded and painted, all in perfection, complete with lamps and mechanical horizontal action, 270,-H., Lyndhurst, Woodhonse Rd

1913-14 Triumph C.B. Combination, S.A., clutch, kick start, mechanical horn, lig complete, tyres sound, back new, guaranteed is out; 75 gns.; private owner.—Sen 173, Kin Kingston, S.W.

4 h.p. Countershaft 1917 Triumph Combins distinguishable from new, guaranteed hand new puryle sidecar, hulbous hack, fine seen and tried any time; best over £100-21, Norlok Rd., Littlehampton.

19 19 Triumph, countershaft, fitted wit G mauve siderar, Lucas light car dynamode set. Easting wind screen, spare valve, toolstall 650, as new throughout: £157—Wilcox, 1] It stead Rd., Handsworth, Birmingham.

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Unfair Taxation.

Y the time this issue of The Motor Cycle is in the hands of the public, the Chancellor of the Exchequer will have placed his Budget proposals before Parliament. How these proposals are likely to affect motor cyclists has been fairly well known for some time and confirmation is to hand in the interim report of the Committee appointed by the Minister of Transport.

Elsewhere in this issue we publish a letter from the Secretary of the A.C.U. giving the views of that body on the proposals. We know that both the A.C.U. and the Union representing motor cycle manufacturers have been closely in touch with the Committee mentioned above, but a glance at the list of gentlemen constituting it shows that motor cycle interests were not directly represented. It would appear that, despite the fact that motor cyclists are more numerous than car owners, they have apparently been treated as an auxiliary section of the public sufficiently important to contribute to the cost of the roads, but unworthy to have a place among those organisations representing car and motor fransport interests.

No Rebates for Old Machines.

It may be only incidental, but it is significant that when once the question of a fuel tax had been definitely vetoed by the Government, the attitude of the A.C.U. and the Manufacturers' Union, acting in an advisory capacity to the Committee mentioned above, appears to have been one of resignation. The proposals (30s. for solo machines under 200 lb., £3 for solo machines over 200 lb., and £4 for sidecars and three-wheelers) appear to have been put forward by those who are supposed to represent our interests. The Secretary of the A.C.U. states that the A.C.U. alternative to a fuel tax was compound taxes of 30s., 55s., and 75s. respectively, or 5s. less in the two latter cases than the final recommendations of the Com-

mittee, and in the case of motor cycles there is apparently no allowance for old machines.

It has long been recognised that increased taxation is inevitable, but increases of 300% in the case of passenger machines and 200% in the case of solo machines over 200 lb. are too much, especially as the revenue so obtained is to contribute towards the cost of repairing roads damaged during the war, when the majority of motor taxpayers were not allowed to use them.

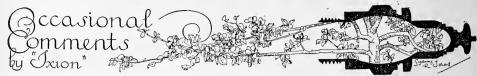
Quarterly Payments.

The report distinctly states that the option of quarterly payments is offered to car owners only. Could anything be more unfair? The motor cycle riding public are in greater need of facilities of this kind than the wealthier classes owning cars. This must be remedied, as must the non-provision for old-type motor cycles.

265,000 motor cyclists are expected to contribute £850,000 as against £3,300,000 expected from 210,000 car owners. This means that motor cycles are supposed approximately to do damage to the roads one-fourth the amount estimated for cars.

In finding a basis for these suggestions, those concerned have been unfair to the lightest forms of motor vehicles, for no one can assume that the total weight of all the motor cycles on the roads is anywhere near one-fourth the assumed total weight of private cars. This is not taking into consideration that a vehicle weighing a ton will do a great deal more damage than four motor cycles.

If we take this argument a little further in conjunction with the estimated Budget, we may compare the possible damage to the roads by 265,000 motor cyclists (fully half of whom only use their machines at the week-end) and that of 100,000 commercial vehicles, the majority of which weigh many tons each, and which are only required to contribute £2,190,000. It is these very vehicles that do the damage to the roads.



Lighting for Short Runs.

RURAL rider implores me to stir up the trade in general, and inventors in particular, with regard to a system of motor cycle lighting suited to short runs. My correspondent, like thousands of riders, lives in the country, half a dozen miles from town, station, and shops. To such, a motor cycle is an incredible convenience. His brief flips to some neighbouring hub of civilisation tot up to a dozen in a week. In the absence of a motor cycle they would have to be performed on a pony, or a cycle, or in a trap, and the mere journey to and fro would occupy an hour, or an hour and a half. By motor cycle each trip absorbs about twenty minutes in pure travel. But here's the rub. The motor cycle journeys must be performed by day, unless the machine is to be a regular nuisance, and most rural residents get their leisure in the evening. There are at present two lighting systems which are absolutely as convenient and efficient for a ten minutes spin as they are in a London-Exeter-dissolved acteylene and the electric dynamo. I have recently given prominence to the factors which restrict the vogue of gas cylinders, and we all know that dynamo outfits are costly, by no means easy to procure with new machines or to fit to old machines, and possibly in some cases not yet wholly trustworthy. The other alternatives are three in number:

(1.) Gas generators (messy, troublesome, and expensive in short distance use).

(2.) Oil lamps (too dim). Dry battery outfits.

The last system appears the most promising for the sort of rider who takes a couple of five-mile spins most evenings, but I cannot unreservedly recommend it on my own experience. I have found the head lamp batteries too short-lived for economy. Can others give a more hopeful narrative? In any case, the standard motor cycle is in urgent need of a lighting outfit which gives the same excellent service on long trips and the same delicious convenience on short spins as a ear dynamo set affords.

Scott Petrol Consumption.

RECENTLY referred to the Scott as having "the thirst of an Irish navvy," and this dietum has · brought "Wharfedale" and others on my track. I hasten to state that the remark was uttered in a purely Pickwickian sense. Everybody knows that two-strokes are, on the average, thirsty fry: it is the price one pays for their many delightful qualities. "Tim" Wood estimates the average consumption of a solo Scott as 70 m.p.g. "Wharfedale" is proud of getting 57 m.p.g. on benzole with a sidecar. sidering that a Scott gives us four-cylinder manners with a power unit which is simpler than a singleeylinder, these figures are not at all bad. comparatively, they are poor, as nearly all two-stroke economy is poor when contrasted with four-strokes.

For example, the Triumph sidecar in the A.A. benzole tests did 84 m.p.g. and my own T.T. Norton solo does 110 m.p.g. I once heard a matter-of-fact Saxon tell off a Welshman by informing him that "he would weep at the sight of Snowdon, but was totally immune from anything that could be called principle." all have the defects of our qualities, and motor cycles are not exempt from the law.

Starting a Scott.

RIEND "Wharfedale's" wrinkles on starting a Scott engine are what I have employed from the commencement of my ownership, except that as my own engine was delivered with one or two mino: air leaks, I found that a cork in the air intake acceler ated the "half dozen lazy digs" method until sucl time as I had eaulked the faulty points. "Wharfe dale" did not quite grasp the point of my enquiry which related to two Scott machines, which in my pre-Scott days I had repeatedly seen start up from cole with but a single dig at the starter. This mystery i now explained by the owners concerned, both of whon use Euk starters (a pump which sprays the petro injection). In one case the Euk is connected to the induction pipe, which, as "Wharfedale's" notes sug gest, is apt to create a fresh source of air leakage In the other it is coupled up to a cock in the cylinde head. The "one-kick" start can only be attempted without risk to the kiek-starter, when the brand and the quantity of the lubricating oil do not producgumminess. A "two-kiek" start from cold is good enough for anybody, and better than many four-stroke achieve in winter weather on current fuel.

The Champion Rider.

THE suggestion to identify our champion moto evelist is timely and interesting, but its organisation will present some thorny points, none of them perhaps insoluble. Here is an illustration. It company with many other critics, I always considered that the late Ivan Hart-Davies (killed in an aeroplanerāsh at Northolt) was facile princeps at ordinary road He picked a good machine, tuned it ad mirably, rode it with splendid judgment, and was a sound in a Six Days as he was unapproachable ove the End-to-end course. But he was quite second rat when it came to real speed, and never did much i a timed hill-climb, or on Brooklands, or in the T.T Men like another dead R.F.C. pilot, Oliver Godfrey and others we can all name, were in a different class at maximum speed work, Hart-Davies's forte bein prolonged moderate speed. It would be difficult to frame a scheme which would do justice to both types The problem may be solved by the appearance during 1920 of a man who can win the T.T., put up new End to-end figures, and also score heavily in the big legal limit reliability trials. If such a rider exists, his claim to the absolute championship would be unquestionable But in the past we have more than once had un

ccasional Comments.-

rowned kings in each separate branch of the sport, iz., reliability and speed. Under a single scheme here would be some risk of the championship falling of a man who has just failed to top the tree in both lepartments, and had to acknowledge a superior in each. In that case it might be better to divorce the wo branches and have separate championships for acing and reliability.

Survival of the Fittest.

NNING the various buyers' guides published in this journal and its associates, I noticed that there are now on the market some seventy lifferent makes of lightweight motor cycle, some eventy different makes of water-cooled light car, and bont thirty different patterns of cycle car. All these pecifications are aimed at the man of strictly moderate neans, and as such, "built down to a price." normal times it would, of course, be insane to split ip the supply of so limited a demand among so many ival specifications; most of them would necessarily be manufactured on uneconomical lines, and would cost a great deal more than if the total output came rom a lozen scientifically laid out factories with big outputs. It follows that a good many of these nachines will die early deaths.

Undershields.

NE is driven to the conclusion that many of our big makers have never made comparative tests of (a) a machine fitted with plain footrests and the ordinary or tape type of front mudguard and (b) a machine fitted with footboards and side-splashers to the front guard. (It is quite a simple job to design the latter accessories to be instantly detachable, thus converting the machine back to T.T. outlines in I have a sample of each pattern in fine weather.) The former brings me home in bad my garage. weather in such a condition that it would pay any allotment holder to scrape me down from the knecs to the bootsoles: he would get about half a barrowful of excellent loam. The latter machine restores me to my family in drawing room order, unless I have been tempted to exceed the speed limit on a windy day, in which case cross breezes may perchance flick a few spots of mud on to the sides of my trousers below the knee. I suggest that the standard outfit should include some front fittings of the Scott splasher or College legshield variety, plus an undershield of the Cedos type; and that a narrow front mudguard and naked footrests should be a special T.T. option. But when I enter the trade, I shall equip my stock machine with all the lot, and the mud protectors will snick off on request.





THE PREMIER RUNABOUT-A THREE-WHEELER WITH A REVERSE GEAR.

THE PREMIER'S SALIENT FEATURES.

ENGINE: V twin, water-cooled; 80 mm. bore; 105 mm.; stroke: 1.055 c.c. capacity; mechanical lubrication.

TRANSMISSION: Shaft to gear box, three speeds and reverse; final drive by one duplex chain, enclosed.

FRAME: Pressed steel.

SPRINGING: Quarter elliptic.

TANK CAPACITY: Five gallons. WEIGHT: 7 cwt. approximately.

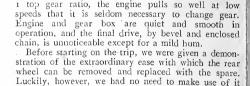
PRICE: £260, fully equipped.

IGNS are not wanting that the three-wheeled runabout will in future loom large in the purview of that class of motorist who desires the most economical form of passenger motor cycle.

Taking over a Premier super-runabout on a Saturday morning, a sixty-mile trip was arranged that

Almost directly after the start rain commenced to fall in torrents, and we were obliged to put up the hood, a simple enough procedure, but one which the writer cordially detests, since enclosed driving is

always distasteful Good to him. roads were the order of the day, and the little threewheeler hummed along in a most delightful fashion. The water-cooled V twin engine is wonderfully balanced, and was hardly distinguishable from a four at any speed above 12 m.p.h. Not only is there no perceptible period at road speeds, but, in spite of the 4 to в6



throughout our trial. On the following morning we

set out for Cheltenham via Warwick, Stratford, Broadway, and The run combe. was uneventful, and the machine ran like `clockwork. After lunch at Cheltenham the rain once more descended, but we clung to our original intention of climbing Birdlip Hill, and consequently set out along the Painswick road.

> The writer had not visited Birdlip since pre-war days,



Externally the Premier design is commendable; there are no unsightly excrescences to mar its "clean" appearance.

Road Tests of New Models .-

and found two deep ruts on the hill, while the surface was greasy but fairly good.

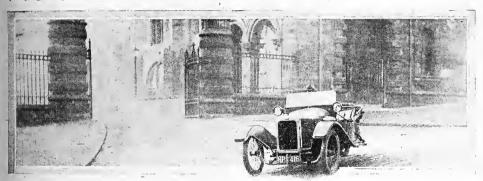
A straightaway run at the hill brought us well up the first steep rise on top gear, and an early change to second carried us to the knap. Here the low gear was engaged, and though there is little doubt that we could have got back to middle for quite a long period, no change was made. Near the summit the throttle was opened up, and the speed never fell below 11 m.p.h., a good performance for a well-loaded engine of under 1,100 c.c. The homeward run was marred by a heavy storm, and some delay was caused in rendering aid to a motor cyclist who was held up by a broken sidecar spindle.

Throughout the trip no tools were touched, and the engine and transmission behaved most satisfactorily.

Springing is always a difficult problem in a light machine, especially if it be a three-tracker, as light springing is apt to cause a roll, and harsh springing is, of course, uncomfortable. In the case of the Premier a compromise has been struck which is, in our opinion, capable of improvement, but we understand that this question is engaging the attention of the designer, and a modification is expected.

The steering is by rack and pinion, and, though extremely light in operation, conveyed to us the impression that it is rather too direct. Speaking generally, the machine handles well on all but bad roads, and the tendency to tail-wagging, common to most three-wheelers, is present, but not unduly pronounced.

Gear changing, once the knack is acquired, is simple and quiet, and the brakes are powerful and smooth in action. Fully equipped with hood, screen, spare wheel, and Lucas dynamo lighting set, the Premier is a very taking proposition, and should make considerable headway when production starts, and we should like to congratulate the designers on overcoming successfully the difficult problem of making a three-wheeler look really attractive.



One of the features of the Premier is its reverse gear, which greatly facilitates driving in towns or narrow winding lanes

SIDECAR STEERING.

Notes on the Easy Control of a Rigidly Aligned Sidecar Outlit.

PROBABLY few vehicles possess the power of "'self-steering' to the same extent as a well-aligued sidecar outfit.

The writer has latterly been experimenting with a machine fitted with a particularly satisfactory chassis coupled up by connections permitting no variation other than a slight adjustment of the motor cycle from the vertical position.

On long journeys this machine may be said to steer itself, and is particularly effortless to drive. With the erown of the road between the wheel tracks, i.e., directly under the sidecar body, the outfit travels ahead in a straight line. On the left camber of the road it runs to the left, and on the right side it at once tends to incline in the same direction.

Taking Advantage of Road Camber.

The amount of drag in either case is so slight that a single finger on the grip will correct the steering, and there is no feeling at any time that the machine must be wrenched back into the middle of the road.

By taking advantage of these tendencies, the outfit may be made to go round all ordinary corners without violent steering. Hugging a left-hand bend, and "cutting" one to the right (when the road is clear), will ensure absolutely effortless cornering. The "self-steering" effect may be greatly enhanced by judicious use of acceleration and deceleration. Thus, by approaching a left bend slowly, and increasing the throttle opening all the way round the bend, the machine tends to "run round the sidecar wheel," using the latter as a pivot. On a right-hand corner, a reversal of the process is necessary. By decelerating on the approach of a right'bend, and braking if necessary, the sidecar wheel tends to overrun the cycle, thus turning the outfit to the right.

A brake on the sidecar wheel, in the writer's opinion, if used with caution, should greatly facilitate left-hand cornering. The above noted effects are almost entirely due to the unalterable attachment of the sidecar and to a slight outward inclination of the motor cycle from the vertical.

WHARFEDALE.

British Motor Cycle Records.

Compiled by A. V. Ebblewhite, Official Timekeeper to Royal Automobile Club, Auto Cycle Union, and British Motor Cycle Racing Club.

CLASS A. For motor bicycles of which the cylinder capacity does not exceed 250 c.c.

Distance or Duration.	Date.	Rider.	Machine and Cylinders.	Bore and Stroke.	c.c.	Record.	Speed M.P.I
Flying km Flying mile Flying 5 miles 10 miles 50 miles 100 miles 150 miles 200 miles 1 hour 2 hours 4 hours 5 hours 5 hours	17/ 4/14 25/ 7/14 25/ 7/14 31/10/11 31/10/11 31/10/11 31/10/11 31/10/11 31/10/11 31/10/11	N. D. Slatter N. D. Slatter N. D. Slatter N. D. Slatter	Singer (1) Singer (1) Singer (1) Alcyon (1)		249 248 248 247 247 247 247 247 247 247 247 247 247	38.8s, 1m. 1.4s, 5m. 44.2s, 1h. 8m. 50s, 2h. 2rm. 45.2s, 3h. 37m. 34s, 5h. 5m. 12.8s, 43m. 850yds, 84m. 1,575yds, 127m. 126yds, 163m. 1,622yds,	57.6; 58.6; 52.2; 51.4; 43.5; 42.3; 41.3; 30.3; 43.4; 42.4; 42.4; 40.9; 39.3;
6 hours	31/10/11	N. D. Slatter	Aleyon (1)	62 × 82	247	223m. 1,494yds.	37-3

CLASS A1. For motor bieveles of which the cylinder capacity does not exceed 275 c.c.

OLAGO AL. I	or motor meyeres or	which the cylinder	capacity does	Hot exceed 2/3 c.c.	
Flying km 26 / 8/11	H. Martin	Martin-Jap (1)	76 × 59.5	270 j 33.68s ₁	66.4
Flying mile . 26/8/11	H. Martin	Martin-Jap (1)	76 × 59.5	270 55.60s	64.7
Flying 5 miles 17/ 5/11	H. Martin	Martin Jap (1)	76 × 59.5	270 5m. 1.25.	59.7
10 miles 25 / 7/14	W. A. Jacobs	Singer (1)	65 × 25	248 11m. 425.	51.4
50 miles 23/ 9/11	H. Martin	Martin-Jap (1)	76 × 60	272 - 55m. 24.48.	54.7
100 miles 28/ 2/14	Max Heinzel	N.S.U. (1)	66 × 78	267 2h. 6m. 39.8s.	47.3
150 miles 28 / 2/14	Max Heinzel	N.S.U. (1)	66 × 78	267 3h. 12m. 49s.	46.6
200 miles 6/11/13	R. O. Clark	F.N. (1)	63.5×86	273 4h. 28m. 25.8s.	44.:
250 miles 6/11/13	R. O. Clark	F. N. (i)	63.5 × 86	273 5h. 40m. 45.28.	44.0
I hour 23/ 9/11	H. Martin	Martin-Jap (1)	76 × 60	272 5.1m. 310yds.	54.
2 hours 28 / 2/14	Max Heinzel	N.S.U. (1)	66 × 78	267 94m. 1,324yds.	47.:
3 hours 28/ 2/14	Max Heinzel	N.S.U. (1)	66 × 78	267 141m. 561yds.	47.
4 hours 6/11/13	R. O. Clark	F.N. (1)	63.5×86	273 179m. 211yds.	44.1
5 hours 6/11/13	R. O. Clark	F.N. (1)	63.5×86	273 220m. 279yds.	44.1
6 hours 6/11/13				2/3 263m. 1,733yds.	

CLASS B. For motor bicycles of which the cylinder canacity does not exceed aso ce

OLAGO D.	of motor orcycles of which	the cynnder capacity d	ses not es	1000 350 C.C.	
Elying km. 19/12 Elying mile 19/12 Elying mile 14/16 10 miles 16/17 150 miles 16/7 150 miles 16/7 250 miles 16/7 250 miles 16/7 350 miles 20/11 1 hour 18/10 2 hours 16/7 3 hours 16/7	12 S. L. Bailey Dought	las (2) 60.9 × 60.1 las (2) 60.9 × 60.1 las (2) 60.9 × 60.7 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75 × 77 (2) 75	350 350 349 349 349 350 350 350 350 350 350 350 350 350	30.8s. 51.4s. 4m. 37.2s. 9m. 54.4s. 46m. 58s. rh. 36m. 7s. 2h. 34m. 51.4s. 3h. 28m. 47.2s. 4h. 24m. 11.4s. 5b. 17m. 46s. 8h. 32m. 4.8s. 62m. 1,199\ds. 117m. 1,481\ds. 117m. 1,161\ds.	70.4 64.4 60.63.62.58.57.56.41.62.58.57.
4 hours 16 / 7 5 hours 16 / 7 6 hours 16 / 7 8 hours 20 / 11 9 hours 20 / 11	13 Hugh Mason N.U.1 13 Hugh Mason N.U.1 13 Hugh Mason N.U.1 13 Lt. R. N. Stewart N.S.U.	ΓJap (2) 60 × 61 ΓJap (2) 60 × 61 ΓJap (2) 60 × 61 J. (2) 54.5 × 75	350 350 350 349	225m. 1,423yds. 285m. 1,388yds. 325m. 1,092yds. 328m. 184yds. 369m. 1,454yds.	56. 57. 54. 41.

Of acc o

CLAS	SS C. For	motor bicycles of v	which the cylinder	capacity does	not e	exceed 500 c.c.	
Flying km Flying mile Flying 5 miles ro miles	14/ 6/15 14/ 6/15 17/ 7/14 17/ 7/14	D. R. O'Donovan D. R. O'Donovan	Norton (1) Norton (1) Norton (1) Norton (1)	79 X 100 79 X 100	490 490 490	27s. 45.6s. 3m. 57.2s. 8m. 11.2s.	82. 78. 75. 73.
50 miles	15/10/12	G. E. Stanley J. L. Emerson I. L. Emerson	Singer (1) Norton (1)	85 ×88 79 × 100	499 490	43m. 12.4s. 1h. 33m. 25.4s. 2h. 20m. 52s.	69. 64.
200 miles 250 miles	14 9 12 21 11 11 20 11 13	J. R. Haswell C. G. Pullin	Triumph (r) Rudge (r)	85 ×88 85 ×88	499 499	3h, 14m, 46.8s. 4h. 11m, 2.6s.	63. 61. 59.
300 miles 350 miles	20 /11 /13 20 /11 /13 20 /11 /13	C. G. Pullin	Rudge (1) Rudge (1)	85 ×88	499 499	5h. 1m. 22.4s. 5h. 5rm. 36.8s. 6h. 41m. 21.8s.	59 59
i hour 2 hours	15/10/12		Singer (1) Norton (1)	85 ×88 79 × 100	499 490	67m. 782yds. 127m. 645yds.	67 63
3 hours 4 hours 5 hours	21/11/11 21/11/11 20/11/13	J. R. Haswell C. G. Pullin	Triumph (1) Triumph (1)* Rudge (1)	85 ×88 85 ×88	499 499 499	184m, 1,388yds. 239m. 947yds. 298m. 1,020yds.	61 59 59
6 hours 7 hours	20/11/13	C. G. Pullin C. G. Pullin T. E. Greene	Rudge (1) Rudge (1)		499 499	385m. 1,106yds. 419m. 823yds.	59 59
8 hours		C. G. Pullin T. E. Greene	Rudge (1)		499	419m. 823yds.	52
9 hours		T. E. Greene }	Rudge (1)		499 499	419m. 823yds. 419m. 823yds.	25

CLASS D. For motor bicycles of which the cylinder capacity does not exceed 750 c.c.

The whole of the records in the above Class C also apply to Class D



The schedules given below show the records on April 3rd, 1920. Preparations are in hand for assaults on these figures: which will be the first record to be broken?

CLASS E. For motor bicycles of which the cylinder capacity does not exceed 1,000 c.c.

Distance or Duration.	Pate.	Rider. =	Machine and Cylinders.	Bore and Stroke,	c.c.	Record,	Speed, M.P.H.
Flying km	2/5/14	S. George	Indian (2)	82,5×93	99‡	23.93%	93.48
Flying mile	11/8/11	C. R. Collier	Matchless lap (2).	90 × 78.4	998	39.408,	
Flying 5 miles	11/8/11	C. R. Collier	Matchless-Jap (2).	90 × 78.4	998	3m. 35s.	83.72
10 miles	17/6/14	C. B. Franklin	Indian (2)	82.5×93	998	7m, 41.8s.	77.95
50 miles	30/8/10	A. J. Moorhouse .	Indian (2)	82.5×93	998	40m, 59,28,	73.11
100 miles	27/3/12	A. J. Moorhouse .	Indian (2)	82.5×93	998	1h, 30m, 7s,	66,58
150 miles	18/ 4/12	A. J. Moorhouse .	Indian (2)	82.5×93	998	2h, 16m, 18s,	66.03
200 miles	18/4/12	A. J. Moorhouse .	Indian (2)	82.5×93	998	3h. 1m. 54.48.	65.96
250 miles	20/ 6/12	C. B. Franklin	Indian (2)	82.5×93	998	3h. 51m. 3s.	64.92
300 miles	20/6/12	C. B. Franklin	Indian (2)	82.5×93	998	4h, 42m, 31.48.	63,12
350 miles	20/ 6/12	C. B. Franklin	Indian (2)	86.5×93	998	5h, 36m, 2.6s,	62.59
400 miles	20/11/13	{C. G. Pullin}	Rudge (1) a	\$5 ×88	499	6h. 41m. 21.8s.	59.79
500 miles	6/ 6/00	H. A. Collier	Matchless-Iap (2).	76 × 95	862	12h, 48m, 3.48,	39.06
600 miles	6/ 6/02	H. A. Collier	Matchless-Jap (2).	76 × 95	862	17h, om, 2,8s.	35.30
700 miles	6/6/00	H. A. Collier	Matchless-Jap (2).	76 ×95	862	21h, 25m, 45,6s.	32,66
I hour	30/11/11	A. I. Moorhouse .	Indian (2)	82.5 × 93	998	70m. 1,388yds.	70.78
2 hours		C. B. Franklin	Indian (2) 1	82.5 × 93	998	131m, 1,735yds.	65.00
a hours	18/4/12	A. I. Moorhouse .	Indian (2)	82.5 × 93	800	197m, 1,271yds,	65.00
4 hours	20/ 6/12	C. B. Franklin	Indian (2)	82.5 × 93	998	254m. 1,638yds.	63.73
5 hours	20/ 6/12	C. B. Franklin	Indian (2)	82.5×93	998	310m.	62,00
6 hours	20/ 6/12	C. B. Franklin	Indian (2)	82.5×93	998	373m, 1,725vds.	62.33
7 hours	20/11/13	{C. G. Pullin}	Rudge (1)	\$5 ×88	199	419m. 823yds.	59.92
3 hours	20/11/13	C. G. Pullin	Rudge (1)	85×88	499	419m. 823yds.	52.42
9 hours	20/11/13	CG. Pullin	Rudge (1)	85 ×88	499	419m. 823yds.	46.60
10 hours	20/11/13	C. G. Pullin	Rudge (1)	85 ×88	499	419m. 823yds.	41.94
rr hours	5/ 5/09	H. A. Collier	Matchless-Jap (2),	76 ×95	862	445m. 1,462yds.	40.53
12 hours	5/ 5/09	H. A. Collier	Matchless- Jap (2).	76 × 95	862	471m. 784yds.	39.29
24 hours	6/ 5/00	H. A. Collier	Matchless-Jap (2).	76 × 95	862	775m. 1,340yds.	32.32

 CLASS F.
 For motor bicycles (with sidecar) of which the cylinder capacity does not exceed 350 c.c.

 Tying km... 22 / 9 /14 | S. L. Bailey
 Douglas (2)
 60.9 × 59.7
 349 | 4.225. 53.0

 Flying mile... 22 / 9 /14 | S. L. Bailey
 Douglas (2)
 60.9 × 59.7
 349 | 1m. 8.2s. 52.79

 Plying S miles... 22 / 9 /14 | S. L. Bailey
 Douglas (3)
 60.9 × 59.7
 349 | 5m. 46s. 52.02

 10 miles... 22 / 9 /14 | S. L. Bailey
 Douglas (2)
 60.9 × 59.7
 349 | 5m. 46s. 52.02

 1 hour
 22 / 9 /14 | S. L. Bailey
 Douglas (2)
 60.9 × 59.7
 349 | 1m. 5.2s. 49.04

 1 hour
 22 / 9 /14 | S. L. Bailey
 Douglas (2)
 60.9 × 59.7
 349 | 43.08

CLASS G. For motor bicycles (with sidecar) of which the cylinder canacity does not exceed soo c.c.

CLASS G.	t or motor	bicycles (with side	ear) of which the cy	indei	capac	ity do	es not exceed 500	o c.c.
Flying kilom.	6/4/11	D. R. O'Donovan	Norton (1)	79	×100 ·	490	34.68.	64.65
Flyiog mile		D. R. O'Donovan		79	×100	490	583.	62.07 .
Flying 5 miles		D. R. O'Donovan		79	× 100	490	5m. 6.2s.	58.78
10 miles		J. Cocker		85	$\times 88 \times$	499	10m. 43.8s.	56.71
		H. C. Newman		85	×88	499	57m. 9.49.	52.48
		H. Riddell		85	$\times 88$	499	2h, 16m, 1cs.	44.06
		H. Riddell		85	$\times 88 \times$	499	3h. 27m. 19s.	43.41
		H. Riddell		85	$\times 88$	499	4h. 55m. 6s.	40.66
		C. G. Pullin		85	$\times 88$	499	52m. 764yds.	52.43
		H. Riddell		85	×88	499	89m. 30yds.	44.50
		H. Riddell		85	$\times 88$	499	129m. 1,657yds.	43.31
		H. Riddell		85	$\times 88$	499	161m, 1,234yds.	40.42
		H. Riddell			$\times 88$	499	203m. 962yds.	40.71
6 hours	16/ 7/13	H. Riddell	Zeuith GPre. (1)	85	×88	100	247m. 331vds.	41.20

CLASS H. For motor bicycles (with sidecar) of which the cylinder capacity does not exceed 750 c.c.

Flying km	6/4/14	D. R. O'Donovan	Norton (1)	79 × 100	490	34.6s,	64.65
Flying mile	6/4/14	D. R. O'Donovan	Norton (1)	79 × 100	490	58s.	62.07
Flying 5 miles	22/9/15	D R. O'Donovan	Norton (1)	79 × 100	490	5m, 6.2s.	58.78
10 miles			Zenith-Jap (2)	76 ×82	744	tom. 23.8s.	57.71
50 miles			Zenith-Jap (2)	76 ×82	744	53m. 25.4s.	56.50
			Zenith-Jap (2)	76 ×82	7 4	2h. 9m. 318.	46.33
150 miles	16/7/13	E. B. Ware	Zenith-Jap (2)	76 ×82	7-1-1	, 3h. 20m. 258.	44.91
			Zenith-Jap (2)	76 ×82	744	4h. 27m. 58.4s.	44.78
			Zenith-Jap (2)	76 ×82	744	5h. 37m. 22.8s.	44.46
			Zenith-Jap (2)	76 ×82	744	56m. 542yds.	56.30
			Zenith-Jap (2)	76 ×82	744	93m. 1,120yds.	46.82
			Zenith-Jap (2)	76 ×82	744	137m. 1,676yds.	45.98
			Zenith-Jap (2)	76 ×82	744	179m. 1,556yds.	14-97
			Zenith-Jap (2)	76 ×82	744	224m. 140yds.	44.81
6 hours	16/ 7/13	I E. B. Ware	Zenith-Jap (2)	76. ×82	744	265m, 274yds.	44.19

CLASS I. For motor bicycles (with sidecar) of which the cylinder capacity does not exceed 1,000 c.c.

Blying km	17/5/12	G. F. Hunter	Zenith-Jap (2)	90 × 77.5	1 986	30.768	72.72
lying mile	17/5/13	F. W. Barnes	Zenith-Jap (2)	90 × 77.5	986	51,355	70 AII
Flying-5 miles	22 / 9/15	D. R. O'Donovan	Norton (1)	79 × 100	490	5m, 6 25,	58.78
10 miles	13/ 9/13	F. W. Barnes	Zenith-Jap (2)	90 × 77.5	986	10m, 21,25,	57.95
50 miles	18/10/13	E. B. Ware	Zenith-Jap (2)	76 ×82	744	53m. 25.45.	56.50
			Zenith-Jap (2)			2h. 3m. 43.6s.	49.15
r hour	18/10/13	E. B. Ware	Zenith-Jap (2)	76 ×82	744	56m. 542yds.	
2 hours	27/ 3/12	F. W. Barnes	Zenith-Lan (2)	00 × 77.5	0.86	oom i souves	1 48 15

CLASS J. For cycle cars of which the cylinder capacity does not exceed 750 c.c.

	. A CI Cycle	, cars or which	the cymbact ca	pacity does	not exceed	/30 0.0.	
km, 25/ z mile 25/ z 5 miles 25/ iles 28/	7/14 E. B. V 7/14 E. B. V 7/14 E. B. V 7/14 E. B. V 3/14 E. B. V	Ware Mo Ware Mo Ware Mo Ware Mo Ware Mo	organ (2)	76 ×82 76 ×82 76 ×82 76 ×82 76 ×82 76 ×82	744 744 744 744 744 744 1h	34.45 57.06s 4m. 53.8s. 10m. 5s. 1. 3m. 7.8s. m. 457yds:	63.09 61.22 59.50 47.52





Y experience of a wide range of engines of varying powers that have been used in aeroplanes and of experimental work carried out in connection with them, has convinced me that air-cooling has great possibilities for motor vehicles of all kinds. It has, of course, been proved a success on motor cycles for years past; its extension to larger vehicles is now the subject of much experiment. It seems to me to be the duty of engineers to endeavour to reduce the cost of motoring; and, as I can think of nothing more, likely to help to this end than efficient air-cooling, I am auxious that the knowledge available should be as widely spread as it can be.

The Motor Cycle has two outstanding advantages for publicity, for 1 admit freely that in this matter 1 am a propagandist. The first is that I believe it has the largest circulation in the world of any technical journal, and the second is that it is read by the most enthusiastic engineers, amateur and professional, of what I consider to be still the foremost engineering country of the world.

Past Achievements.

One word of warning I should like to utter. In the course of these notes I shall find it necessary to condemn much that is present-day practice. I do not wish it to be thought that I am suggesting that at the time when many of the motor cycles now on the market were designed it was likely that anyone, least of all myself, could have designed anything more serviceable, neither do I pretend that it would be sound

policy to stop manufacturing tried and trusted designs All that I hope is that engineers of our established motor cycle firms will persuade their directors that considerable improvements could be made in certain respects, and that the final result when offered to the public is likely to compensate for the time and mones spent in experiment to determine whether or not the present designs should ultimately be altered.

Valuable Data

First of all, I want to advise all who are interested in the subject to read, learn, and inwardly digest the paper read by Dr. Gibson to the Institution of Automo bile Engineers on the air-cooling of engines. paper was reported in The Motor Cycle on Februar 5th.) The information in this paper was obtained by an expenditure of time and money that is likely to be beyond the means of even our largest moto cycle manufacturing concerns, also it is unlikely that the services of so eminent a man as Dr. Gibson would be available except under the peculiar circumstances o the world war. This paper contains a record of experi mental work carried out with scientific accuracy on air cooled cylinders of bores varying from 4in. to 8in. i diameter, with bore-stroke ratios of from 1 to 1 to 1 to 1.4. These cylinders were tested under all sort of loads in draughts of air from 90 m.p.h. down to no draught at all. Horse-power, petrol consumption and temperatures of cylinder, and piston and exhaus valves are all recorded, and the effect of mixture strength, and ignition timing is also noted. The accul-

Air-cooling and Research .-

racy of the work is unlikely to be questioned, so now we have a solid basis of fact, which is immeasurably more valuable than theories based on inaccurate data, or loose opinions unsupported by test.

The Position of the Motor Cycle.

I now wish to discuss how the present-day motor cycle stands in relation to our latest knowledge of air cooling, how far it falls short of the ideal, and how it may be improved in the future.

Let us first consider by what means the heat generated inside the cylinder is dissipated. The object of generating heat is, of course, to provide power, and some of the heat generated is used directly in the form of work. Of the remainder, part is contained in

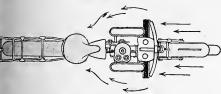


Fig. I .- Leg shields screening the cylinder

the exhaust gas, and the rest has to be dissipated either by direct radiation or by conduction to the atmosphere. The proportion of the heat that goes into work, exhaust and cooling can be measured, and on a good engine they are very roughly equal to one another. The heat turned into work is actually rather less than one-third, and the heat in the exhaust rather more than one-third of the whole. The heat turned into work depends on the thermal efficiency of the engine, and the exhaust heat depends somewhat on the valve timing and a good deal on the design of cylinder ports, hence the heat to be dissipated by cooling can be influenced to a marked extent by good design.

Dissipation of Heat.

Now let us consider how the heat can be dissipated from the cylinder. The means of losing heat from the cylinder are three-fold:

(1.) Radiation.

(2.) Conduction to the air.

(3.) Conduction to other parts of the engine.

We will now consider each in turn:

(1.) Radiation means the sending out of heat waves in the same way as the sun sends out heat waves to the earth. This form of heat dissipation is independent of the surrounding medium. It can take place in a vacuum, and depends only on the temperature and the type of surface of the radiating body. Polished metal is markedly inferior as a radiating surface to a dull surface. The heat dissipated by direct radiation is small on an engine working in a rapid draught of air, but it becomes more important as the draught is decreased.

Conduction of heat to the air is the principal means of cooling, and it is to this feature that we must pay most attention. The two important things are that the air speed past the hot surfaces shall be as high as possible, and that the surfaces themselves shall be sufficiently large and as near to the temperature of the

hottest part of the cylinder as possible. The latter fact, though fairly obvious, is sometimes overlooked; it is no good lengthening the cooling fins, so that the tips are practically cold when the barrel of the cylinders is hot.

Speed of Impinging Air.

It is in the matter of air speed past the cylinder that I consider that present-day motor bicycles are bad, particularly twin-cylinder machines. There is no use running away from the fact that air flows in a way that is governed by natural laws, and that it will not flow round sharp and go in and out of blind holes to oblige the sanguine designer. The present-day machine has its cylinder shielded to an unfortunate extent by the front mudguard; no doubt something might be done with air deflectors, but nobody seems to have made much progress in this direction.

There used to be a small motor bicycle known as the Motosacoche, in which the engine was enclosed in a netal box fixed inside the frame. This had an air scoop arranged on each side, and I think it probable that the draught over the cylinder on this machine is actually greater for the same speed of the bicycle than on the more usual open type of machine.

Unless a fan is fitted, it is not possible to obtain a draught over the cylinder as great as will give ideal results for power and petrol consumption. In solo machines it is doubtful whether the extra cost of a fan would be justified, but on sidecar combinations it is quite possible that it would be worth while. The fan should probably be of the centrifugal type, and if an outside flywheel is used, then it can easily be made to serve as the rotor of a fan of this type. The cylinders should be cowled in to some extent to ensure the air flowing where it is most needed. An engine so fitted could be run indefinitely at full throttle, and could be counted on to give a better average horse-power than one which depended on natural draught alone.

The trouble is intensified when leg shields of the pattern shown in fig. 1 are fitted. The type of shield that is curved round the legs is better, and perhaps

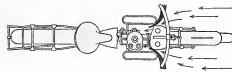


Fig. 2.—Shields designed to act also as air deflectors.

something might be done in the direction of making leg shields into air deflectors instead of air obstructors. A suggestion is given in fig. 2. It is probable that a certain amount of mud would be splashed on to the cylinder, and it is not easy to see a way of avoiding this altogether.

The Cooling of Twins,

The twin-cylinder machines are much worse than the singles in respect of cooling, the reason being that the rear cylinder has a very poor chance to keep cool, particularly if the angle between the cylinders is small. Matters are made worse still when the exhaust port is at the rear, as it is in most twins, and it is scarcely fair to expect the exhaust valve spring to retain its temper and the exhaust valve its seating under the

Air Cooling and Research .-

adverse conditions. One of the best arrangements I have seen used is that in which there is a big angle between the cylinders and the front cylinder is nearly horizontal,

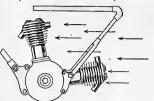


Fig. 3.—A twin engine, the front cylinder of which is nearly horizontal, thus allowing the rear one to be effectively cooled.

so that the back cylinder is almost unshielded (see fig. 3).

The ideal arrangement of a twin would seem to be across the frame, as in fig. 4, but it is rather difficult to make this a practical scheme, as it must be more

or less in the way of the rider's legs. Another arrangement possible is to have a flat twin set across the frame, but it is not easy to arrange for a good draught and at the same time to exclude mud.

The best remedy seems to me to be the use of a fan. This can blow between the cylinders, so that the air flows over the cylinder barrels and heads. Here again it is not very suitable for the conventional side valve cylinders, but works out well for overhead valve designs.

Oil-cooling.

Conduction from the cylinder to the base of the engine plays a very marked part in the cooling system. This conduction is carried out to a very large extent through the oil in the base. The piston in particular loses a great deal of its heat in this way. Still more could be done if the oil were circulated from the



Fig. 4.-A twin with cylinders set across the frame.

engine to the oil tank and back again, as by this means the oil tank would become a radiator. I do not know whether this has ever been tried on a motor bicycle, but it is commonly done on many aeroplanes. [This method has been used for years on the 3 h.p. Enfield.—ED.]

Experience with air-cooled aeroplane motors has convinced me of the superiority of the overhead valve type of engine over the side valve type. The advantages for cooling, power, consumption, and lack of distortion seem to me to be overwhelming, and a study of Dr. Gibson's paper should convince all those who believe in scientific tests. Perhaps a word of warning is necessary; it is not pretended that every overhead valve motor is better than any side valve motor. As in all engineering work, experience is needed in a number of details embodied in the design, and the inherent advantages of the overhead valve type may easily be wiped out by inexperienced design.

Overhead Valves.

Diagrams 5 and 6 give examples of a good and a bad design of overhead valve cylinder. It will be

noticed that the good cylinder has ports arranged for the easy flow of gases, ample fins on the surface of the head where they are most needed, and that these fins are arranged so that the air can flow both through and around them.

The bad cylinder has ports which offer considerable resistance to the flow of the gases; it has insufficient cooling fins, and these fins are arranged

so that the air has little chance to scour the surface of them.

My readers will no doubt be thinking that too much fuss is being made of the insistence of improved cooling, and that presentday machines work well with what I



Fig. 5.—An overhead valve design, in which the head, finning, porting, valve, and guide cooling are excellently arranged.

have characterised as unsatisfactory design. They will tell me that overheating gives them little or no trouble, and that with careful driving their machines stand up very well. What advantages on the road would they get if designs did show a technical improvement? I answer that both the cost and comfort of motor cycling will improve with better cooling.

First as to cost; this will be reduced by economy in petrol and oil, and also by the reduction of upkeep charges. Within the limits likely to occur on a motor cycle engine, the cooler the cylinder, the less is the consumption of petrol and oil for the work done.

Improving Consumption.

Also, the fuel consumption is further improved by the better shaped combustion chamber possible with an overhead valve as against a side valve motor. I think that improvement in mileage per gallon of 10 to 20% will easily be made without sacrifice of speed,

comfort, or reliability. the less frequent need for replacement of valves, valve springs and piston rings, and by the less frequent need for decarbonising, also by the longer life of sparking plues.

ing plugs.

Comfort will be increased by the increased margin of ropower, especially on



Fig. 6.—By way of contrast with fig. 5, this design is poor in every respect.

long runs, and by the fact that no anxiety need be felt that the engine is being over-driven; finally, i will be possible to use efficient silencers without the risk of burning out exhaust valves.

I have not mentioned two-stroke motors, but her again I believe that great improvements can be made I see no great difficulty in designing a 500 c.c. capa city single-cylinder two-stroke that will develop enough horse-power to satisfy the most exacting rider of solo machine. Whether or not this type of moto will eventually replace the four-stroke is a moo question, but the principles of cooling apply equally to either type.

Fred M. Green.

OF INTEREST TO THE SIDECARIST.

NEW IDEAS CONCERNING SIDECAR DESIGN AND EQUIPMENT.

The Cordall Windscreen.

AN elaborate windscreen and hood has lately been brought out by Mr. T. Cordall, of Hornby Street, Heywood, Lancs. When fully erected it is entirely rain, dust, and draughtproof. Three-ply wood is used chiefly in its construction, the windows being of transparent celluloid.

The structure under consideration comprises, besides the front, which opens half down, two sides, a top, and two wings. These wings may be placed outwards, and are fixed by a small strap and snap button, or may be turned inwards, resting button, or may be turned inwards, resting against the sides, and can be fixed by the same strap. The top is hinged. The whole structure can be lifted off altogether, as it is attached by three screw studs and wing nuts.

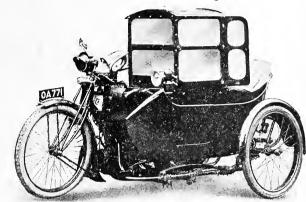
The hood is shaped to the rear portion of the "screen," and can be very easily attached or detached, and when detached can be wraped by it according to the content of the strain of the st

can be wrapped up in a very small space. Mr. Cordall has a wooden box for storing it measuring about 14in. deep, which can be placed either under the cushion of the seat, or may be fixed on the carrier.

Housing the Spare Wheel.

THE problem of carrying the spare wheel on a sidecar outfit in such a

manner as to be out of sight, away



Where the passenger scores over the driver! A windscreen designed by a passenger who has experienced the draughts caused by the average sidecar screen.

Bax Sidecars.

BAX sidecars, made by W. F. Baxter, 14, Wells Road, Bristol, are very popular attachments. Particular care has been paid to the construction of the sidecar body, which is built on the aeroplane principle, the frame being

constructed chiefly of silver spruce, strutted and braced together. The whole of the standard body is covered with polished steel, the body of the Modèle de Luxe being aluminium. A mahogany polished casing is fitted round the top of the sidecar, giving it strength and durability.

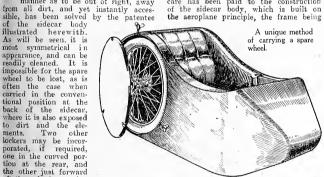
The seat and the back of the sidecar are movable, and under the seat is a tool box, while there is ample room at the back for a two-gallon tin of petrol. No door is fitted.

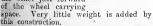
The Gerald Sidecar.

THE Gerald sidecar has its body built of well-seasoned ash and three-ply wood. There is a locker behind the back and also under the seat, while the body is well upholstered and hung on four coil springs. It is provided with four

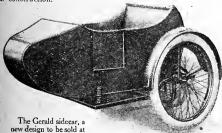
point suspension.

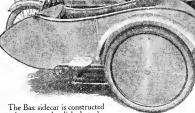
It is sold to the public at a very moderate price, less tyre and tube, by the Gerald Sidecar Co., 1a, Seymour Villas, Anerley, London, S.E.20.





a moderate price.





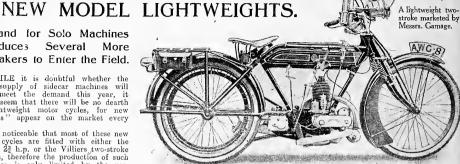
of spruce and polished steel

Demand for Solo Machines Several induces Makers to Enter the Field.

WHILE it is doubtful whether the supply of sidecar machines will meet the demand this year, it would seem that there will be no dearth of lightweight motor cycles, for new "makes" appear on the market every week

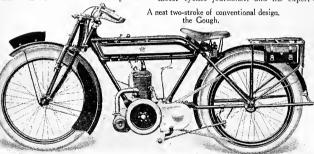
It is noticeable that most of these new motor cycles are fitted with either the J.A.P. 23 h.p. or the Villiers two-stroke engines, therefore the production of such machines is only limited by the productive abilities of the firms concerned, and also of those firms who supply gear boxes and frames.

At the present time there seems to be an unlimited supply of all these units, whether production will be greater than demand this year or next is a moot point. In the meantime very few



The Gough.

Another lightweight fitted with the Villiers engine as standard is the Gough, which also has a Burman gear box. Brampton forks are fitted in this case. Mr. Gough was, until quite recently, a motor cyclist journalist, and his experi-



"assembling firms" are producing side-car machines, which is probably due to the fact that frames are not readily obtainable, and also the larger types of engines are not so plentiful.

The three names added this week to the list of lightweight manufacturers, the list of lightweight manufacturers, whose machines we have dealt with in the columns of *The Motor Cycle*, include A. W. Gamage, Ltd., Holborn, London, E.C., Arthur Gough, 173, Broad Street, Birmingham, and D. Read and Co., Orchard Street, Weston-super-Mare.

The Gamage.

As was to be expected, the Gamage As was to be expected, the cannage machine is a good sound proposition on accepted lines, embod ing a Villiers engine, Burman two-speed gear, Amac carburetter, C.A.V. magneto, Druid forks, and aluminium footboards.

We recently tried the machine under the conditions such motor cycles are generally used in London, and found it generally used in London, and found it extremely tractable in trailic, while on the open road the speed and hill-climbing ability compared favourably with the better known machines of this type. The riding position was comfortable. The price equipped with lamps is £70, which might be considered a reasonable figure.

ence in this direction should equip him with the knowledge requisite to know the advantages of using certain units.

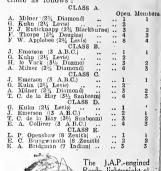
Special features in design and construction are not conspicuous, but the equipment of the machine is good in every respect, and the prices comparatively low. Sixty-six guineas is charged for the two-speed model, or seventy-four guineas with clutch and kick-starter, a single gear rachine, being marketed at 6 fit wine machine being marketed at fifty-nine guineas. The Gough is not being sold by its maker exclusively, but is also obtainable through agents.

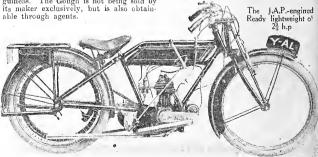
The Ready.

D. Read and Co.'s Weston-super-Mare production is a J.A.P.-engined lightweight fitted with Brampton forks, Albion gear ntted with Brampton forks, Aldoon gear box, Hutchinson tyres, Amac carburetter, E.I.C. magneto, semi-T.T. bars, etc. Rubber faced footboards are fitted as standard equipment, and altogether the Ready is a neat little machine, which should create a reputation among West of England riders of light four-stroke solo machines.

The Recent Essex Hill-climb. The Official Formula Results.

The committee of the Essex M.C. announce the results of the recent hill-climb as follows:





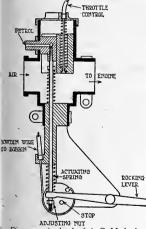
MOTOR (YCLE

A MECHANICAL CARBURETTER.

N many carburctters quite a considerable quantity of fuel is wasted owing to blow-back. This may be caused y a rush of exhaust gas through the alet valve when it first opens, or by the ebound of the gas in the induction pipe

then the valve closes.

To prevent waste of valuable fuel, a arburetter has been designed by Mr. A. Mackay, of Avon House, Glover's toad, Small Heath, Birmingham, which these moments supplies only air to the engine, and this is brought about as illows: A jet supplied direct from the etrol tank is fitted with its orifice pointig downwards above the mixing chamber. This jet is is in diameter, and into this a taper needle of slightly less size erminating in a shoulder, which is capble of closing the jet entirely. The eedle is held on its seat by a light pring, the upper of those shown in the actch, until after the inlet valve has egun to open. Then the rocking lever, hich has its right-hand end under the houlder of the inlet tappet, begins to love, and allows the lower spring, which twice the strength of the upper, to pull ne needle off its seat and release a small uantity of petrol. A certain amount of learance is allowed above the adjusting ut, so that the fuel may be admitted aly when the inlet valve is open and a ream of air passing into the engine.



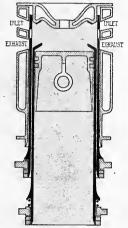
Diagrammatic sketch of A. G. Mackay's mechanical carburetter, showing how the petrol supply is formed by a needle operated by the inlet valve tappet.

oreover, the movement of the lever is nited, and the admission of fuel con-olled by a stop on a bobbin, which can a turned by a Bowden wire. Thus the chness of the mixture can be adjusted the rider.

We understand that this carburetter us been very satisfactory in use, 80 p.g. having been obtained on a 4 h.p. radbury with sidecar and passenger.

THE ALLISON SLEEVE VALVE ENGINE.

MANY people—in fact, most motor cyclists—are satisfied with the poppet valve engine; still, this type sometimes gives trouble from exhaust valve breakage and overheating. On the other hand, the sleeve valve engine does not always hold compression well, owing



Section of the Allison sleeve valve engine.

to distortion of the sleeves, which have to be a very accurate fit. The engine here illustrated is an attempt to combine the good features of both types, and the inventor, Mr. W. M. Allison, of 9, Jubilee Villas. Weston Green, Thames Ditton, describes it as follows:

Sleeve and Poppet Combined.

"I will try briefly to outline the prin-ple here: In the combustion head ciple here: extending all round are cut ports in two rows—inlet on top, exhaust beneath. Two sleeves are fitted. The outer sleeve functions as a distributer to the inlet and exhaust ports, and has nothing to do with holding the compression or explosion pressures. These actions are the sole work of the inner

sleeve. "The inner sleeve has no ports cut in it at all; the top of this sleeve is turned inwards at an angle. On the junk head a seating is turned, on which the inner sleeve works. The inner sleeve is really a large hollow poppet valve. Both sleeves are operated from a camshaft through rockers en-gaging with trunnions on the lower end of sleeve. The inner sleeve's trunnions, or trunnion ring, have a slight amount of movement, which is controlled by a spring around the sleeve itself. The cam gear gives a positive movement both ways to the sleeves.

Effective Cooling of Scatings.

"When the inner sleeve is lifted against its scating by its rocker and held there by compression of its spring, the up stroke of the piston compressing the charge of gas helps to keep it on its seat. As the sleeve seating can be fairly wide and more easily cooled by external means than the average poppet valve seating, and as all the cool inlet gas passes over the valve seats, no overheating or pitting should occur. The travel of the sleeves is quite small, the inner sleeve remaining open from the beginning of the exhaust stroke to the end of the inlet stroke, the outer sleeve moving from its lowest to its highest point in about the same period.

"This engine is designed for watercooling, but tests would show the practicability or otherwise of air-cooling.

"The idea, including various alternatives, is already provisionally patented.'

A DOT SPRING FRAME.

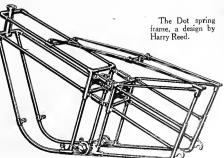
S OME time ago we illustrated a duplex frame designed by Mr. Harry Reed, of the Dot Co., Manchester, and now a similar frame has been patented

embodying a springing device.

It will be seen from the illustration that the rear wheel frame is intended to pivot the rear wheel frame is intended to pivolabout the centres of the gear box sprocket in order that the distance between the driving and driven sprockets may be constant. To render this possible two hinges are used instead of a long bearing which is more usual. These contain ball races. Four spring loaded links connect the two members of the frame, between which there is also a large coil spring in compression, while it is intended to support the rider on two long laminated springs pivoted well forward on the main frame, and at their other ends sliding in blocks at the extreme rear ends of the wheel frame.

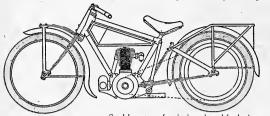
This scheme, which is the outcome of considerable thought, illustrates the main features at which the designer aims, but is obviously not the final frame arrange-ment, since it incorporates twelve pivot

and six sliding joints.



A Stayless Spring Frame.

Frame Members Replaced by a System of Laminated Springs.





Sands's system of springing adapted for both motor cycle and sidecar suspension.

A MONG the large number of spring frame designs that are submitted to us, there are many that are similar; in fact, the great fault of the pseudo-inventor is that he thinks out a device, without troubling to find out whether his idea has been anticipated. One may safely say that there are very few ideas in springing that have not been anticipated, but, provided later patents are improvements upon earlier designs, there is justification for investigation and experiment.

The idea illustrated, however, appears to be new so far as motor cycles are concerned, and is quite interesting, although probably for a solo mount, a machine fitted with such a device would not be quite laterally rigid. For sidecars the design offers possibilities, and the inventor apparently agrees with this view, since he also applies his invention to the sidecar wheel.

As will be seen from the illustrations, bearings as pivotal points are eliminated, the wheels being carried on springs which are also used as wheel stays.

The front springing consists of two leaf springs acting as fork members, with an additional quarter-elliptic spring between them and extending forward where it connects with a loop over the wheel.

Quarter-elliptic springs, three in nur ber, are also used in the rear spring ing, two acting as stays, and a thir connected to a loop over the wheel in manner similar to that adopted at the front. The same system of springin could be utilised for the sidecar whee but in the illustration a simpler metho is shown, which consists of two spring only.

only.
The inventor is Mr. W. J. Sands, c
91, Rathgar Cottages, Belfast.

An Unorthodox Design.

The "Car on Two Wheels"-an Ambitious but Practical Layout.

FROM time to time we receive suggestions and drawings of proposed only quite recently we had the opportunity of examining the complete drawings of a very well thought out little car on two wheels. We illustrate herewith the outlines of the complete machine, but the designer, Mr. W. T. Young, of Ashby Square, Loughborough, is anxions to get into touch with an interested firm, with a view to manu-

facture, before disclosing full details. Briefly, the specification consists of a V twin engine forming part of a unit, with clutch and three-speed gear, the final drive being by shaft and underslung worm. The whole is carried in a simple pressed steel frame sprung fore and aft.

Steering is by wheel, with a geared reduction, and controls are rather on car lines. Two small wheels can be lowered for starting and stopping purnoses, though normally the vehicle travels

on two wheels only. All the detainave been very carefully designed, nonly from the point of view of the rider's comfort, but also from the manufacturing side.

The Holdtite Repair Patch.

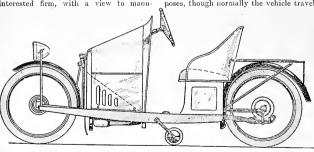
A FEATURE of interest in the man facture of the Holdite repe patches which may not have bee observed by many users of Mr. I Surridge's popular repair outfits the insertion of the fabric' linin between the upper and lower rubbi



The Holdtite repair patch, showing unstretchable lining.

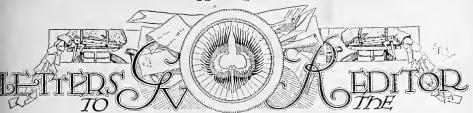
faces of the patch. This lining cannot be stretched in one direction, ar has been inserted in such a mannethat this resistance occurs when the patch is stretched across its narrowe breadth. If the rubber is placed on thoust in the direction indicated by the arrow stamped on the patch, it is it possible for the pressure inside the tot open the cut and permit the a to escape. This patent also prevents thurst creeping beyond the patch.

Holdtite repair outfits are manufa tured by Surridge's Patents, 73, Church Street, Camberwell, London, S.E.5.





Elevation and plan of a single-track monocar, possessing several ingenious features.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

THE SPEED OF A HARE.

Sir,—"O.G.'s" sarcasm regarding the possible speed attainable on a Baby Triumph is quite unwarranted. From my own experience, and that of many other riders of this machine, I see no reason to ridicule the statement made by "Tortoise."

At present I am riding a 1915 Baby Triumph, which will attain a speed of 40 m.p.h. on the level, and on April will attain a speed of 40 m.p.n. on the level, and on April 28th covered the distance from Castle Bromwich to Coventry (14) miles) in thirty minutes—this in blinding rain, and at the tail end of a ninety-mile journey.

I am using a \$\frac{1}{2}\text{in}\$ belt which slightly raises the gear, but with this it will climb Stoneleigh Hill on top gear.

Coventry.

ANOTHER TORTOISE.

STARTING TIPS.

Sir,—I was much interested to read in April 8th issue of *The Motor Cycle*, "Wharfedale's" "Starting Tips for Scott Riders," and should be much obliged if one of your numerous readers would give me similar hints for my

B.S.A. (and sidecar). My difficulty is that a "smart depression" of the kickstarter is not sufficient; it requires a 40 h.p. depression to start the engine when warm—not always—but generally. This is all very well for young riders, but not suitable for elderly ones like myself who find it unduly fatiguing.

Tenterden. J.M.M.

Sir,-May I be allowed to add one tip that I feel sure is worth attention, and which has, in several cases lately, helped Scott riders who have remarked on the difficulty of starting their machines.

Be absolutely sure that the pilot jet is clear and free from any obstruction. It is futile to attempt to start on the main jets if the pilot is choked. This of course applies the man jets it the proof is chosed. This of course applies to the Binks carburetter, which one should take the trouble to understand thoroughly. Get the booklet on this carburetter and read it.

W. WELFORD.

THE IMPORTANCE OF EFFICIENT SCAVENGING.

Sir,—I think the accompanying indicator diagram, taken from a single-cylinder horizontal Crossley engine (hore 9.5in,, stroke 18in.), working on coal gas, may interest some of your readers who pay attention to the question of efficient scavenging.

The diagram with the smallest area was taken after the

An indicator diagram. (See letter from "X.")

governor rod had been held in such a position that six successive explosions took place before the

explosion giving the diagram shown. The diagram with the largest area was taken after the

governor rod had been beld so that only air was admitted for those cycles before the explosion where diagram is shown took place.

The mean height of the larger = .32in. approximately; the mean height of the smaller = .28in. approximately. The difference is .04in., i.e., there was 12.5% loss in mean pressure.

An exactly similar diagram was obtained under running conditions, and the second was taken to prove the reason

supposed. Oundle.

FLYWHEEL MAGNETO.

Sir,-I have been much interested in the description of a flywheel-magneto in your paper. Would it not be possible to fit one of these magnetoes to a flat-twin? If so, this would simplify the housing of the engine, and would permit a much larger engine to be fitted, without increasing in any way the size of the frame. The engine would be any way the size of the frame. The engine would be higher in the frame, and the back cylinder would be above the gear box, the frame being duplex. A lower saddle position and possibly more ground clearance could be obtained. The centre of gravity would, of course, be higher. Would this affect the balance of the machine?

I would like to hear your readers' opinions on this subject. F. ROGERS.

THE 23rd DIVISION ASSOCIATION.

Sir,-I should be grateful if you would allow me through your collumns to call attention to the recently formed "23rd Division Association" which has been started with a view to keeping alive amongst ex-officers of the division, now scattered all over the world, the friendships formed during more than four years of active service in France, Belgium, and Italy.

Full particulars can be obtained from the hon. secretary: Capt. V. E. Cotton, O.B.E., 2, Blackburne Terrace, Hope Street, Liverpool, and I hope that all officers who have not already received a circular on the subject will communicate with him. J. M. BABINGTON.

Lieut, General (late G.O.C. 23rd Division), President 23rd Divisional Association.

AIR VALVE IN INDUCTION PIPE.

Sir,—Your correspondent, Mr. George Maggs, whose letter appeared in your issue of *The Motor Cycle*, April 8th, has not been kind to me; but, as he suggests in his conclusion, "there is more than extra air in the construction of the Rapier economy valve."

I have no doubt introduced a peculiar "pup" to the motor cycling world, and I candidly confess that it is not I who

can be the judge of its merits.

The Rapier economy valve comes into action quite automatically when the throttle is closed, presuming the valve had previously been set to run the engine at a suitable speed

had previously occurring for gear changing.

That alone, I think, answers his question of the valve becoming inoperative.

The uses of this valve leave a big HORACE CASTELL. margin for the individual.

HOW TO BE POPULAR.

Sir,—The letter from "B." (Peebles) under the above heading in a recent issue is distinctly amusing. So many lines of thought are opened up on the tipping question. In this era of the apotheosis of the proletariat, we are never quite sure whether our humble small silver will be appreciated by the possible plutocrat who drives his Ford and hands us our Rolls (not intended!). Anyhow, we surely do not need to buy our popularity.

Speaking seriously, I have never noticed the omission complained of by "B." at any of the English trials: maybe it is the custom in "B.'s" locality, however, for I recollect this little conversation between two visitors to a London

tea shop:

First visitor (to companion studying menu): "Do ye see

anything that strikes ye, Angus? 's Second ditto: "Ay, mon! No gratuities!"

YORKSHIREMAN.

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PISTON PACKING.

Sir,-In reply to the comments of " Top Heavy " published on page 134 of your issue of January 29th, I have to confess that I do not entirely grasp his argument. I was quite unaware of the type of packing used in Diesel engines, though I quite see the effect he mentions after a 2,000 miles run. But I cannot follow his argument where he says of rings A, B, and C in his sketch, that A is a dead fit to piston, C a dead fit to cylinder (neither expanding nor contracting), and then that B is an expanding ring, pressing C against the cylinder body.

Perhaps "Top Heavy" will explain more clearly.

As to my device, I can only state again that it is a simple

three ring packing, and, when properly fitted, undoubtedly gives a tip-top compression, thus enabling an engine to run on a thin mixture, and preventing the deposit of excess carbon, simply because none is left after combustion. Also, caroon, simply occause none is left after communition. Also, the packing scavenges the cylinder walls well, so that with flat cylinders and plenty of oil there is absolutely no gumining in combustion chamber. Finally, the whole packing is resilient, and continually accommodates itself to the bore of the cylinder, and is even better in effect with old or worn cylinders and pistons, to which it can be easily fitted after a slight widening of one of the existing grooves of the old F. SHUTLER.

TYRE MILEAGE.

Sir,—The following tyre mileage may be of interest. 4 h.p. Douglas sidecar, 26 × 23in. Clincher de luxe all round. At 2,070 miles, pattern nearly worn off rear cover, so replaced with a 26 × 24in. extra heavy Dunlop (looks good for another 1,000 before being retreaded). At 3,360 miles, the sidecar cover, and front wheel cover were exchanged. At 4,178 miles, the front wheel cover gave at the bead, and was replaced with the original back cover with Almagam

was replaced with the original back cover with Almagam retread. The present speedometer reading is 5,266 miles. A Dunlop flat top belt carried as a spare since 2,000 miles, has been replaced by John Bull belt (still in good condition).

Sir,-1 enclose herewith a record of tyre mileage. The figures are, I hope, self-explanatory, but there are one or two comments I should like to make. For any useful comparison it is clearly necessary that the mileage on the various wheels should be reduced to some common denominator. Whether the factors I have used are even approximately correct is very uncertain. The evidence of riders who have used similar tyres on all three wheels would be valuable in this connection.

In case the mileage obtained seems unreasonably low for a machine decidedly easy on tyres for its weight and power, it must be remembered that the bulk of my riding is in Devon, and much of it off the main roads.

For what they are worth, the figures seem to suggest that there is not quite as great economy in using heavy tyres as is generally supposed—at any rate under conditions where cuts of tread or bead may easily ruin an expensive tyre after quite short mileage. Subsequent experience on a 1919 A.J.S. with 700×80 mm. tyres all over rather indicates that for economy size is of more importance than weight. I certainly think that financially à light 700×80 mm. would generally prove a better investment than a heavy 650×65 mm., though I think it would be a little more liable to puncture.

Where freedom from punctures is the first consideration, it is undoubtedly wise to fit the largest and heaviest tyre available on all wheels. E. S. POWELL.

WHEEL STEERING AND PROTECTION FOR THE RIDER.

Sir.—Re my article on mudguarding, published on February 5th, may I suggest, further, the possibility of arranging for more protection for the upper part of the body and for the hands? With wheel steering it becomes possible to continue upwards the top portion of the leg



shield and partially to enclose the steering wheel, as shown in the sketch herewith. No doubt this is somewhat Utopian, but still it may contain the germs of a useful idea.

On some machines the sort of body illustrated could be more easily adapted than on others. The saddle or seat position would have to be as low as possible. The Scott machine is one which naturally comes to mind as being very suitable for such form of protection, because of its open frame. Suitably streamlined, this arrangement should absorb little more power under ordinary running conditions, and certainly nothing worth speaking of in the case of, say, 8 h.p. passenger outfits.

Baildon.

TYRE MILEAGE ON 6 H.P. A.I.S., 1014-1010. (See letter from Mr. E. S. Powell.)

Tyre and sizes.	Combination. Solo.			Total mileage.	Mileage reduced to back tyre with	Cost 1914-15,		No. of miles per 1d. back	Remarks		
	Back.	Front,	Sidecar.	Back,	Front.	inneage.	sidecar.	1171	1-10.	wheel.	
Avon combination, 650×65 Avon fluted, 650×65 Avon Sunstone, 700×75 John Bull T.T. heavy, 70 mm. Michelin square tread, 650×65 Clincher Dreadnought, 650×80 Hutchinson 3-ribbed, 650×65 Dunlog combination, 6.0×65 Kempshall profession, 6.0×65 Kempshall profession, 6.0×65 Rom combination, 701×80 Dunlog sterilistic avoid 550×65 Rom combination, 701×80 Dunlog sterilistic avoid 550×65 Rom combination, 701×80 Dunlog sterilistic details 650×65	1,503	3,395 3,880 2,360 1,417 1,626 110	3,895 3,200 600 955 80 2,360 1,017 1,417	91	1,818	1,503 3,305 3,305 4,230 2,120 2,400 3,880 1,868 4,258 3,302 3,777 3,184 3,043 1,977 110	1,503 1,132 679 1,670 2,120 1,920 1,920 1,973 1,073 1,073 1,256 2,816 944 2,816 944 2,816 947 3,77	2 1 1 2 1 1 2 1 1 3 2	9 9 9 9 8 6 6 1 9 9 4 9 9 4 6 6 5 0 6 4 0	2.55 5.17 4,66 4.16 2.71 3.39 2.00 3.03 4.21 2.23 4.20 1.52 + 3.01 1.52 + 2.57	Burst. Worn out: Had previously done 1,000m. on back wheel of 5 hp. twm. Worn out of its service on back wheel; only 60m. in Devon. Worn out of on Bramble sidecar, practically worn out can of bead and walls. Worn out. Cut at bead, otherwise in good condition. Word out. Sold on A. J. S. sc., good condition, worn smooth Burst, badly cut. Sold on machine; a few studs gone. Fitted temporarily in emergency.
Dunlop ex. hvy. studded, 650 × 65	13.051	263		1 2 2	1.818	266	89	2	1 0	_	Sold on machine in new condition.

Total mileage 14,872.

Cost of tyres is either price actually paid \(\) \(\) \(\) 11-15 \) or is reduced retail price of the tyre during 1915 season. \(\) \(\) Sidecars used—Bramble de luxe \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(\) \(

ADIES AND COMPETITIONS.

Sir.—For the past year it has been my ambition to ride in the London-Eduburgh run at Whitsun. I received my first shock at the Motor Cycle Show when the new machine I had ordered did a £20 jump. I never realised how much I had wanted it until I thought I had lost it. It was my ideal motor bicycle and none of the others would do as a substitute. After twenty-four hours of auxious thought I decided not to cancel the order. As the machine had electric light (and what an asset that would be in the London-Edinburgh!)

Then came the day when I took delivery, and found that it more than fulfilled all my expectations. Comparing it with others (that have been rising in price steadily since the Show),



Only members of the Motor Cycle Club can ride in it, and adies are not eligible. I wrote to ask why, and the secretary asswered that the subject had been discussed recently and urned down, but that an alteration of the rule might be anade another year.

I know nothing about motor cycle clubs, but, I presume, he housing problem is responsible for this. I suppose the I.C.C. has premises in London, and the inclusion of ladies mong the members would mean extra rooms at the club. robably, at present, the number of ladies who would join rould not justify this outlay. I wonder, though, if, for a educed subscription, they could not become merely riding nembers.

It does seem hard that a boy of fourteen and a half years ay ride in the Jarrott cup trial, while we, just on account to make a reruled out of everything. It is very disappointing. Are there others who share my feelings on this subject? I enclose a photograph of the aloresaid "ideal machine." (Mrs.) E. MANVELL.

PEED WOBBLE.

Sir.-A point we have not seen mentioned, decided us a theory which may help to clear up this per-

lexing problem.

Is it not possible, on chain and belt driven machines, here the drive to the rear wheel is necessarily out of eutre, that when certain conditions are-met with, say a ump on the road, a temporary check would cause an normous pull on the drive, thereby causing the rear part f the frame to spring in the direction of the final drive osition and throwing the rear wheel out of alignment? This will occur at all speeds; at slow or moderate speeds are rider automatically corrects the machine without knowing lathing has commed.

nything has occurred.

At speed, however, the only warning is a sudden dive to ne side of the road, which demands a drastic turn in the pposite direction, the resulting centrifugal force set up, gain destroying the balance, and so on, until the wobble checked either by quick shutting down in the first place r crashing.

LLOYD AND PERRY.

Sir,-I have been very much interested in the recent iscussions in your paper on the subject of "Speed

I am very much surprised at the number of riders who, judge by their letters, habitually attain speeds of from 0 m.p.h. to 70 m.p.h. on the road. Perhaps one of these

speed-merchants will be kind enough to tell me how it is done, as strangely enough, although I have been riding for many years, and have ridden some of the best known sporting mounts, yet I have never, on the road, exceeded 55 m.p.h. Either the machine was all out, or the road surface threatened to put a very sudden end to higher speed. I should also like to know what instrument was used in recording these high speeds which your correspondents so frequently attain, as my experience is that the majority of speedometers are inaccurate and usually favour the machine, sometimes by as much as 10 m.p.h. At the present moment I am riding a very well-known sporting grid with variable gear, and consider I am doing well if Lean knock off a few miles in the present of 50 m.h. I can knock off a few miles in the region of 50 m.p.h. One

of your correspondents, riding the same make of machine, states that at 65 m.p.h. he gets no "speed wobble!"

If you will be so kind as to publish this letter, perhaps some of the aforesaid speed merchants will volunteer the information how they attain these speeds, and how they survive their attainment over the post-war road!

Rugeley.

Sir,—I have followed with great interest the topic of "Speed Wobble." I venture to suggest that wobble may be brought about by a full tank of fuel—design of tank, of course, being considered. The approximate weight of the fuel would be 15-20 lb., and since wobble has started, from whatever cause, this weight would be buffeted from side to side against the walls of the tank with considerable force, but with what result I shall leave for more experienced riders to answer. H. H. HARRISON.

GOOD SERVICE.

Sir,-I ride a Sun V.T.S. two-stroke, and recently wrote to the makers stating that it required overhauling, and requesting to be furnished with an estimate of the costs. By return I received a reply asking me to send on the engine complete, and it would be overhauled and replacements made free of charge. This was indeed a pleasant surprise.

I sent on the engine as requested, and in a few days

received another communication saying that a new crankshalt and connecting rod had been fitted, and that the engine had heen forwarded. On calling at the station for it I found that full carriage had also been paid on it by the firm. I think this prompt service and generous treatment deserves commendation. Usual disclaimer. SATISFIED.

Monivea, Co. Galway.

Sir,-It is refreshing to read in the columns of the Motor Cycle occasionally of firms who give prompt and courteous service, where repairs are required. Especially is this so when one has been treated to delay and scart response to enquiries. As one of your numerous Scotch readers, may I ask you to insert, for the benefit of other Scotch promptness by the Scottish Acetylene Welding Company, of 1,103. Argyle Street, Glasgow.

The repairs necessitated acetylene welding and machining, and were a beautiful job. The general inference hereabouts is that this can only be carried out by some of the firms in England who specialise in this work. While good service is given by some of these firms, the freightage is

enormous, and saving is effected by getting it done here.

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of remedying any trouble when found. Fourth

Edition.

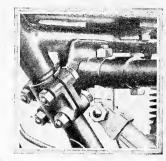
Obtainable by post (remittance with order) from ILIFFE & SONS Ltd., 20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls.

A New Sidecar with Many Refinements.

Detachable Hub Axle. Simple and Rigid Frame Fittings.

A RECENT addition to the ranks of high-grade sidecars is the Whitley Model No. 20 made by the Whitley Manufacturing Co., of Charterhouse Mills, Coventry. The designers are Messrs. B. L. Price and W. Covington, who have for many years been intimately associated with the production of sidecars.

The attachments are worthy of special mention. As will be seen from the illustrations, the front fitting (of registered design) is so constructed that any tendency to "roll" or twist in the frame tube is eliminated by the special lug which embraces the engine tube, and also bears against the middle rail of the motor cycle. By merely removing one large-shouldered nut, which pulls up



The front attachment, showing the special lug bearing on the middle rail, and the manner in which the fitting may be detached.

point stay, although it has not, perhaps, all the advantages of an entirely separate member. The back attachment follows conventional practice, and is of sturdy construction.

A Chassis with no Loose Clips.

Incorporated in the chassis there is an interesting combination lug. Into this lug are brazed the two main longitudinal tubes; the curved under-tube which extends across the chassis, and the mudgnard stay tube. The rear C springs are also anchored to this lug, which, in addition, provides a housing for the wheel spindle. The latter is easily detachable by the removal of one nut. A large luggage carrier, which has a considerable capacity, is brazed in position at the rear of the chassis.

A Roomy Body.

A graceful body with plenty of leg room and two lockers is provided. From an inspection of the bodies in process of construction, we are able to say that

e are able to say that every care is exercised in the selection of

materials. The general finish, upholstery, and paintwork are all excellent, as are the door fittings, apron buttons, etc. The suspension is etc. The suspension is by means of double laminated C springs of ample dimensions; these, we found, ab-sorb road shocks in a most effective manner. The too usual heterogeneous collection of loose clips is absent; brazed in place, or embodied in the while patented lugs, each chassis is built up on jigs to an absolutely standard pattern thus ensuring uniformity.

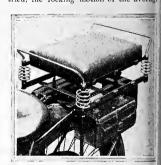
In the construction of the body itself, nothing is used but well-seasoned wood, while for the chassis special high-carbon tubing is employed throughout, and the attachments, with the exception of the actual clips, which are maleable castings, are turned and milled from the solid.

The whole sidecar weighs considerably less than many of equal capacity, and altogether the manufacturers have succeeded in producing an exceptionally attractive article.

A WELL-MADE PILLION SEAT.

DESPITE the comparatively large number of pillion seats on the market, the popularity of this method of carrying an extra passenger is such as to justify the introduction of new seats if they embody improvements. The pillion rider no longer is content with a cushion or pad tied to the carrier, and the condition of present-day roads also causes the passenger to think of means whereby discomfort is alleviated.

The seat under review was devised primarily to enhance the comfort of it designer. Being minus his right arm, he has been relegated to the passenger's tate. Suffering under his physical handicap, he naturally discovered the draw backs of several pillion selets he has tried, the rocking motion of the average.

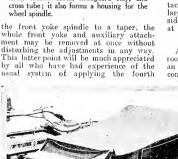


The Shakspear and Truslove pillion seat shown on the carrier of a lightweight.

air or spring cushion being the chief diadvantage. To eliminate this, the sea illustrated is made to slide vertically, o guide rods at the four corners, where is supported by coil'springs. These ar arranged so that they are always in conpression in order to prevent "chatter ing" when the seat is unoccupied.

A main frame of steel readily attad able to any carrier, and four npriglguide rods, which are continued to fonhandles at each end of the seat; form thrigid portion of the device. The seat substantially built on a wooden bas and is well upholstered.

The makers are Shakspear and Truslov 9, Goring Road, Stoke, Coventry, and the price is 35s.



The combination lug, which takes the

main chassis tubes, mudguard stay, and

The graceful outline and roomy body of the Whitley Model 20 sidecar are commendable features.

HOW TO BECOME SUPER MOTOR CYCLIST

A Competition WINNER, A Petrol SAVER, A COMFORT Rider, I suggest you use a BINKS Carburettor, and not HANDICAP yourself by using any other. Here are 3 SUPER Motor Cyclists, they all use (after severe comparison tests) BINKS Carburettors. Please read what they say, and - PROFIT BY IT.



APRIL 22ND, 1920.

Mr. ROBBINS, winner of the much-coveted Manufacturer's Trophy-A Reliability Run from London to Edinburgh and back. "Motor Cycling" described Mr. Robbins' performance as "truly marvellous." Mr Robbins says, "in preparing for this test I naturally had to find out the best Carburettor and the one most likely to bring me success. After exhaustive tests I proved the BINKS to be the best. Its wonderful flexibility, and controllability, easy starting and petrol saving advantages cannot be ignored."



Mr. O'DONOVAN, the Speed Wizard, whose sensational recordbreaking feats at Brooklands on his Norton startled the whole trade, knows probably more about getting speed out of a machine than any other man in the world, says, "Record Breaking is a very costly business and you must have the best of everything. The BINKS Carburettor I have definitely proved to be faster than any other, hence my using it."



Capt. Brittain, who knows how to get more miles to the gallon than any other competition rider, says, "I think there can be little doubt that the BINKS Carburettor is the best, its flexibility and economy in petrol are so pronounced that to use any other creates a handicap against you. In the recent Reliance Cup Trials, Capt. Brittain on his Sunbeam did nearly 124 miles to the gallon, 5 other Sunbeams competing with him averaged under 100 miles to the gallon Capt. Brittain was also the best in any of the classes.'

NEARLY 25% SAVING IN PETROL. THINK WHAT THIS MEANS TO YOU. You can save this on your fuel bill, why waste 5/- in every £1? Get a Binks and stop it. I have over 10,000 testimonials. Read this recent one.

t, Winicombe St., Glasgow, W March 13th, 1919.

Dear Mr. Binks,

1 feel 1 must write and express my deepest gratitude to you for placing in the market a Carburettor which brings Motoring within the reach of those, like myself in these days of impossible prices.

The instrument 1 am using on my "Norton" at present is giving entire satisfaction. It is not the first of it kind as 1 have ased them in N.U.T., Dot.Jap (8 h.p.), two previous Nortons, Triumph and a Zenith,

Last summer 1 ran from here — or rather from a village on the other side of 'here' — to the south of South Wales. It was a two days' run, and the consumption surprised me. I used only 2 gallons of pertorl working out at 157.3 m.p.g. and as 1 was astride a rather 'hot-stuff' Norton you may guess that my average speed was well above the legal limit.

In the Palmer Trophy Trial organised by the Western M.C.C. of Glasgow last Saturday, I completed the course with 100 per cent, marks, and used just a shade over 1 gallon — course of 110 miles — and that included some very beavy going, at times against a fairly stiff wind with rain and sheet.

Round shout town my average is a little over the roo m.p.g. mark. In traffic, the combination — Norton plus Binks — is a treat, easy starting, slow running, etc. I need not enlarge, you have heard all about it before.

The Carburetor delivered with the machine gave 4 m.p.g. under the same conditions.

Yours faithfully John W. Walker.

The Binks 3 jet 3 phase jet damping carburettor although more expensive is far in advance of all others, and you can have one on approval for one month's trial. See terms in my list, which will be gladly sent on application.

BINKS LTD., PHŒNIX WORKS, ECCLES.

A certain spark under all conditions

Dust, water and weather proof.
The pioneer of the totally-enclosed type.
Write to-day for particulars of



C. A. VANDERVELL & CO., LTD. Electrical Engineers Acton, London, W3

THE

VERUS

WAS THE

Only SOLO Machine

To Gain GOLD MEDAL in the EDINBURGH ONE DAY TRIAL Out of Fifty Entrants.

For nearest Agents write to the Manufacturers:

Alfred Wiseman, Ltd., Glover Street, Birmingham.

CURRENT CHAT

Time To light lamps

	00	MMER	1 1 31 1	S.	
Apr.	22nd			8.36	p.m
,,	24th	***		8.39	٠,,
,,	26th			8.42	,,
,,	28th			8.45	,,

Belgian Motor Cycle Paper.

We are in receipt of a copy of the first me of La Vie Motocycliste, a paper blished in Liège, Belgium. It is the icial organ of the Belgian Motor Union.

e Oldest Motor Cycle Club.

A document has just come to hand ich was presumably entrusted to the stal authorities some little time ago. is a monthly circular of a now well-own motor cycle club, and contains a t of fixtures for the month of April, 90. Surely this club must be the oldest existence.

A correspondent informs us that the lice are very active on the London-nbridge road, between Rushey Green d Bellingham, also between Bromley d Bromley South, where a 10 m.p.h. eed limit is in force. Accidents, rough carelessness, have been quite ignent lately on this latter stretch, o at least of which have proved fatal. It is also stated that the police a particularly active in Walsall, and at many summonses were issued last ek on motorists who exceeded the eed limit in the main thoroughfares of

ports and Exports.

American motor cycle manufacturers e evidently becoming increasingly tive in the export market. March ures, in the Board of Trade returns, ow a decided jump compared with the evious month.

**HORTS FOR MARCH.
**IMPORTS FOR MARCH.
**stor cycles ... 1913 ... 1919 ... 1920
**mber ... 206 ... 34 ... 409
**lue ... £14,709 ... £7,923 ... £40,057 In February, 286 motor cycles were ported, as against 409. Their value, duding parts, being £25,522, and 0,057 respectively.

EXPORTS.

Exports of motor cycles, it is gratifyto observe, are on the up grade. verseas, the demand for British maines is as insistent as ever, and the es but little to meet the demand.

Nearly double the number of machines ported in February were recorded for port last month, the exact figure being 39, their value being, apart from ares and accessories, £117,474. It is be observed that our exports are st over four times our imports.

Ex	PORTS	FOR	MARCH.	
cles	1913		1919	192
	1.447		989	1.63

tor cycles 1913 ... 1919 ... 1920 unber ... 1,447 ... 989 ... 1,639 lue, in-plu din g pares and uccessories £75,917 ... £123,318 ... £170,327



A.A. Initiative.

Recognising the difficulty experienced tecognising the dimediate experienced by motorists in finding their way through Launceston, the A.A. has fixed up a number of direction plates at various corners. These make it practically impossible to go wrong, and will undoubtedly be much appreciated.

London Scottish Cadet Battalion.

It is hoped to form a social club (with premises in the Victoria district) for past and present members of the London Scottish Cadet Battalion. Motor cyclists who are interested should write for particulars to the hon. sec., 1st C.B. London Scottish, 109. Victoria Street, S.W.1, who would also be very pleased to receive any suggestions.



A Cairo reader, Monsieur M. Fadel, who speaks enthusiastically of his Douglas and its use in Egypt. It will be observed from the badge on the handle-bar that he retains his membership of the A.C.U

Special FEATURES

AIR-COOLING AND RESEARCH. ERITISH MOTOR CYCLE RECORDS. NEW LIGHTWEIGHTS.

Profiteering.

A reader was recently charged 9s. 6d. for an ordinary kick-starter spring, the actual value of which would be about 1s. 6d. It is certainly time that this sort of profiteering should cease.

Arranging Motor Cycle Tours.

An extraordinary number of applications have been received by the Auto Cycle Union from members for assistance in preparing tours. It is evident from these that the coming season will produce more touring motor cyclists than any previous year, despite the fact that the output of machines is still restricted by trade diffi-culties. The Auto Cycle Union has recently revised its appointments of official hotels and repairers throughout the country, and it is interesting to observe that one outside representative of the Union visited over 700 establishments during the past year.

Government and Petrol Companies.

A statement was made recently by Sir Marcus Samuel at the Commercial Motor Users' Association which is of particular interest to users of motor fuel. He said, during a discussion on the scarcity of during a discussion on the scarcity of petrol and the possibility of substitutes: "The Shell Co, would take part in the distribution of any substitute for petrol which could be found on any terms the Government thought fair. He and before the country of the cou his brother would never sell out to the United States. The Government had had many chances of buying a controlling interest in the Shell Co., and had refused every one."

The Liverpool Motor Club Speed Trials.

Open speed trials will be held by the Liverpool M.C. over a flying and standing kilometre on a private road near Birkenhead on May 15th. There will be thirty-four classes for scooters, motor cycles, motor cycles and sidecars, cycle cars, light cars, and cars respectively. The course is said to be safe for any speed.

In addition to the Reliance Open Speed Challenge Cnp, many other special cups, prizes and awards will be given for results on both time and formula. Cups and medals will be given to amateur and club members. Admission will be by ticket only. Clubs intending to be present should apply for tickets for their members to the hon, secretary, Mr. E. E. Holloway, 36, Sandown Lane,

Wavertree, Liverpool.

It will be noted that the date for this event has been altered from that mentioned in the A.C.U. programme of events.

MOTOR (YCILE

London to Manchester.

Several G.N.'s, an A.V., a Blériot Whippet, a Tamplin, and a Black Prince Buckboard were represented in the Junior Car Club's cross-country trial from London to Manchester last Saturday. Fine weather prevailed, and the day. Fine weather prevailed, and the pace was hot. From Daventry, where lunch was taken, the competitors journeyed via Rugby, Hinckley, and Ashby-de-la-Zouch, to Derby. We drove many miles behind Maj. Empson's A.V., which we also observed in the recently cancelled Paris-Nice Trial. The little runabouts travelled exceedingly well and regularly, and proved themselves as fleet as the accepted forms of light cars. After suffering clutch trouble on two occasions, A. G. Cocks abandoned his sporting attempt to take a 23 h.p. Union-engined Buckboard with two passengers through the trial. This was entering the Peak District. Both prior to and after tea at Bakewell the route was enjoyed, and it is a pity that there were no observed hills in the High Peak, for the competitors passed by the foot of many which would have provided some sort of amusement at least.

R. C. Empson (8 A.V.), L. Baynes (6 A.V.), and R. Windover (8 G.N.) failed to make a clean ascent of the observed hill by Castleton.

Subject to confirmation by the committee, the awards obtained by cycle car owners are as given herewith.

THE PRICE OF PAPER,

Paper to-day costs approxi-mately five times as much as in pre-war days.

Since Jan. 1st last, paper has risen 2d, per lb., which represents an increase of over £35,000 in the annual paper bill of "THE MOTOR CYCLE."

The paper used for each copy of this issue costs over 3d., ex clusive of printing and pro duction charges.

C. F. Mebes (10 G.N.).
Gilmore Elias (10 G.N.).
Gilmore Elias (10 G.N.).
G. Francis (10 G.N.).
G. Francis (10 G.N.).
G. Francis (10 G.N.).
G. Francis (10 G.N.).
A. E. Tamplin (8 Tamplin).
H. R. Godirey (10 G.N.).
F. J. Fradon (10 G.N.). SILVER MEDALS
R C. Empson (8 A.V.).
L Baynes (6 A.V.).
R. Windower (8 G.N.).

A Successful Club.

In the London-Land's End trial for the Jarrott cup eleven gold medals were gained by members of the Surbiton and District M.C.C.

The Slough Depot.

The sale of the Slough Repair Depôt, and the remaining surplus stocks of war worn lorries, cars and motor cycles is of more than passing interest to motor cyclists. It is not improbable that, in the hands of a live business concern, the Slough Depôt will place in the market a large number of rebuilt motor cycles which may have some effect upon the present position of supply and demand. As to whether the public will directly benefit is a moot point, a change of this nature may at least influence the prices of second-hand machines.

MOTOR CYCLE TAXATION-

NO CHANGE THIS YEAR In his Budget speech tast Monday, Mr

Austen Chambertain, Chancettor of the Exchequer, stated that: The present taxes would remain in force

until the end of this year. From January 1st, 1921, onwards mote vehicle taxation will be based upon the recommendations in the Ministry of Trans port's Report (reviewed on pages 466 an 467), viz., 30 |- for tightweight motor cycle ander 200 lb. 60 |- for solo machines over the contract of the contract 200 lb. £1 extra for sidecar. £1 for three wheelers under 7 cwt.

The Ministry of Transport would be r sponsible for the collection of the taxes.

The new taxes were estimated to yie £9,000,000.

NEW AMERICAN RECORDS.

Nearly 112 m.p.h. Twenty-three New Records. 111.98 m.p.h. Solo and 87.52 m.p.h. with Sidecar. 102.8/ m.p h/ with a standard type

WITH an "oversize" engine, i.e., 1,114 c.c., the Harley-Davidson racing experts established new records last month on Daytona Beach, Florida, which extends for fifteen miles, and is said to be one of the finest stretches of open ground in the world.

For the kilometre and mile distances the new solo records are well over 103 m.p.h. with a 1,000 c.c. engine, while 11.98 m.p.h. is the figure with one of the new type "oversize" engines. The following are the new records

established by Harley-Davidson machines :

FEB. 13 .- 61 Cu. In. CLASS (1,000 c.c.). min. sec. Speed. 1 Kilometre. 21.75 .. 102.87 m.p.b FEB. 15.—61 Cu. In. CLASS (1,000 c.c.).

1 kilometre 21.64 103.39 m.p.h.

1 mile 34.89 103.18 12 miles 12.65 99.10 ...

5 miles 3 2.32 98.73 ... i kilometre . ı mile 2 miles 1 5 miles 3 FEB. 16.—UNRESTRICTED CLASS. ı kilometre . 19.98 .. 111.98 m.p.h 32.45 .. 110.94 " 5.82 .. 109.39 " 46.88 .. 107.86 " 1 mile 2 miles 1 miles 2 FEB. 16.—30.50 Cu. In. CLASS (500 c.c.), miles 3 56.00 ... 76.27 m.p.h. kilometre .

FEB. 17.-61 Cu. In. SIDECAR CLASS (1.000 c.c.) 26.54 . 84.30 m.p.li. 42.81 . 84.09 , 25.69 . 84.02 , 34.52 . 83.91 .. mile miles miles 17.-UNRESTRICTED SIDECAR CLASS ı kilometre . 25.71 . 87.02 m.p.h. 41.16 . 87.46 .. ı nıde 2 miles 1 22.45 .. 87.32 5 miles 3 25.65 .. 87.52 FEB. 20.-61 Cu. In. CLASS (1,000 c.c.)

 1 kilometre
 21.56 .. 103.77 m.p.h.

 2 hiles
 1 11.49 .. 100.73 "

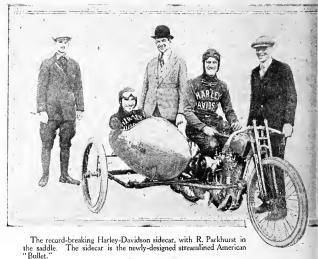
 5 miles
 2 59.89 .. 100.08 "

 FEB, 20.-61 Cu. In. AMATEUR CLASS (1,000 c.c.).

22.60 . 99.36 m.p.h. 35.62 . 101.64 "

engine is perhaps the most noteworthy performance, as it is faster than the former records, which have stood for three years, and which was made with an eight-valve engine with auxiliary exhaust ports.

The tests were officially observed I the A.A.A. and the M. and A.T.A. (tl latter, although a trade organisatio being the American equivalent to tl A.C.U. of this country) and membe of the F.I.M.C., and consequently ma be taken as correct.



ı kilometre . ı mile



The 1920 London-Edinburgh Run.

A New Route including the Famous Kirkstone Pass in the Lake District.



visited, but the old course will be followed to Doneaster, beyond which it will be quitted for Harrogate. From this place the road across country ria Skipton and Kirkby Lonsdale to Kendal represents moderate difficulty, the chief ascent being at Blubberhouses, between Harrogate and Bolton Bridge.

After Kendal the course runs to Amble-After Kendal the course runs to Ambleside, and the new feature of greatest interest is the inclusion of the three miles climb from that townlet to the "Travellers Rest" at the summit of Kirkstone Pass. Here the 1,476 feet level is reached, and the mountain side affords a very real test of a machine. After the first corner is negotiated, quite early in the accent, there is nothing further of a tricky nature to traphly the further of a tricky nature to trouble the rider, although plenty of real climbing power is needed, especially for the last sheer half-mile, following a lull in the severity of the climb. This difficult ascent and the descent of the pass, to

Patterdale, must be taken non-stop.

Later in the journey, after a tea stop
at Lockerbie, there will be another nonstop section, commencing at Moffat. The course ascends for seven miles, but the

B) Moffat to "Source of the Tweed ROUTE OF 1919

gradients are not excessive.

HIS year's London-Edinburgh run will be more than a mere test of endur-ance for the driver. There will be two non-stop sections, in one of which the competitors will be required to climb Kirkstone Pass.

The start will be from the Old Gate The start will be from the Old Gate House Hotel at the top of Highgate Hill, London, at 8.30 p.m. on May 21st. Competitors will start at half-minute intervals in the usual order, viz., motor bicycles first, sidecars and cycle cars second, and cars third.

Gold medals will be awarded to entrants who are not more than 15m. early or 10m. late at any point on the journey, and who

successfully cover the special sections.

Silver medals will be awarded to entrants who are not more than 15m. early or 30m. late at any point on the journey, and bronze medals to entrants who are not more than 15m. early or one hour late.

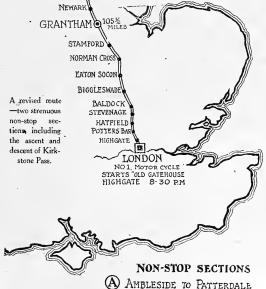
The entrance fee for all vehicles is 30s.,

and entries must be sent to the trials hon, sec., H. G. Bell, 77, Stapleton Road, Stroud Green, N.4, by first post May 4th.

Motor cyclists who are not members of the M.C.C. must send in their application forms to the secretary. Mr. Southcomb May, 34, Gower Place, London, W.C., not later than Tuesday, April 27th.

The New Features in the Run.

In altering the route for the London to Edinburgh run from that followed in recent years the Motor Cycling Club has introduced features which add greatly to the interest of the journey, as well as to some extent increasing the difficulty of the trial. York will not be



TAXATION.

Extracts from and Notes on the Government Committee's Report. The A.A. and M.U. The A.C.U. Explanation. A Criticism of the Committee. Protest.

N the first page of this issue we give our views on the Budget pro-posals, as far as they affect motor cycle taxation, which have been placed before Parliament. These proposals are that motor cycles shall be taxed 30s. for lightweights under 200 lb., 60s. for solo machines over that weight, 20s. extra for sidecars, and 80s. for threewheel runabouts. That such taxation is unfair there can be no denying, and we reiterate that only a fuel tax can correctly apportion the cost of the roads to those who wear them out. The Government objects to a fuel tax, and the proposed method of taxation arrived at by compounding present taxes and the fuel tax on an assumed mileage is the hest solution found by the Committee. It would appear that motor cycle interests have not been given the attention due to them, especially considering that motor cyclists outnumber all other classes of motor vehicle users.

Present-day motorists and motor cyclists are to pay for the repair of roads damaged during the war by motor transport used for the benefit of the community and at a time when private owners were not permitted to use the roads unless on work of

national importance.

It is suggested that fees for motor drivers' licences, penalties to be received for keeping vehicles without proper licences, at present received and retained by local authorities, form part of the incomes to be made available for roads.

No Rebates on Old Motor Cycles.

A 25% rebate is suggested in the case of cars which were constructed prior to 1913. The report distinctly states that this refers to cars only. This means that owners of old motor cycles (usually working men using such machines as a means of transport to their daily work) may be taxed as much as 20% of the value of their mount. Is this helping the working classes to live in the healthier districts adjacent to the industrial centres? This must be altered.

It is suggested that the present registration fees be combined in the new scale of taxes, and that the licence will be a card of a distinctive colour, which will indicate when it expires. This will be required to be always carried on the vehicle in a conspicuous place where it can be seen by any passenger, or, when the vehicle is stationary, by any police or taxation officer.

No Quarterly Licences.

The following is an extract from the Ministry of Transport's Committee report. ". The Committee have The Committee have adopted three categories of motor cycles, with a maximum weight limit of 7 cwt, and have placed the respective duties at the lowest annual rate of duty that appeared feasible in view of the difficulties of making provision for the issue of quarterly licences for motor cycles." is constrained to wonder why there is any greater difficulty with motor cycle CIA

licences than those for cars. This is most unfair to a class of motorist least able to pay heavy taxation in a lnmp sum.

The New Taxation and the Price of Petrol.

The lot of the motor cyclist as regards taxation and the price of petrol does not seem as if it will be a very happy one. seem as if it will be a very happy one. Motor cyclists at once think the proposed taxes exceedingly heavy, being three times the existing tax. It is then pointed out to them that the petrol tax will be abolished, and therefore consumers will be so much better off, as petrol will be 6d. a gallen cheaper.

This appears fairly satisfactory, especially when a rider figures out that if he covers a long distance his riding will not cost him any more than if he were taxed under the old scheme. This is perfectly

From the moment the new taxation was first suggested, "The Motor Cycle" has vigorously opposed any form of taxation which would not be proportionate to the weight and power of the machine and mileage.

We have repeatedly urged that a tax on fuel is the only fair means of apportioning the burden of taxation. The A.C.U. has failed to convince the Government that such a tax is preferable.

We consider the schedule proposed by the A.C.U. and that of the Government Committee as alternatives to be unfair to motor cyclists. They are likely seriously to injure the motor cycle industry, and in consequence ultimately bring about unemployment.

Why should only motorists pay for the upkeep of the national highways which are used by the whole community? Why should motor cyclists pay from £1-10-0 to £4 when the roads are free to heavy horse-vehicle traffic, which does more damage to the surface?

Is it not time that the motor cycle and car be regarded as part of our national requirements instead of luxuries to be taxed out of existence?

Heavy taxation on motors will retard national development. \$0000000000000000000000000000

true, if the present petrol price holds, and if he covers a sufficiently long distance; but, if he rides only three or four thousand miles a year he will be much worse off than he is now, and far worse still if the price of petrol is raised.

It is a curious fact that, as soon as the abolition of the petrol tax was mooted, petrol immediately leapt up in price, and we should be very much surprised, if and when the petrol tax is eliminated, to find that petrol is appreciably cheaper, or if it is cheaper that it will remain so very long.

It is not generally realised that the Government's chief objection to the petrol tax, irrespective of the difficulty of collection, is the difficulty of defining motor spirit. At first thought, the man in the street may consider that motor spirit is petrol or benzole; but these are not the only liquids which can be used as fuel for motor bicycles. There is alcohol, which is likely to be made suitable in the near future, and paraffin, which can be used not only for lamps and oil stoves but for internal combustion engines as well, and it is impossible to guarantee that if it is bought for use in a paraffin lamp it may not eventually find its way into the tank of a motor bicycle, and it is considered unfair to tax the general public who do not motor but use paraffin in their lamps and stoves. This is one of the most important points which the Government has taken into consideration in drawing up the new taxes, and the snggestion made by the organisations that all motor fuel should be taxed and all users of it, with no exceptions, was not accepted by the Government because of the difficulty we have previously mentioned in defining exactly what motor fuel is.

A Temporary Measure.

Sir Thomas Berridge, the R.A.C. representative on the Committee responsible for the motor taxation proposals, signed the report "with some reluctance." He is still of opinion that the method of taxation proportionate to user, by means of a tar on liquid fuel, is by far the fairest and best, and, in his opinion, this method o

Mr. W. Rees Jeffreys, the secretary of the Society of Motor Manufacturers and Traders, also adds a rider to the effect that he has signed the report subject to tions including "As a temporary measure that the rate proposed for private

motor vehicles be reduced from £1 to 15s per unit of horse-power for the first year of the operation of the new scale o taxation.

The amount required by the Treasury from motor vehicle users is £7,000,000 The estimated revenue on the scales sug gested is over £9,000,000, or, after allow ing costs of collection, £8,125,000.

The A.A. and M.U. Opposition.

In a minority report, the Secretary of the A.A. and M.U. puts up a strong opposition to the recommendations of the

opposition to the recommendations of the rest of the Committee, from the views o which he dissociates himself.

"I am convinced," he says, "that the proposal to remove the petrol duty and substitute a heavy initial tax at a time when the whole motoring industry and community is in an unsettled condition i directly opposed to the interests of the country, and will have a disastrous effect on the development of motoring.
"In dissenting from the decisions of the Committee, I am influenced by succonsiderations as: That despite the proposed heavy increase, which presumably

posed heavy increase, which presumable is intended to include the petrol tax paid by the motorist, the Government ar clearly unable to give any guarantee tha

Taxation .-

when the duty is removed the petrol groups will give the consumer the benegroups will give the consumer the bene-it of any permanent reduction in price. That the removal of the petrol duty utomatically withdraws the preferential treatment rightly accorded to benzole, he chief home produced fuel, and thereby strengthens the already powerful grip of the petrol groups upon both industry and user. That the heavy taxation progosed will discourage motoring, resulting n a reduction in the output of new cars and the restriction of the use of hose already existing, with a consequent

oss of revenue.
"Not only do I disagree with the principle of the scheme recommended, out I question the method upon which rrived at, particularly in relation to private motor vehicles. The total sum equired for road purposes is stated, and the individual tax is calculated in un estimate of the total number of rehicles likely to be in use at midrenties likely to be in use at inde-ummer this year. It is, however, the ntention that the proposed new taxes vill not be operative until 1921, in which rear the number of vehicles will have creatly increased, and the individual contribution to the total sum required

contribution to the total sum required would be much smaller.

"In spite of the arguments raised, still maintain that as long as this pecial taxation of vehicles for road evenue is existent there is no possible." ustification for imposing the urden of such taxation on one particular lass of road user, and that all classes f vehicular traffic should contribute heir proper quota for road purposes.

The A.C.U. and Taxation.

The following letter has been received rom the secretary of the Auto Cycle Jnion explaining the views of this body: To the Editor, The Motor Cycle.

Sir,—By the time this letter appears a print, motor cyclists will probably ave learnt how the Government prooses to tax them, and the report of the committee, on which the Chancellor will resumably have based his proposals will

ave been made public. There is little doubt but that the proosed taxes will be worse than unpopular. hey will be regarded as unfair, and notor cyclists will want to know what ne Auto Cycle Union has been doing for nem during the past few months, and hat it proposes to do in the immediate

The A.C.U. has, ever since April, 1916, hen it successfully fought Mr. Mc-enna's proposal to tax motor cycles on false basis of horse-power, taken up a onsistent attitude. In the first place, ne Union objects on principle to any axation of road-using vehicles. The bads are a national asset, their constituon and maintenance should be paid for y the nation, and their use encouraged and not restricted. Such a view is dmittedly Utopian, and of no practical alue at the present moment.

If it is agreed that, in the present anditions of our national finances, road sers must be taxed, then the A.C.U. ibmits:

All road users must bear their 1 fair share of taxation.

2. The whole of the money obtained from the taxation of road users should be spent on the roads.

3. The amount to be paid by each a individual road user should be proportionate to the use his vehicle makes of the roads.

During the last six months the Union has been actively engaged in submitting practical proposals embodying the above principles through the Motor Legislation Committee. The most important of these submissions has been that the petrol tax should be retained as by far and away the fairest means of apportioning the tax on all motor vehicles. All rebates, etc. should be swept away, and there should be a flat rate of 4d, per gallon on all motor spirit used by mechanical road rehicles of every description.

The A.C.U. Suggested Schedule.

The Government have a mysterious

objection to taxing petrol.

Anyhow, the authorities have so far remained adamant in their refusal to entertain the one fair and practical way of taxing motor vehicles, and have asked for alternative suggestions. Very reluct-antly the A.C.U. has suggested an alternative to the petrol tax. It gave the strongest reasons against taxing motor cycles on the obsolete basis that it is proposed to retain for motor cars, and has suggested that if the present £1 per annum and 6d. per gallon petrol tax is removed the least objectionable system would be for :

(a) Solo motor cycles exceeding 200 lb. in weight unladen, £2 15s. per annum, payable quarterly if

(b) Solo motor cycles not exceeding 200 lb. in weight unladen, £1 10s. per annum, payable quarterly if desired.

(c) The right to attach a sidecar

or trailer to the above. £1 per annum, payable quarterly if desired.

(d) Three-wheeled cars, £3 15s. per annum, payable quarterly if desired

The A.C.U. recognises that there are sound and inseperable objections to any system of taxation which, such as the above, is not proportionate to user, and reiterates that the only practical method of so proportioning taxation, which at the same time bears a direct relation to the damage done to the roads, is a tax

on motor spirit,

During the next few weeks our fate in this matter will be sealed . There will be a stiff fight before the Government is compelled to adopt the petrol tax as the basis for future taxation, and the Auto Cycle Union appeals to every motor cyclist in the country for his or her support.

For the Auto Cycle Union, T. W. Loughborough, Secretary.

The Composition of the Committee.

In our leaderette on the first page of this issue we refer to the fact that motor cycle interests were not directly represented on the Government Committee responsible for the proposals. Herewith we give a criticism from Mr. Philip Runciman of the composition of the Committee, which he states is "one of the most impudent encroachments on public rights

which the present bureaucracy has ever attempted."

Sir, I have refrained until now from criticising the Government Committee set up to deal with motor taxation, for, although the composition of that body was open to criticism, it was in the national spirit to give them a fair chance, and judge them by their works. They have now published their report, and I must say that it fully bears out my worst fears.

Government Officials Predominate.

My immediate purpose is to draw attention to the extraordinary composition of the Committee which the Government called together to "advise" Chancellor of the Exchequer on this intricate matter of motor taxation. The Committee was composed as follows: Members

Government officials (including chairman) Commercial motor interest ... Motor manufacturing interests Motor users' interests ... 2 Local authorities ...

Let me point out that the report shows that the greater part of the revenue to be raised under the new scheme is to be derived from the private motorist, and let me say that, up to the present, practically the whole burden of road traffic taxation has been borne by the motor vehicle owner. Yet we find that on this Committee the private motor users have been in a hopeless minority. If it came to a vote they could be practically swamped by the Government officials alone, and whether these officials knew little or nothing of motoring they had the power by their numbers to defeat the men who have concentrated for many years on the development of road locomotion.

Strong Criticism.

In a democratic and self-governing country it is an essential principle that the public wishes should be respected in makers of taxation. This respected in flouted in the present case by a bureau-cracy which "packs" a Committee with Government officials who, acting under instructions, no doubt, recommend a scheme of taxation that has been vehemently opposed by every motor user, and indeed by every person who has any knowledge of motoring conditions.

To my mind, the composition of this Committee, and its report, form one of the most impudent encroachments on public rights which the present bureaucracy has ever attempted. The entire nation should fight it on the broad principle of public rights which have been challenged. If the Government can pack its so-called "advisory" Committees with tame officials the whole value of public committees and Royal Commissions disappears, and officialism will have a power as sinister as that possessed by the Bolshevik despot. Every motorist will fight the £1 per horse-power tax for its injustice, and the whole nation should fight it as a protest against official arrogance. Yours truly,

PHILIP RUNCIMAN. [265,000 motor cycles, 210,000 private cars, and 177,000 commercial vehicles estimated in the report to exist Mid-summer, 1920.—Ep.]

Victory Cup Trial Next Saturday.

A Large Entry in Birmingham M,C C, One Day Event.

ONE hundred and sixty-eight entries have been received for next Saturday's trial for the Victory and Midland Cups. This is a record for an event organised by the Birmingham club. The ronte includes Beacon Hill, Old Wych, Portway, and, after Innch, Rising Sun, Sudeley, and Saintbury hills, and the start is from the "George in the Tree "Berkswell at rune cycled". Tree," Berkswell, at nine o'clock.

Competitor's

Berkswell, at uine o'clock.

itor's

L. Horton (8 New Imperial sc.)

B. Kershaw (2½, Verus)

J. Alday (3½, James)

J. Alday (3½, James)

J. Alday (3½, James)

J. Peck (3½, Ariel)

R. E. Pugh (2½, Levis)

A. Yakes (4½, Humber sc.)

A. Yakes (4½, Humber sc.)

A. F. Rollacon (3½, Ariel)

T. F. Blumfield (6.7-Ariel sc.)

G. R. Morgan (4 Triumph sc.)

V. Horsman (3½, Norton)

V. Horsman (3½, Norton)

V. Horsman (3½, Verus)

L. Sokos (6.7 Ariel sc.)

E. Newey (6.7-Ariel sc.)

E. Newey (6.7-Ariel sc.)

E. Well (2½, Verus)

C. L. Sprosen (2½, Connaught)

E. A. Golliver (3 A.B.C.)

B. A. Wats (8 American Excelsion sc.)

M. Wats (8 American Excelsion sc.)

M. Hartiand (2¼, Dismond)

H. Pattman (4 Norton sc.)

R. M. Brown (5½, Sunbeam)

H. Hassall (3½, Norton)

H. Hassall (3½, Swrton)

H. H. Sasall (3½, Swrton)

H. H. Gles (6 A.J.S. sc.)

F. W. Giles (6 A.J.S. sc.)

F. W. Giles (6 A.J.S. sc.)

F. N. Solly (2½, Connaught)

B. L. Bird (2½, Verus)

R. B. Clarke (3½, Coulson B)

S. T. Ashby (2½, Connaught)

B. L. Bird (2½, Verus)

A. S. Bacon (6 Regent sc.)

G. Denley (3½, Sunbeam)

R. B. Clarker (4½, B.S.A.)

W. E. Smid (4, R.S.A.)

Birmingham M.C.C. One
itor's

G. A. Dally (4 Triumph)

W. B. Glob (28, Douglas)

H. C. Cennena (34, Bouglas)

G. Dance (34, Sunbeam)

G. Dance (34, Sunbeam)

H. C. Cennena (34, James)

G. Dance (34, Sunbeam)

E. R. Windle (24, James)

E. R. Windle (24, James)

E. R. Windle (24, James)

H. P. Cultic (24, Verus-Blackburne)

C. M. Nicolson (27/4 Douglas)

H. V. Collins (44/2 B.S.A. sc.)

G. G. Smart (8 Sunbeam sc.)

G. C. Smart (8 Sunbeam sc.)

L. Paynter (37/2 Norton)

R. T. Cooke (4 Triumph)

S. Wright (44/4 Humber)

G. Knhn (24/4 Levis)

H. Minton (34/4 Norton)

J. C. Walker (24/2 Edmund)

J. C. Walker (24/2 Edmund)

J. C. Walker (24/2 Edmund)

F. J. J. Lidstone (24/2 James)

G. W. Nott (8 Matchless sc.)

G. G. Grinton (79 Harley-Davidson sc.)

G. W. Nott (8 Matchless sc.)

G. G. Grinton (79 Harley-Davidson sc.)

G. G. Grinton (79 Harley-Davidson sc.)

J. H. Walker (4 Triumph)

J. G. Ampliett (5-6 James sc.)

J. H. Walker (4 Triumph)

J. G. Ampliett (5-6 James sc.)

J. H. Walker (4 Triumph)

J. G. Ampliett (5-6 James sc.)

J. H. Walker (4 Triumph)

J. G. Ampliett (5-6 James sc.)

H. E. Fowler (34/4 Triumph)

J. H. Sasdington (5-6 James sc.)

H. P. Fowler (5-6 James sc.)

H. P. Fowler (5-6 James sc.)

H. P. Fowler (5-6 James sc.)

H. D. H. Saddington (5-6 James sc.)

H. D. H. Saddington (5-6 James sc.)

H. D. H. Saddington (5-6 James sc.)

H. D. Peter (4-7 Humph)

J. H. Wardle (5-6 James sc.)

H. D. Fowler (5-6 James sc.) Competitor's 99. 100. 113. 114. 115. 116.

| No. MANUFACTURERS' TEAMS. MANUFA A.B.C. A.J.S. Ariel (A) Ariel (B) B.S.A. Coulson B Humber James Morgan Norton New Imperial New Rover Sunbeam Verus OTHER TEAMS.
James (private owners)
James (Saddington's)
Victor Horsman
Fr. Stevens
Fr. Stevens
The Duds.
The Judas
Stourbridge M.C.C.

An Important Midland Gathering.

The Seventh Annual Dinner of the Sutton Coldfield and North Warwickshire A.C.

MONGST the many go-ahead Midland clubs the Sutton Coldfield and North Warwickshire A.C. has long held a prominent position, consequently, we were but little surprised at the very representative gathering present at the seventh annual dinner held at the Royal seventh annual dinner held at the Royal Hotel. Mr. J. Allday presided, Mr. Loughborough and Major Watling representing the A.C.U. and the C. and M.C.T.U. respectively. Amongst the many well-known figures present were Messrs. Paskell, Whitworth, Lycett, Bennett, Mosedale, Alec Ross, A. Butterfield, G. and E. King, and others too numerous to mention. numerous to mention.

An excellent dinner was followed by speeches, prize giving, and a musical programme. Prizes were distributed by Mrs. Allday, and Eric Williams, the winner of the Colmore cup was the first

to be called. Following this, W. B. Gibb caused some amusement by carrying off the enormous Calthorpe trophy to his end of the table, where it was duly filled and circulated.

Amongst the interesting points men-tioned in the speeches, the question of taxation naturally occupied a prominent position. Mr. Loughborough pointed out that the success of the T.T. is practically assured. Major Watling drew attention to the formation of the Research Association, and to the importance of such a body to manufacturer and user alike. Well-deserved tributes were paid to the president and to the club officials, special mention being made of Mr. Phil Mosedale, the energetic organiser of this year's Colmore cup event

Replying to the toast of the press, Mr. Geoffrey Smith (editor of The Motor Cycle)

congratulated the club on the up-to-date organisation, and on the fact that it had nominated a rider for the forthcoming Tourist Trophy races.

LIVERPOOL OPEN SPEED TRIALS.

The open speed trials organised by the The open speed trials organised by the Liverpool M.C., consisting of standing and flying kilometres for all classes of motor cycles, sidecars, light cars, and cars, will take place on May 15th. Prior to the war this aunual event was held on Colwyn Bay Promenade, but this year the club have secured the use of a good stretch of private road with a fine asphalt surface.

Entry forms and all information can be obtained from the Trials Hon. Sec., Mr. E. F. Holloway, 36, Sandown Lane,

Wavertree.



Yorkshire Clubs Meet.

On April 25th members of the Hull, York, Leeds, Scarborough, and Harrogate clubs will meet at Farndale.

Essex M.C.

The first qualifying run for the "standard run" will be held on the 25th inst., starting from the Eagle Hotel, Snaresbrook, at 8 a.m. The standard run final will take place in September.

Exeter M.C. and J.C.C.

This club is now well organised and This club is now well organised and has a membership of over eighty. A fine programme, including three reliability trials, has been arranged. The opening run will be made to Chulmleigh, on May 8th, starting from London Inn Square at 2.30 p.m.

Newcastle and District M.C.

Mr. A. S. C. Broadway recently gave a very interesting address on "The Carburetter" to about fifty members at the club headquarters, the Grand Hotel, Newcastle.

On April 30th, Mr. Ferrier Stephen hopes to demonstrate wireless telegraphy with an installation in operation in the club room.

North Cheshire M.C.C.

Assembling at Fulshaw Cross, Wilmslow at 2 p.m., a run will be made to Millersdale for tea on the 25th. The affairs of this club are now most satisfactory, and the membership is increasing steadily. Local motor cyclists desirous of joining the club should communicate with the hon. sec., Mr. H. Broderick, Somerby, Wilmslow.

Dunheved (Launceston) and District M.C.C.

Twelve competitors completed the course in the non-stop run to Truro recently held by this club. G. Dingle finished first, being only two minutes out of time, and was awarded a silver coat-of-arms spoon. A. Henwood (Zenith) was second, winning silver plated cup, and J. H. Treleaven (James sidecar), who ran home third, gets a copy of The Motor Cycle free for six months.

Northern M.C.

This Newcastle chub has made great progress since its formation. In the last two months it has enrolled over fifty new members. Two runs have already been held, and the third is to take place on the 25th inst. The club's success is attributed to the sporting spirit of its members, and to the fact that it is not run either for the trade or by the trade, all its officials being amateur motorists.



A FINE SPEEDWAY. The Liverpool M.C. have secured the use of this fine stretch of private roadway for their speed trials on May 15th.

Meeting at headquarters at 10 a.m. on the 25th inst., a social run will be made to Dovedale, via Lichfield, Sudbury, and Ashbourne, with a lunch stop at Peveril of the Peak Hotel.

This social event should provide an excellent opportunity for members to get better acquainted.

Sutton Coldfield and North Birmingham A.C. . The hon, secretary will be pleased to see any motorist at the club room in the Crow's Nest Hotel on Thursday nights, or any information may be obtained from him at 160, Portland Road, Newcastle.

Runcorn and District M.C.

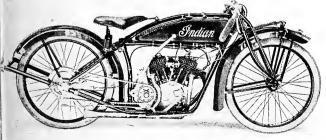
The first meeting of the above club is to be held on the 25th inst. The venue will be stated in the local press. The hon. secretary is Mr. E. G. P. Timmins, Argyll Lodge, Runcorn.

Neath and District M.C.

A fine stretch of road at Margam Park, near Aberavon, has been secured for the speed trial, organised by the above club in conjunction with the Swansea, Ystalyfera, and Carmarthen clubs, to be held on the 24th inst.

Coventry and Warwickshire M.C.

A novices' competition, open to all members who have never won a gold medal, will be held on May 1st. This event will take the form of a paper-chase, followed by a slow hill-climb. Speeds will be drawn at the starting point, Whitley Common (Railway Bridge). Prizes will be awarded for solo, sidecar, and car classes.



One of the Indian T.T. Scouts. The Hendee Manfg. Co. have entered several machines for the T.T.; the bore and stroke are 68 mm. = 594 c.c.

Club News .-

Isle of Wight M.C.C.

A general meeting of the Isle of Wight M.C.C. will be held at Sander's Restaurant, 123, High Street, Newport, Isle of Wight, on the 24th inst., at 2.30 p.m., for the election of officers and to arrange a programme for the present year.

Helensburgh M.C.C.

At a meeting, held recently, it was decided to re-form the above club. very sporting programme has been drawn up, and all motor cyclists in the district are invited to join. The hon. secretary is Mr. R. D. Thorburn, Albion Cottage, Helensburgh.

North Wilts M.C. and L.C.C.

Forty-six enthusiasts, including several ladies, turned out for the opening run to Lechlade-on-Thames. Rain fell heavily most of the afternoon, but despite this, a very merry party sat down to tea at the country headquarters of the club, the New. Inn, Lechlade. All looked forward to many enjoyable meetings in the future.

A New Club for Darlington.

Another new club has just been formed at Darlington under the name of the A.A. No. 1 Darlington M.C.C., with headquarters at the Green Tree Hotel. All members must belong to the A.A. All members must belong to the A.A. and M.U., and it is intended for the present to limit membership to twenty-four The following officers have been elected: President, Mr. W. Steggles; captain, Mr. A. Hornby; vice-captain, Mr. J. Godfrey; treasurer, Mr. E. Sheppard; and hon, secretary, Mr. J. J. Preder, E. Davis, Street, Davigator Brady, 16, Duke Street, Darlington.

Luton and Beds A.C.

Four test hills, Chard End, Studham, White Leaf, and Kop, were included in the reliability trial for the Staddon Cup, held on the 10th inst. The route was mainly on side roads between Luton and Princes Risborough, and was very rough and greasy in places, especially on Stud-ham Hill. Watches and speedometers ham Hill. were barred.

Results: Staddon Cup, W. S. Grigg (6 A.J.S. sc.), 11 secs. error; club silver medal, G. S. Davison (4 Coulson B.). medal, G. S. Davison (4 Coulson B.). The following made non-stop runs within 15 mins, of schedule, and were awarded bronze medals: J. Simpson (6-8 Res.), C. Harvey (10 Eric-Campbell), P. Child (22 Douglas), J. Wheeler (8 Ruby sc.), R. Hickman (3½ P. and M.), K. Anscombe (3½ Rudge-Multi). MOTOR (YCLE

Future Club Events.

Julure Club Events.

Apr. 22.—Mars M.C. Speed Test.

a.t. 4. — Mers M.C. Speed Test.

Apr. 23.—Mars M.C. Speed Test.

Apr. 24.—Mars M.C. Speed Test.

Apr. 25.—Mars M.C. Run to Radlett.

Apr. 24.—Mars M.C. Run to Radlett.

Apr. 24.—Veril and District M.C.C. Run to liveymouth and District M.C.C. Run to M.C. M. Run to M.C. Run to M

Apr. 3.—Harrington M.C. 100 Miles Reliability
Thin...

Apr. 25.—Readina and District M.C. and L.C.C.

Apr. 50.—Wobliels, Plumstead and District M.C.

Apr. 50.—Worth London M.C.C.

Competition,

Apr. 55.—Worth London M.C.C.

Apr. 55.—Eastbourne and District M.C.C. Run to

Bythe.

Apr. 56.—Eastbourne and District M.C.C. Run to

Apr. 58.—Local and District M.C.C. Run to

Course.

Apr. 58.—Local and District M.C. Run to Cow
thorpe Osk...

Apr. 58.—Lecal and District M.C. Run to Cow
thorpe Osk...

Apr. 58.—Lecal and District M.C. Run to Cow
thorpe Osk...

Apr. 58.—Lecal and District M.C. Run to Cow
thorpe Osk...

Apr. 58.—Lecal and District M.C. Run to Cow-

Apr. 88.—Lecds and District M.O. Man of thorpe Oak.
APR. 29.—TREDECAR M.C. OPEN HILL-CLIM.
Apr. 19.—Dunheved (Launceston) and District M.C.C. Speed Judging.
Apr. 9.—Durchester M.C. and L.C.C. Competition.

Apr. 29.—Dorchester M.C. and L.C.C. Compettion Run,
Apr. 29.—Eastern Valley M.C.C. Run to Penarth,
Apr. 29.—Dunheved (Lanuceston) and District
M.C. Speed Trial.

Derby and District M.C.

A general meeting will be held on the 27th inst. at headquarters the 27th inst. at headquarters, the Bell Hotel. Already the club boasts a membership of over a hundred, though it has only been in existence about two months

Norwich and District M.C.

A successful whist drive recently took A successful whist orive recently took place at Shelling's Rooms. Eight prizes were presented, and the winners were Messrs. Richards, Cooke, William Howes, and J. F. Watts, and Miss A. Cooke; Mrs. Bigmore, Miss M. M. Nash, and Miss D. K. Bruwner. Miss D. K. Burrows.

Blaenavon M.C.C.

The first event of the year was a club Members turned out in run to Brecon. force and thoroughly enjoyed the outing. A very good competitive and social programme has been arranged, and if members support future events as well as the initial run, the present year should be a great success.

Jersey M.C.C.

Recently a trial was held over a sport-Recently a trial was held over a sporting course including several stiff hills and hairpins. E. N. Pironet (3½ Premier) made the best performance, and was awarded the David Cope Cup. Other successful competitors were F. G. Touzel (4 Trimmph), R. F. Wills (6-8 Sun-Japsc.), C. M. Landick (2¾ A.J.S.), and E. Farley (4 B.S.A.).

Motor exclists visiting the island are

Motor cyclists visiting the island are invited to communicate with Mr. H. W. R. Gurd, Sea View, Mont Cochon, Jersey.

Bedford and District M.C. and L.C.C.

An exciting paperchase over an interesting course of eighty miles was recently held by the club. Rain fell consistently, and several stiff hills were included, also a real watersplash, which caused not a little trouble. Mr. S. Crawley, the hare, certainly intended to heat the pack, and was, as might be expected, well protected in a four-wheeler. The winner was Mr. Cowley (23 Douglas). (23 Douglas).

Banbury and District M.C.C.

About fifty members and friends took part in the opening run to Stratford-on-Avon on the 11th inst. Mr. N. Blinkhorn, the vice-president, took one matograph pictures at the start, and again at Stratford, where tea was provided at the Unicorn Hotel.

Sunrising Hill, on the return journey, provided the usual amusing incidents, and, altogether a most enjoyable afternoon was spent by all present.

Dewsbury and District M.C.C.

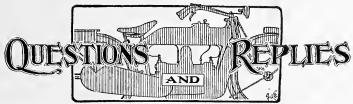
At a meeting held on the 9th inst., it was decided to form a motor cycling club in the Dewsbury district. Mr. E. Fittor in the Dewsbury district. Mr. E. Fittor was invited to the presidency, and Mr. A. K. Fitton has taken over the duties of hon secretary. Club headquarters are at the Kingsway Café, and all motor cyclists desirous of joining this club are asked to communicate with the secretary at Rookwood, Northfields, Dewsbury.

The first run (to Cawthorne) will take place out the 24th instead of the property of the page of the

place on the 24th inst. at 2 p.m.







A selection of questions of genera: interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Indor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Using a Starting Magneto.

I have a C.A.V. starting magneto, which I propose converting into a lighting dynamo suitable for fixing to a motor cycle. It is operated by means of a cranked handle and gears similar to a telephone magneto, and has the usual wipe contact and condenser. (1.) What would be a suitable size of wire to rewind the armature with, and how much would be required? (2.) Can you suggest any other way of using the magneto? (3.) What application would it be suitable for, say, on an ordinary car ?-H.E.H.

.) The C.A.V. starting magneto which ou bave might be converted into a lighting ynamo, by retaining the ordinary windigs, and substituting for the contact reaker a two segment commutator. The etailed description of this conversion is apossible in the space at our disposal. Ithough this conversion is possible, we must think you will find it altogether ie most efficient means of providing ectric current for lighting purposes. fit the starting magneto to any multi-linder car, when it would function as tended by the designer. We have used ne of these magnetos on a six-cylinder igine with every success.

Carburetter Adjustment.

Would you kindly given instructions for adjusting a analymetter which is Would you kindly give me Schebler carburetter which is attached to an American Excelsior? Recently I had the carburetter down for cleaning, and now I cannot get the best results from it, as when I start the engine it races, and when I throttle down to get steady running it stops. Therefore I should like your advice as to the best way of adjusting it.-J.B.

djust the carburetter in the following anner: Screw out the needle valve with e milled nut three or four complete urns. Close the throttle, and screw the dedle valve in as far as it will go withit forcing it. From this position unrew the needle valve once more one-id-a-half to two complete turns, flood ie carburetter, and start the engine up in the stand. Let it run until the inthe stand. Let it run until the in-uction pipe is quite hot down to the arburetter. Then, with the engine still unning and the throttle and spark each out one-third open (some models are ted with an air shutter over the in-ke, which should be wide open), screw ne milled head of the needle valve in, stch by notch. If the engine begins to run badly as soon as you start screwing this in, it means that the mixture is too weak. You should, therefore, screw it out, notch by notch, until the engine runs smoothly and without misfiring. Should the mixture be too rich, simply reverse the operation, and screw the needle in until the engine is running smoothly. This will then be found to be the correct setting for all speeds, except at full opening of the throttle. The little cam on the top of the carburetter adjusts this latter setting, which can only be correctly ascertained by actual test on the road. The machine should be tested over a given stretch with the cam set at Nos. 1, 2, and 3, when, by comparing the results, the best position can be found. This latter adjustment, however, does not in any way after the ordinary adjustment by the needle, and the throttle is seldom so far opened that this comes into action. It is most important to guard against air leaks. Before attempting to adjust the carburetter, make sure that the joints between the carburetter and the induction pipe, induction pipe and cylinders, inlet valve cages and valve guides do not allow air to leak into the induction system. To facilitate starting in cold weather the automatic air intake

IMPORTANT DATES. Sat . April 24th-Open Reliability Trial for Victory and Midland Cups.

Fri. and Sat., May 21st and 22nd-M.C.C. London-Edinburgh Run.

Sun., May 30th-Motocycle Club de France Grand Prix Race Sat , June 5th-

cottish Speed Championships at St Andrews.

Tues.. June 15th-Junior T.T. Race, Isle of Man. Thurs.. June 17th-Senior T.T. Race, Is'e of Man.

Mon., July 5th, to Sat., July 10th-Scottish Six Days Trial,

Wed, and Thurs., July 7th and 8th-Arbuthnot Trophy Trial.

Thurs., July 15th, and Fri., July 16th -Irish End-to end Trial

Sun., July 25th, to Aug. 1st -International Six Days Trial in France.

Sun., Aug. 1st, to Wed., Aug. 4th— Anglo-Dutch Trial.

Sat August 7th— S.A.C.U. Grand Inter-club Meet at Callander,

Mon., Aug 23rd, to Sat., Aug. 28th-A.C.U. Six Days Trial.

should be temporarily closed by holding a duster or glove over it. The needle valve also can be unscrewed a complete half turn until the engine has become partially warmed up, after which course it must be turned back to its original setting.

Timing a Twin.

Some time ago you advised me concerning the timing of my 6 h.p. a.o.i.v. Rex, and said that if the correct setting for one cylinder was obtained the other would follow suit. This is where I am perplexed, as the engine has two cam wheels, one for each cylinder, and I do not know how to get both cylinders right .- E.T.

Looking at the engine from the timing side, call the back cylinder "1" and the front cylinder "2." Rotate the engine until the piston of No. 1 cylinder is at the top of its stroke, and insert the cam wheel so that the exhaust valve is just closing. Now rotate the engine through one complete revolution plus the angle between the two cylinders; this will bring No. 2 piston to the top of its stroke, when the valve may be timed in the same manner.

A Curious Fault.

I have an O.K. Junior motor cycle, fitted with M.A.G. engine and Amac carburetter. machine will run with both controls completely shut, but if I open the petrol lever to about half-way the engine will stop, irrespective of the position of the air lever. The engine runs very well with either less or more opening, but just at this one spot it stops altogether. Will you please explain this, and tell me how to remedy it?—A.M.S.

Without inspecting the machine it is most difficult to diagnose the trouble. It is just possible, however, that the throttle control wire has stretched considerably, so that the throttle itself, which is probably worn, passes below the induction pipe orifice, thus allowing a certain amount of gas to pass over the top. Partly opening the throttle lever brings the throttle completely across the opening, and stops the engine, while further movement beyond the half-way point allows the gas to take its usual course between the carburetter and the engine. If this is the case, it will be necessary to renew the throttle wire, as it is very unlikely that the adjustment provided will be sufficient to take up so large an amount of stretch.

Correct Fitting of Wheel.

(1.) Will you tell me on which side of the cycle (looking from the saddle) the left-hand thread adjustable cup and lock ring should be? (2.) Please explain why?-F.E.M.

wnyl-F.E.B.

(1.) The wheel when placed in the forks of the machine should have the adjusting or left-hand threaded side of the hub on the left-hand side. (2.) The reason for placing the left-hand threaded cup on the left-hand side is that, in the event of the bearings binding on the axle, the cup will tend to screw further in, rather than to run ontwards, when it would either allow the ball bearings to drop out or cause the wheel to lock in the forks. In either case the results would probably be serious if travelling at any speed.

READER'S REPLY.

Partial Seizure.

I had much the same trouble as "A.R.V." and have cured my twostroke 23 h.p. by mixing the lubricating oil B.B. with the petrol, my measure on B.B. with the petrol, my measure being one of Pears shaving soap tins full of B.B. oil to one quart of petrol, one tin of Oildag being mixed in one gallon of B.B. oil first, before mixing with the petrol. I really do think the mixing of oil and petrol is the most satisfactory method of lubricating twostrokes .- MANNMAN.

EXPERIENCES WANTED.

"E.A.H.M." (Devon)-4 h.p. Douglas as solo machine for India, particularly reliability, slow running, and ease of control in traffic.

RECOMMENDED ROUTES.

LONDON TO ROMSEY, HANTS .- D.Q. Brentford, Staines, Egham, Bagshot, Odiham, Alton, New Alresford, Win-chester, Romsey.

SOUTHAMPTON TO WESTON-SUPER-MARE .-E.M.

Southampton, Romsey, Salisbury, Wilton, Hindon, Mere, Bruton, Shepton Mallet, Wells, Cheddar, Axbridge, Bleadon, Weston-super-Mare.

ROCHDALE TO UCKFIELD (via LONDON) .-R.B.

Rochdale, Oldham, Ashton, Hyde, Stockport, Cheadle, Alderley, Congleton, Newcastle-under-Lyme, Stone, Rugeley, Lichfield, Weeford, Fazeley, Atherstone, follow. Watling Street via Kilsby, Daventry, Weedon, Towcester, Stony Stratford, Fenny Stratford, Dunstable, St. Albans, St. Munius, Chipping Barnet, Finchley, Camden Town, Hampstead Road, Totten-Cameen Town, Hampstead Road, Jottenham Court Road, Charing Cross Road, Trafalgar Square, Whitehall, Westminster Bridge, Kennington Road, Kennington, Brixton, Streatham, Croydon, Godstone, East Grinstead, Wytch Cross, Nutley, Uckfield. Approximately 220 miles. The same route avoiding London.—
Branch off at Daventry, via Banbury,
Oxford, Abingdon, Henley, Reading,
Odiham, Aldershot, Guildford, Dorking,
Reigate, Crawley, East Grinstead, etc. Approximately 250 miles.



C. Binks, Ltd.

At the annual meeting of shareholders of C. Binks, Ltd., held at the registered offices on March 30th, 1920, a dividend of 15%, free of tax, was declared for the year ended 1919.

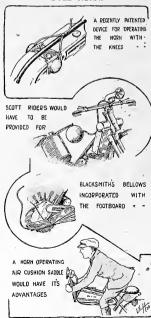
Company Reconstruction.

The firm of E.I.C. Magnetos, Ltd., is in the course of reconstruction, and, The business is being carried on as usual. in accordance with the Companies' Act, has gone into voluntary liquidation.

New Hub Lubricant.

After considerable experiment a new hub lubricant has been brought out by Prices' Co. This preparation, known as Hub Lubricant Stiff, does not decompose with heat, and can be melted to facilitate injection into wheel hubs or between the leaves of springs. If dissolved in petrol and applied to plated parts, the spirit evaporates, leaving a thin film of preservative, thus preventing any chance of

IMPROVING THE MODERN BULB HORN.



Our artist sees possible developments of a patent recently reviewed.

Venus Sidecars.

An illustrated list of Venus sidecars. including a reprint from The Motor Oyole of July 5rd, 1919, describing and illustrating Venus tandem seated sidecars, is now to hand. The makers are the Venus Sidecar Co., 6-14, Gourley Street, South Tottenham, London, N.15.

A Rotax Extension.

The Rotax Motor Accessories Company, Ltd., Rotax Works, Willesden Junction, London, N.W.10, inform as that they have acquired the control of Messrs. Newtons, Ltd., of Taunton, an old-established firm, who are makers of dynamos for various purposes. Their works cover three acres, including a large iron foundry.

Motor Cycle Maps.

Now that the touring season has com menced, good maps in convenient form wil prove invaluable to every motor cyclist A set of three maps, mounted on lines and carried in a small waterproof case has been issued by The Motor Cycle These cover (1) England and Wales, (2) Scotland, and (3) London. The price is 5. 6d. nett, or 5. 10d. post free for The Motor Cycle, 20, Tudor Street London, E.C.

S.A.B. Spark Tester.

useful little leaflet has been put lished by Messrs. Ripaults explainin how to use the S.A.B. spark tester When the plug is in order the tester gives a deep blue light; if it is sooted n light whatsoever; if the sparking plu is cracked or slightly sooted, or if points are too far apart, a little tuft of light appears at the end of the electrode If the platinum points require adjust ment or the current produced is weather light shown will fade from blue t white. Messrs. Ripaults have recentl moved their accessory business to thei head office at 1, King's Road, St Pancras, London, N.W.I.

John Bull Belt Fasteners.

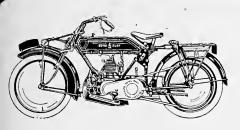
We are advised by the Leiceste Rubber Co. that, owing to the failure i the supply of raw materials for one of the parts of the John Bull patent hel fastener, deliveries are suspended for the time being. The manufacture of th other parts is, of course, being proceede with, and as soon as the materia necessary for this small part is available deliveries in large quantities will re commence.

Increase in Prices.

Owing to the increased cost of material and labour, prices of new machines at steadily rising. We are informed by the following manufacturers that their price for the future will be as under:

for the future will be as under: Scott Motor Cycle Co., Ltd., Saltair Yorks.—3\(^2\) h.p. Scott solo 120' guinea and with sidecar 155 guineas.
Douglas Motors, Ltd., Kingswood Bristol.—4 h.p. three-speed Douglas an sidecar, £170; 4 h.p. three-speed sole £150; 2\(^2\) h.p. three-speed clutch mode £105; 2\(^3\) h.p. three-speed, without clutch \$100\$. £100.

Sun Cycle and Fittings Co., Ltd., Bimingham.—Single-speed model, £52 los. Albion two-speed, £64 10s.; Sturmetwo-speed, £70; dropped frame models of the speed frame models. with Sturmey two-speed, £73.



Each week a feature of the Royal Ruby is shown here.

For further details write to the RUBY CYCLE CO. LTD.

Patentees and Manufacturers of Royal Ruby Motor Cycles, Cycles and Sidecars. Cannel St., Ancoats, Manchester

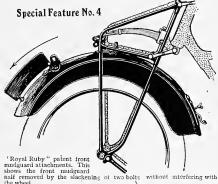
Telephone: City 3818, Central 1507. Telegrams: Machines, Manchester

ROYAL

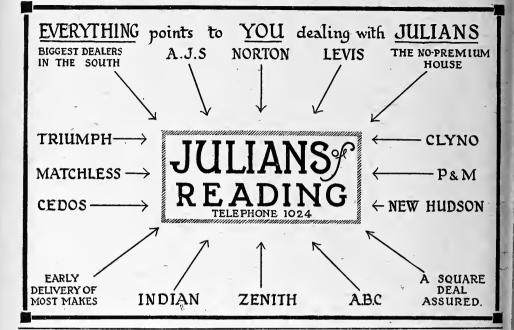
3 h.p. Single Cylinder Patent Spring Frame

Model Solo

Price: 95 Gns. plus 10% advance









ENGINE—ro h.p. diagonal twin, 85 mm. bore, 95 mm. stroke. Forced draught cooling. Mechanically inbricated.—CARBURETTER—Sent-automatic, controlled from steering wheel. CLUTCH—Dry plate type, mounted on self-aligning ball bearings. TRANSAISSION—From clutch shaft, through steel propeller, straight to

A few Agencies still available.

GEAR BOX—Specially designed, permitting central control, all parts under load mounted on ball bearings.

BRAKES—Foot and hand brakes, both actuating on the rear wheels,

STARTING—Operated from driver's seat by central foot pedal,

WHEELS—Special design pressed steel disc, detachable and interchangeable, with acin, x sin, tyres.

EQUIPMENT—Equipped ready for the road, complete with bood, full lighting set, set of special tools, etc., etc. The Manufacturers reserve the right to vary the specification as may seem advantageous.

Send for detailed specification.

LONDON AGENTS—Mot THE ENGINEERING INGTON LIMITED. 61, London Road, Twickenham, LONDON, S.W.

Grosvenor Wks., BEDFORD. THEFT

RICHMOND 1807.

Auto-Wheels

DEL de Luxe Auto-wheel and gent's cycle, thorough good order, £20; or Auto-wheel separate,
-Sims, Longfield, Kent. [5729]

TO-WHEEL, in perfect running order, with good cycle, gear case, etc., £18; Auto-Wheel only, Hughes, 65, Hall St., Burslem. [6168]

"Highes, 55, Hall St., Burstem.
TO-WILEELS, Modele de Lauxe; cash £25, or £5 deposit and 37/6 monthly.—M.Y. Dept., The politin Machinists Co., Ltd., 248, Bishopsgate, [2996]

TS for early delivery, apply, Bedford Garage, Walsall, 'Phone: 270, [5305 T 6h.p. and 8h.p. Combinations; early de-liveries.—Longman, Fisherton, Salishury. [4330

AUCHOPE'S, 9, Shoe Lane, London, E.C.4.—
8h.p. Bat, new, 1920 model, delivery from stock:
[6163] h.p. Bat, De Dioa, good running order, tyres sound; trial evenings; £30.-61, Toage Park

Joiton, T.J.A.P., 4h.p., 1912, spring frame, all accessories, ride away; £20.—55, Water Lane, Brixa Saturday atternoon. (4812.
13 Bat, 6-8h.p., 3-speed countershaft, chain dive, Bosch watertight; £30; seen mornings.—314, a Inn Rd., Loudon.

[5202] Bat-Jap Coachbuilt Combination, 2-speed countershaft, in perfect condition throughout; £90.—A, dimert, Billeticny, Essex.

offingett, Billericoy, Essex. [5243]

B Bat-Jin 1914 Cone-binuit Combination, Armstrong genr, new condition; any trial; £80.—Canter, Juner Villas, Little Clarent, [5512]

T 8h.p. 3-speed, countershaft gear, and kick starter, rouning well, with tandem sidecar:

-85, Church Rd., Willesden, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914, 1914,

-85, Church Rd, Willesden.

TJ.A.P. 4hp., spring frame, just had £11 everbuul, first-class running and condition; £45.—
5cht House Rd, Beckenham,
5cht House Rd, Beckenham,
5cht House Rd, Beckenham,
6hp. J.A.P. engine;
price £80; can be seen at Lianrwst.—Apply,
6176,
6176

iger, Pandora Mines, TreIriw. (6176) T.J.A.P. 6h.p. Solo., completely overhauled, in splendid condition, with accessories; £75.—Hasle-Bishop's Park Rd., Norbury, S.W.16. [5159] p. 1914 Jap-Bat Combination, fully equipped; private; sacrifice, £75; ride away, or will pay age.—Clifton, Engineer, 62, Wells Rd., Bristol.

20 sh.p. Sat Combination, large tanget states of States

Beardmore

ARDMORE-PRECISION, just delivered; hest offer over £100.—Galbraith, 25, Middlegate, rk, Notts. [5550

NCASHIRE (West) and Cheshire.—Beardmor-Precision, the most advanced and practical motor yet designed.—Enquiries invited by J. Blake and 110, Bold St., Liverpool.

Blackburne.

OW Bros., High St., Guildford, are old Black burne agents, and unvite enquiries. [X792] 4. UCHOPE'S. 9. Shoe Lane, London.—Early de-livery of 4h.p. and 8h.p. Blackhurne machines.

20 4h.p. Blackburne Combination new, all lamps generators, Klaxon, speedometer, 28×3 Palmers:

-2, West Walks, Dorchester.

A West Walks, Dorchester.

ACKRURNE the, 1919, cound condition, good dries, full squares, 290, lowest; full screensfree -Box 3.229, clo The Motor Cycle.

BLY Delivery of the Celebrated Blackburne machines from the eccredited agents.—The Lanke-ter sering Co. Motor Cycle Dept., 63, Brighton Rd, 2009.

ton.

ACKBURNE 41/1.p., 12/3/20, as new, lamps £5/10, horn, valve, chain, tools, etc., run in dly 600 miles; cost £152, offers.—L. Welsh, tream. [N920]

1 Ayazao 20 4h.p. Blackburne Combination, all-chain, 3-speed, 28×3 wheels, lamps, horn, speedometer, valve, tube, faultless condition; ±142/10, or ut offer.—47, Shrewsbury Rd., Birkenhead, Exssi3 ACKBURNE 1920 4h.p. 3-speed, picked machine, tuned ready for riding, £115, Grindley conchisidean with patent cantilever spring suspension, etc., £30.—25, Ormiston Rd., Shepherd's Bush,

Bown.

DOWN.

20 23(h.p. Bown-Villiers, 2-speed, clutch and kick start; £75.—Bradheer Bros., Minehead. [5897]

20 Bown-Villiers, new, 2½h.p. 2-speed, kick starter and clutch, in stock.—Frank Whitworth, New St., Birmingham. [X9406]

Bradbury.

ADBURY Combination, 4h.p., 2-speeds, etc., good condition.—Shrublands, Kempsey. [3333]

You Can Secure Del very

A NEW 1920

POWERPLUS

SPRING FRAME COMBINATION

in 3 Weeks

IF YOU ORDER NOW.

Complete with Dynamo Lighting and Speedometer,

PRICE

£218 10

Special Offer.

1918-19 7 h.p.

POWERPLUS MACHINES

Spring Frame, 3 Speeds, and Kick Starter (on left side). All thoroughly overhauled, re-enamelled, and plated. Standard Finish, but no Accessories.

EQUAL IN APPEARANCE TO Brand New Machines.

Only a Limited Number — available. ———

Sidecars can be supplied.

GODFREY'S Ltd.

London & District Agents, 208. GT. PORTLAND ST. LONDON, W.I.

'Phone 7091 Mayfair (2 lines).

MOTOR CYCLES FOR SALE.

Bradbury.

BRADBURY and Sidecar, 2-speed countershuit, clutch; cff as,-17, Granton St., Kettering, [5138 19 14 4h.p. Bradbury Combination, 3-speed, coach-built sidecar; £75,-Bradbeer Bros., Minehead.

BRADBURY.—Order now to avoid disappointment.
The Walsall Garage, Wolverhampton St., Walsall. D"The Wulsull Garage, Worvernampron [7217]

RADBURY, 4h.p., 1913-14, single-speed model, perfect condition; £45,—Stevens, Crockernsvell, [5747]

1914 Bradbury and Sidecar, 2-speed countershaft, clutch, k.s., chain drive; £70,-268, Horney [6106]

4 h.p. Bradbury Coachbuilt Combination, 2-speed, kick start, clutch, trial; £59.—Rogerson, Newtown, Wigou. [X9134a

BRADBURY 4h.p., clutch, good condition, running order; £35; after 6.—12, Hartington Rd., S. [5679]

PRADBURY 4h.p., 2-speed, clutch, accessories, splendid running; £44, with sidecar £49.—36, lavid Lage, Shadwell, E.

Lane, Shadwell, E.

Brandfurty App. Combination, 3-spaed (believed to the combination), 5-spaed (combination), 5

19¹⁷ Bradbury for sale, in parts, tank, engine, wheels, etc.—Apply, Duncan and Sheppherd, Auto Cycle Engineer, Finchley Rd., Golders Green.

19 14 Bradbury 6h.p. Twin Combination, 3-speed, kick starter, hand clutch, Fullord sidecar, it. grand condition; 295.-Elam, Mount Olivet, Louth, Incs.

Lines. ADDURY 4h.p., Bosch mag., B. and B. carbaParketter. Schlart manoing order, 2321b. Carbasideour to fit sature 5212.—Wen., 59, Scholefield Rd.,
Upper Holloway, N. 19, 19, 2-speed Countershaft,
K.S., allchain, new Palmer cord on rear, new
Brooks 170 Saddle, aluminium footboards, in thorough
order.—J. E. Chaloner, Braaston, in Lincola. [6152

BRADBURY C.B. Combination, 2-speed, free engine, just overhauled, re-enamelled, tyres good, lamps, horn, speedometer, accessories; trial; 90 gas., offer; exchange Douglas, late model.—78, Whitehorse Lane, E.

BRAIBURY 4h.p. 1914 Combination 2-speed countershaft, h.b. clutch, kick starter, Binks, tyres new condition, 3 lamps, generators, Cowey speedometer, hora, spare cover, spares: £85, or near offer.—Witte, Newbatt, 55, Central Hill, Upper Norwood. [4972

Brough.

SOUTH Stadordshire Agents for Broughs, early de livery guaranteed. Bedford Garage, Walsall Phone: 270.

BROUGH 31/2h.p. 1916 Flat Twin, just of hauled, lamps, horn, tools, fast; £85.—Turn North Peterborough.

BROUGH 315h.p., Model H, T.T., 2-speed, lamps, mechanical horn; hargain, £65.—Shove, Broadway, Bexley Heath. [5359]

way, Bexley Heath. [5558]
BROUGH, 3½h,bp., o.h.v., 2-speed, Model, H. 1916, lamps, tools, fast; £65.—Fritton, Alderman's Hill, Palmer's Green. [558]
SUUTII Lancashire, North Cheshire, and Isle of Man only.—Brough enquiries.—J. Elske and Co. Official Desiets, Liverpool and Manchester. [658]

Brown.

BROWN 31/h.p., mag., overhauled, good; nearest &25.-162, Abbey St., Bermondsey, London. 3 1h.p. Brown, 2-speed, handle start, Bosch, B. and 22 B., good tyres, horn; bargain, £32/10.—Sims, 163, York Rd., West Hartlepool.

B.S.A.

B.S.A.—The Walsall Garage, Walsall. Booking orders for all models; rotation deliveries. [7216

S 1h.p. B.S.A., haves chemically a superior of the superior of 31h.p. B.S.A., fixed engine, good running order; £38.-King, Egrove Farm, Oxford. [X9314]

31h.p. B.S.A. Motor Cycle, £35; with sidecar, £40 good running order.—61, High St., Dovercourt

B.S.A. 1914 4¹/₂h.p. Combination, 3-speed counter-shaft, all chain; £75.—26, Barrington Rd. Brix-[5620]

B.S.A. 1917 4¹/₄h.p., 3-speed, kick start, all on; 2582/10.—35, Stafford Rd, Wallington. Croydon 1643.

B.S.A. Combination, 4½h.p., 1914, complete, fixed cash for light car, 2 or 4-seater.—Waters, Cranbrook, Kent.

S.A. 3½h.p., single geared, variahle pulley, Dunlops; £35.—Heather, London Rd., Brot Kent.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. C31

MOTOR CYCLES FOR SALE.

B.S.A

B.S.A. 444h.p., 3-speed countershaft, 1916, coachbuilt sidecur, perfect condition; 95 gns.—88, Kew Rd., [5902]

19 B.S.A. Combination, lamps, speedometer; £135.-626, Lea Bridge Rd., Leyton, opposite [5856

B.S.A. 1919 414h.p., Model K; coachbuilt sidecar, brand new condition; £130.-294, Kennington Park Rd., S.E.11. [5977

Park Rd., S.E.11. [5977]

B.S.A. 4½h.p., brand new; price £108, actual cost price, no offers; Midlands.—Box 3,276, c/o [6056]

B.S.A. 3½/h.p., 2-speed, new cylinder, piston, valves, appearance as new; offers—188, Edgefauld R.A. Springburo, Glasgow.

B.S.A., all chain, as new, 3-speed, K.S., all accessories; £90; seen after 7 p.m.—Morris, 11, Portland Rd., Holland Park, W. [5512 E.C.4.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— For early delivery of new B.S.A. machines, hook new; 5%h.p. B.S.A., £52/10. 19 to B.S.A., 3-speed countershaft, K.S., C.B. side-car, excellent order throughout, lamps, horn; £95.—Gray, Broadway, Watford. [6012]

B.S.A. 1920 414h.p., Model K; delivery very sbortly; list price: London only.—Turner Bros., 134, Upper Thames St., London, E.C. [5703

B.S.A. 414h.p., 1919, lamps, horn, speedometer, spare cover, tube, helt, spring, etc.; £105.—Commercial Garage, Commercial Rd., Bouncemonth. [5145]

B.S.A. 1911 Combination, 5-speed S.A., Bosch, wicker sidecar, side door, 5 lamps, horn; £60.—6, Sunnydale Gardens, Mill Hill, N.W.7. [5987]

B.S.A. 1914 41/h.p. Combination, 3-speed, K. hood, screen, and accessories, as new; 2100 Fortnam, 1, Shakespeare Av., Harlesden. K.S.,

19 17 R.S.A. 414h.p. Coachbuilt Combination, 3-speed, kick starter, excellent condition; £125.—Kington. 2, King Edward Parade, Norbury, S.W. [5733]

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DOUGLAS 1916 23/hp., racing engine, as new, age 200, variable jet, buffer forks, large beards and legshields. Klaxon, pump, tools; ride a #35.—M., Eyrie, Radlett, Herts.

R OMFORD, Essex.—4h.p. Douglas combination, 19 excellent condition, new tyres, new lamps, accessories, complete ontfit, 4 galls. petrol; price El so offers.—Apply, 55, Manor Rd. DOUGLAS 4h.p. Combination, 1915, new It new tyres, recently overbauled, spares and trial by written appointment; 85 gms.—Rowntre The Crest, Palmer's Green, N.13.

DOUGLAS, 1916, 284h.p., W.D. model, huff lamps, horn, and variable jet, just overhan last machine, only done 4,000 miles; £70, no off —Carter, 71.—High St., Chatham.

DOUGLAS 25/h.p., semi-T.T. bars, fully squip with Lucas King of Road lamps, Clero mecha-al horn, new Dunlops, etc., fine condition; 24 34, Watkin Terrace, Northampton.

DOUGLAS Combination 23&p.p. 2-speed, 1915, an E.I.C. mag, Triumph spring forks, smort b. C.B. sidecar, reasonable trial given; £75.—Owen, Scholefield Rd., Upper Holloway, N.19.

DOUGLAS 1914 23/h.p., 2-speed, Bosch, mechans, born, lamps, new tyres, running order; Egar Stores, (nr. Clock House Cigar Stores, (nr. Clock House Cigar Stores, (nr. Clock House), Beckenbam, Rd., Beckenbam, [5]

DOUGLAS, 2%h.p., 2-speed, W.D. models, specised machines, ex-Government stores, maranteed by us; £65 each.—Elce and Co., 15 Bishopsgate Av., Camomile St., E.C.3.

Thp. Douglas Combination, 1917, excellent of tion, kick start, automatic oil pump. Was speedometer, horn, tools, pump, 2 new covers; 21 45, Constantine Rd, Colchester, Essex.

DOUGLAS, 1917. W.D. model, buffer springs tyres and belt, perfect condition throug guaranteed, 262; another 1915. £58.—Seen Auto Co., Finchley Church End Station.

DOUGLAS 1916 23(h.p., 2-speed, renovated, chanically sound, new tyres, Millers' lamps. Stewart horn: a genuine bargain, £65.—Casta The Manse, 15, Rayne Rd., Braintree, Essex. 19 19 4b.p. Douglas Combination, 3-speed, kick st electric lighting, horn, Cameo wind screen spare covers and tubes, complete with tool kit, splea-condition; £140.—Helmdale, Spenser Rd., Harpen

19 18 (Dec.) 4h.p. Douglas Combination, 3-s etc., new tyres, perfect condition, lamps, ride away, privately owned; £115, or offer.—Comonds, 495, Upper Richmond Rd., East Sheen, S.V.

10 19 25(ll.p. Douglas, condition faultless, speedometer, large P. and H. set, Lucas hroy trial or examination; price £76.—Jones, King's Rd, Chelsea (2 minutes Sloane Sq. Station)

DOUGLAS 25, h.p., Colonial model, 3-speed, la born, tools, 1915, new in 1916; open to ex-amination; a bargain, £65.—A. J. Mitchell Bloomfield Rd., Bromley Commen, Bromley, Ken

10 19 4h.p. Douglas Combination, bromer, Ke meter, electric lighting, Klaxon horn, p condition, as new, £165; another 1920 4h.p. contion, £160.—Rhosha Motor Co., Mawneys Rd, ford.

IT Appears Ridiculous to Advertise when you no stock, but we are giving deliveries to the birds. Place your order at once if you woo livery.—Eli Clark, Douglas Ageot, 196. Cheltenham

10 h.p. (Water-cooled Douglas) Williamson, ov throughout, 2-seater sidecar, new tyres, law speedometer, hugage grid, wind screen, pillion £135, or offer.—W. Scott, 2, Belvedere Grove, 1 don.

DOUGLAS, 254h.p., W.D., 1916, uncrated tember, 1919, low mileage, special long exhauter forks, heavy Dunlops, detachable value, \$70. or nearest; appointment.-41, Canterbury Croydon.

1920 Douglas 4h.p. Combination, Watford trip ometer, mileuce 600, Cowey machanical Miller laune, 2 generators, full £4/15 insurance part trial; £176.—Dickinson, Margaret's Hall, Wes Bournewouth.

OTOR CYCLES FOR SALE. Harley-Davidson.

(guaranteed) Harley, mag., mechanically per-ct hut shabby; 100 gns.; ride away.—Bacon, m Gaidens, Hammersmith, London. [8365]

Harley Combination, 3-speed, clutch, kic arter, tyres good, all accessories; £130.-16, Westbourne Grove. 'Phone: Park 3232.

Electric Harley original tyres, Harley siders, hood, special screen; £155, solo £120; wher; London.—Box 3,284, c/o The Motor (foot

EY-DAVIDSON Combination, 1919, 7-9h.p., peed, electric lights; a very fine lot; bargain, need offer.—Pooley, 1, Wastdale Rd., Forest [5182]

FY-DAVIDSON, 1918 model, 7-9h.p., over-iled and te-enumelled throughout, and in ex-rilor; £150, or nearest offer.—39, Argyle Str., 5565

Harley-Davidson, 5-6h.p., 3-speed genr box, tch model, Venus sidecar, hunps, horn, excellent order; a bargain, £130,—Lieut. Lougstreet, l. Trowbridge. [4988]

EY-DAVIDSON 1915 Combination, tandem, to overhauled, excellent condition, 3 lamps, tors, speedometer; £150.—S. Hoult, The Hilton, Derby. [5947]

7-9h,p. Harley-Davidson Combination, electric odel, speedometer, mileage under 50; too for owner; £235, or close offer.—Lieut. Robb, § Lud, Ryde, I.W. EV-DAVIDSON 1916 7-9h.p., 3-speed, Bosch ig, Millford sidecar, disc wheels, 3 lamps, reen, perfect condition; 135 gns.—10, Cyril berwell Gate, S.E.17.

BEX-1) AVIDSON 1918 Magneto Model, 8h.p., seed, overlanded, re-enumelled and plated, in condition, as new; 120 gns.—Williams, 36, er Rd., Kentish Town. [5974

FY-JAYIDSON 7-9h.p. mag. model, 10104 K., 5 Gloria sideenr, 28in. wheel, privately owned, little wear, fine machine; £175.—Richardson, tgate, Worksop, Notts.

EV-JAVIDSON Combination, 5-6h.p., fully ipped with lamps, Klaxon, etc, excellent con-erry fast; £105.—Rawlings, Westwell Rd, 1 Mews, Streatham Common.

4-9h.p. Harley-Davidson Combination, good run-ag order, hooded sidecar, new piston rings and ully equipped; accept £145, lowest.—Ambler, The Avenue, Trimley, Suffolk. [4749]

EY-DAVISON 7-9h.p. electric model, with ial Dunhill sidecar, beautiful condition, total 4,700; £150; solo mount considered part ex-Apply, Crown Garage, Weyhridge. [4679

Mag. Model Harley, 7-9h;p., 3-speed, just been enamelled and overhauled, new rear tyre, lamps banical horn; seen London by appointment; -No. 37, 51, Torrington Sq., London, W.C.L.

EY Combination, electric model, 1917, engine La8564M, bulbons sideon, disc wheels, hood, illion seat, mechanical condition, enamel, trres my trial; £150, no offers.—4, Loubet St., Tcct-[5465]

Flat Twin Harley-Davidson, Mills-Fulford lecar, petrol carrier, Easting wind screen, speedometer, fully equipped, mileage under trest offers 200 gps.—62, Luxor View, Hare-

EY-DAVIDSON, Oct., 1919, magneto model, feet condition, fitted with hood, wind screen, els, pillion seat, electric light, parallel head nall mileage; £225,—70, Hatfield Rd., Bed-K, W.

Harley-Davidson Combination, electric lights, mechanical horn, complete, very fast, comcutifit read, go anywhere; trial given; £170.

e/o Finsbury Park Motor Works, Seven Ld. London.

Harley-Davidson Combination, mag. model, 1e 1,200 miles, very fine engine, T.T. or touring tool kit and spares. Barkers mudgaard side fifted; \$230.—Lieut. A. G. Smith, R.N., G. Berkhamsted

EY-DAVIDSON 7-9h.p. 1916 C.B. Combina-n, enamelled and lined new Harley colour, 25, equal to new, magnificent turnout, and by everyone; £140.—Ashley satanton, Norfolk. [Y9236

J-9h.p. Harley-Davidson Combination, 3-speed, ck start, dynamo lishting, beautiful bulbous fley sillecar, intest Harley colour, magnificent throughout; £160; any trial.—Beauchamp, 6, 4 Rd., Redland, Briston

EX-DAVIDSON 1916 7-9h.p. Combination, h mag., Lucas lamps, tyros practiaelly as new, w Milliord sidecar with hood, the whole in exmidition; 4160 or teurest offer.—T. H. Drink-undhurst, near Gloucester. [5564

EX-DAVIDSON 7-9h.p., 1918, 3 speeds, tcb, kick starter, mag., disc wheels, very d. excellent condition; any trial, examina-50. Also quantity of spare parts, cheap—lawk Rd., Sbepherd's Bush, London. [4829]



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Harley-Davidson.

ARLEY-DAVIDSON 1915 7-5b.p. Combination, 3-pred electric model, disc wheels, Wattord speeds, meters in good order, recently overhalted, perfect con-dition; £160 -352, High Rd., Willesden Green, N.W.

[6335]
GMVERAL 1918 and 1919 Harleys, Septech magneto
models, good tyres and mechanism conditions
rough security of the condition of the condi

Town, near N.L. Railway. [6135]

19 [19 [garanteed) 7-9hp, Harley-Davidsons, choice of 5, ready to ride, mecianically perfect and complete, good tyres, had very little use, from U.S.A. Army; seen any time; 295 each; any good modern machine taken in exchange, cash either way.—Olphert, 65, Church Rd., Barnes, S.W. [5305]

HARLEY-IAVITOSON 7-9hp, Combination, 1919, electric, nearly new condition, inxuitions aluminium sideour, Bedron cont up-to-lestery and spring seaf, last sord in contort, with serven and bood, special and travelling lumps, etc., princ 2255; seen by appointment at Oukridge, Epiping (Thous: East 3149), [5330]

TARLEY-LAVIDSON Lata 1912, Combination elec-

ment at Oakridge, Eppring (Thome: East 3149, 19530).

HARLEY-IAVURSON Late 1917 Combination, electric model, disc wheels, head, screen, speedometer, witch, spire valves, spirags, chains, links, liner tule, worn front, and other spares; £160, or near offer, also bear skin motor cont, heaver collar, exar reversible, rainproof, splendid condition, £15.—C.W., 6 Manorews, Bexley, Kent. Thome: Bexley Heath 17. (4825).

Haziewood.

HAZELWOOD Combination, 4-5h.p. J.A.P. twin 3-5-5peed, kick start, clutch, perfect order; £75.—135, Edgware Rd., W.2.

HAZLEWOOD Motor Cycle and Coachbuilt Sidecar, 1915, 5-6h.p. J.A.P., 3-speed, kick start; £80.

-Tibbles, 34, Manfield Rd., Northampton. [X9240]

HAZLEWOOD 4h.p. Twin J.A.P. Combination, 3-speed, speedometer, lamps, and accessories, condition as new; £90.—21, Ritherdon Rd., Balham, S.W.17.

19 20 Hazlewood, new, just delivered, 5-6h.p. con bination, lamps, etc.; list £186, no waiting, r offers, first cheque over £195.—Perry, 37, High Story Stratford. [487]

Henderson.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—
8-10h.p. Henderson and sidecar, 1915, 4-cyl.
[6164] 8-10h.p. He engine; £135/10.

19²⁰ Henderson Combination, with latest bulbous sidecar to match, brand new; £260.-2, Nightingale Rd., Lower Clapton, London. [4556]

Nightingale Rd., Lower Clapton, London. [4556]

HENDERSON Combination, smaint, lamp, speedometer, born, mirror, disc wheels; offer over £170.

2, Mayfair Terrace, Morden Rd., Merton. [427]

LANCASHIRE, Cheshire, North Wales, and Isle of
Man.-Enquiries for Henderson 4-cyl, wanted.—
J. Blake and Co., Official Dealera. Liverpool-Manchester.

Hobart.

HOBART, with 5-5b.p. twin 2-stroke Villiers, No. 2
2-speed Chater with Mahon clatch, all as new;
250, or nearest offer; selling through death of owner.
-15, Dean St., E.1.

10. Dean St, E.1. [5382]

HOBARTPRECISION, 1915, 3½h.p., 3-speed hab order, Swan coachbuilt sidecar, tyres good; 275, or offer.—Woodliffe, Faniker House, Burgh, Lanes, [5316]

10. Hohert Villiers 2½h.p., 2-stroke, 2-speed countershaft, handle-bar control, aluminum footboards, new lighting set, Lucus Lours, spiending tion, Bas change of the property of the property

Hoskison.

HOSKISON 254h.p., 2-speed, clutch, kick start, just delivered; £78/15.—Beal, Sidley, Bexbill. [6004]

Humber.

BEDFORD Garage Walsali, district agents for Humbers; rotational delivery. [5307

31h.p. Humber, few parts missing; £10, or nearest. -106, Thistlemoor Rd., Peterborough. [5732 HUMBER 2h.p., good appearance, well tyred, runs well; £30, near offer.-67, Wantage Rd., [X9504

Reading. Reading.

19 12 31/4h.p. Humber Engine, complete, with silencer and Bosch; offers.—51, Naunton Crescent, Chel-[574]

HUMBER Lightweight, Bosch mag., splendid condition; £30, no offers.—Harkness, South God stone, Surrey.

HUMBER Lightweight, excellent condition, complete, new tyres, spare tube; ride away; £25.-Fynlan, Dornoch, N.B.

HUMBER, 3½h.p., 2-speed, free engine, Bosch, B and B., new tyres; £40.-Berry, 193, London Rd., Kingston. [5685] HUMBER Twin 234h.p., low, fast, good running order; seen any time; £35.—49, North St...
Portslade, Sussex. [5023

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B31

MOTOR CYCLES FOR SALE. Humber.

HUMBER HUMBER Lightweight, perfect condition, looks new; £55; after 6 p.m.-34, Fletcher Rd., Acton Green, W.4.

HUMBER Combination (wicker), 3½h.p., 2-speed, Bosch, B.B.; £30; 1ide away.—46, High St., Ux-bridge, Middlesex. [5091]

3½ h.p. Humber Combination, Sturmey 3-speed, clutch, new tyres, excellent condition; £65.—68, Hatfield Rd., Bedford Park. [5917]

GNS.—Humber 315h.p., 2-speed, handle start, new handle-bars, Pedley grips, spares; bargain. -18a, High St., Putney, S.W. [5283

31h.p. Humber, 2 speeds, free engine, handle start, extra order; ride away: £45.—Baxter, Joiner, Hohme-upon-Spalding-Moor, York. [5004]

HUMBER 31/2h.p. 3-speed Motor Cycle, 1914, equal new, not ridden from 1914 uotil 1919; offers.—Stacey, East St., Haslemere, Surrey. [5027] HUMBER 3½h.p., stored during war, clutch, K.S., accessories, condition as new; £50; after 5.-3, Victoria Gardens, Notting Hill Gate. [5727]

19¹⁴ Humber 4h.p., 3-speed, clutch, kick starter, lamps and horn, excellent condition; hest offer.

--8, Warwick Rd., Stratford-on-Avon. [6126]

23h.p. Humber, all-choin drive, re-enamelled and verbanled, touring burs, long exhaust; first £20. Hollies, 15, Nursery Av., Hale, Cheshire. [566-HUMBER 3½h.p., 2-speed gear, splendid condition and running order; £37/10.—Murray, 57a, Charles St., Hutton Garden, Holborn, London [X9230]

Charles St., Hatton Garden, Hohorn, London, London, London, Mag., splendid running order: £45.—Murray, 37a, Charles St., Hatton Garden, Holborn, London, [X9231]

H UMBER Combination, coachbuilt, 1914, 3½,10,, all accessories; £97/10.—140, Fordel Rd., Catford, S.E.6.

EARLY Delivery of the Celebrated Humber machine-from the accredited agents.—The Lankester Ec-gineering Co., Motor Cycle Dept., 63, Brighton Rd., Surbiton. [2093]

H UMBER 2%h.p., 3-speed, Bosch, B. and B., Dun-lop heavy, excellent condition, accessories; £40; seen after 6.—Trussler, 40, lvy Crescent, Bollo Lane, Chiswick.

HUMBER 1919 Flat Twin C.B. Combination, absolutely as new, 3 lamps and generator, all accessories; £140, or offer; any time.—C.S., 14, Swaton accessories; £1 Rd., Bow, E.3.

10 19 Humber 31/ch.p. Flat Twin, 3-speed, clutch, Montgomery C.B. sidecar, lamps, tools, etc., as new: £120.—Fildes, Thora Rd., Bramhall. Tel., Manchester City 380.

C lin. Humber and Millford sidecar, 3 speeds, all flamus, born, and spares, only run 1,000 miles, nerfect condition gnaranteed, looks new; £100.—Bowden, Wilfred Rd., Boscombe. (4987)

HUMBER, 1918, 6h.p. water-cooled flat twin, Montagonery sideen, luggage and petrol glid, lamps, bonn, and tools; £135, or nearest offer.—19, Bridge St., Blyth, Northumberland.

19 18 Humber Combination, 3 h.p., flat twin, 3 speeds, countershaft, clutch, handle start, lamps, horn, speedometer, fine order; £95 lowest.—G. 63, Solon Rd., Brixton, S.W.2.

HUMBER 25/h.p., chain drive, free engine, clutch, hundle start, new tubes, full equipment, spares, inst overhauled, splendid order; £24/10.—Gordon Harris, Garsdon, Malmesbury, Wilts.

HUMBER 1919 (September) 5½h.p. Flat Twin, lanns, horo, Millford sidecar, farme luggage grid, undershield for engine, in splendid condition; £135—Warren, Melbourne, Derbyshire.

91h.p. Humber and Cane Sidecar, 2-speed, hardle 92 start, Bosch, B. and B., new tyre and belt, speedometer. lamps. pump, spare tube, belt, etc., in good condition; £53.—2, Cody Rd., Cove, Farnborough.

HUMBER 1916 6-8h.p., Millford sidecar, 2-second, water-cooled horizontal win, 3-speed clutch, change, dynamo lighting, electric horn, fully equiptracelled under 2,000 hules, perfect; any trial; 2-16, Christchurch Av, Brondesbury. Phone E-16, Christchurch Av, Brondesbury. Phone E-16, Christchurch Av, Brondesbury.

Indlan.

7-9h.p. Indian Combination, spring frame, 1915, good condition.—Millard, Shepton Mallet. [4914 19 the Clutch Indian, 7h.p., accessories, not done 2,000 miles; £65.-16, York St., Dover. [4766] INDIAN 1917 7-9h.p., clutch model, T.T., Lucas set, Klaxon; £55.—House, 2, Lexington St., W.1. [5511 INDIAN 7-9h.p. R. Racer, thoroughly overhauled and renewed; £70.-158, Lordship Rd., N.16. [5909] INDIAN Powerphys Combination, fine condition; £100, offers.—Hidder, Sackville Rd., Bexhill-on-Sea. [514]

19¹⁵⁻⁵⁶, D. T.T. Indian, 3-speed, chttch, lick starter, fast, new condition; £85.—63, Solon Rd., Bhixton.

NDIAN 7-9h.p. Powerplus, 1919, hardly used; £145. Grimes, 18, Bruton Place, New Bood St., W.1



NEW AND SECOND-HAND MOTOR CYCLES.

We have a very good selection of machines available. Please let us know your requirements.

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8 h.p. J.A.P. engine, countershaft, 3-speed gear, clutch and kick-starter, all-chain drive. Cash Price £145.

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HORNS,				
Klaxon, Mechanical Cowey, Mechanical Finis, Mechanical	£3	16 0 1	0 0 0	
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P. and H. Set, No. 127 P. and H. Set, No. 125 P. and H. Lamp, No. 128 P. and H. Rear Lamp Miller Large Set Aluminium Sidecar Lamp Aluminium Rear Lamp Aluminium Generators	£2 £1 £3	10	0 6 6 6 6 6 0 6	
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Sidecar Hoods Easting Windscreens Cameo Windscreens Leather Kit Bags, 17×12in. Pillion Seats (with clips) Wheel Discs, aluminium (pair)	£4 £3	10 0 10 1	0 0 6 0 0	
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MOTOR CYCLES FOR SALE, Indian

£88.-1914 Indian Swan Combination, excellent dition.-Stives, Burwood Park Rd., Walto

1920 Indians: prompt deliveries.—E. Brown, Specialist, 3 and 7a, Parker Laue, B

INDIAN 1916 7-9h.p. Powerplus Combination speed; £125.—Fairhead, 14, Melville Rd. thamstow.

INDIAN 1915 T.T. Model, 7-9h.p., Dunlops, cover; can be ridden away; £80.—Phillips, C Dartford. INDIAN 5-6h.p., 2-speed, clutch, lamps, good ning order; \$55.—Brown, Rivermead, Wo Reading.

NDIAN 7-9h.p. C.B. Combination, model, splendid condition; £90. Rd., N.15. £90.—53.

INDIAN Combination, 1914, 7-9h.p., 2-speed, 1 etc.; £100; appointment.—Surgery, 484a, F. Rd., S.W.6.

INDIAN 7-9h.p. Coachbuilt Combination, 2-K.S., thorough order; 80 gns.—24, Marriott Barnet, N.

7 h.p. Iadiaas, chitch, solo, overhaul cost £35, ph of officer in Germany; £70, nearest.—Effir Garage, Dover.

INDIAN Combination, 7-9h.p., 2-speed model, lent condition; £85.—Woolgar, The Hornet, lent condi chester, Sussex.

BRAND New Indian Combination, dynamo ligi list price.-626, Lea Bridge Rd., Leyton, on Baker's Arms.

INDIAN 5-6h.p., 1915, 3-speed, clutch, kick st all perfect; best over £70.—Allen, 154, Lr. A combe Rd., Croydon.

19 13 Indian Combination, 7-9h.p., 2-speed, c trial; £85.—Blake, Westbonrue Grove, 'Phone: Park 3232. 19²⁰ Powerplus Indian Combination, 7-9h.p., do lighting, mileage 500, condition as new -37, Regent St., Rugby.

POWERPLUS Indian Combination, 1917 rdiscs, Easting screen, heautiful outfit; £ 51, Queen St., Hitchin.

1914 Indian 7-9h.p. 2-speed, clutch, spring is lamps, splendid condition.—Harvey, Church Cheshunt, Herts. £78.

7.9h.p. 2-speed Spring Frame Indian, almost tyres, in good running order; £32. — H.N King Edward St., Slough.

7-9h.p. Indian, 2-speed, olutch, Bosch mag sidecar; offers; Saturday after 2, or Su 47, Gt. Eastern Rd., Stratford, E.

MARCH, 1920, Indian 7-9h.p. electric combin complete with £10 extras, brand new; £ Essayan, Matlock House, Matlock.

19¹⁵ T.T. Clutch Model Indian 7-9h.p., frs condition, very last; exchange enterts sell £70.—355, Norwich Rd., Ipswich. 7-9h.p. Indian, 1914-15, 2-speed, clutch, K.S., frame. new Dunlop, lamp set, Stewart; 1 £72.—Clarendon, Staplegrove, Taunton.

INDIAN 5-6h.p., 1915, everhauled and enau with Indian sidecar, perfect condition, very \$\precedex 100.—Jakins, 247, High Rd., Lee, S.E. 19¹⁵ 7-9h.p. Indian Combination, best Indian Car, Lucas lamps, Cameo wind screen, a bargain; £97/10.—51, Queen St., Hitchin.

SPORTING T.T. Indian, Swan Oxford Synamo lighting, discs, excellent condition; +135, De Beauvoir Rd., N.1. Dalston 2265.

19¹⁶ 5-6h.p. Indian, 3-speed, clutch, K.S., ex condition, just thoroughly overhauled, all sories; £95.—Power, Chobham, near Woking. INDIAN, 7-9h.p., 2-speed, clutch, torpedo si excellent condition, lamps, horn, spares; Haylett, 8, Milner St., Gibson Sq., Islington.

19 15-16 Indian Combination, 5-6h.p., 3 spentage painted, overhauled, all on; 100 gns., offer.—Jenkins, 4, Glamorgan Terrace, Swansen.

19¹⁶ Indian Combination, 7-9h.p. Powerphy speed, clutch, speedometer, all accessories, cellent condition; £120.—33, Granville Rd., Wol

1920 Indian Combination, done 300, latest g model, discs all round, electric; £210.-5, Eastern Terracc, St. George's Rd., Portsmo

1914 7-9h.p. Indian Combination, 2-speed, 6 lighting, just overhauled; £95, or offer-lock, 103, Northolt Rd., South Harrow, Middle

19¹⁶ Powerplus Indian Combination, 3 clutch, long exhaust, accessories, perfect; Blake, 216, Westbourne Grove. 'Phone; Park

19 20 7-9h.p. Indian and Canoelet sidecor, lights, speciometer, etc., perfect order; 2 nearest offer.—Hodgson, Ellerslea, Dalston,

IOTOR CYCLES FOR SALE.

Martinsyde.

TINSYDE-NEWMAN,—Barnes Motor Garage ving been appointed special authorised agents comes entilest possible deliveries commencing onth.—Secretan and Mollet, Ltd., 149, Lowther Barnes, SW.13. "Phone: Hammersmith 1745,

Matchless

CHLESS 6h.p., 2-speed, and sidecar, perfect udition; 80 gns.—Conway West, Old Woking. ndition; 80 gns.—Conway West, Old Westing.
[4858] W. Bres., Guildford, West Surrey agents for its first-class outfit. Matchless in name and [3173]

Deposit.—Matchless, delivery before Whitsuntide, lanchester district; offers. — Box 3,274, c/o [5054]

JOHOPE'S, 9, Shoe Lane, London, E.C.4.— 3h.p. Matchless combination, 1919, complete with ries; £185, [6162]

CHLESS 1914 Combination, luxurious siderar, 8h.p., 2-speed, Bosch mag., lumps, horn; £110. glvan Av., Bowes Park, N.22. [4770

Matchless-Jap Combination, Gloria sidecar, 2 weds, kick start, lamps, horn, wind screen, etc.; 5, Annandale Rd., Greenwich, S.E.10. [5553 Model H. Matchless Combination, delivered March, dynamo lighting, spare wheel, etc.; what ~Mercer, Mill House, Paddock Weed. [4752

CHLESS 6h.p. Coach Combination, screen, id, new tyres, complete onfit; 85 gns.-7, Gold-Lane, Roe Green, near Colindale, Hendon. [5710 CHLESS Combination, coachbuilt, 6-8h.p., just erhauled, Bosch mag; £120; private owner, abroad.—Ford's Garage, Barry Rd., East Dul-[4873]

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Donse, Rousecut.

5. MatchRoss Sh.p. Coachbuilt Combination, 3speed, kirk starter, Lucas electric lightims, head,
speed, kirk starter, Lucas electric lightims, head,
1 Parade, Nothery, S.W.
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NEW HUDSON.—Immediate delivery from stock of New Hudson 2-stroke models at Blackburn and Sons, Station Garage, Spalding. [4957

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15, Staphenon Ad., Opper rooting, S.W.

L ATE 1915 T.T. Norton, 3½h.p., engine 151118 B.D. Philipson pulley, accessories, overnæuled at works, perfect; price £84.—Fletchefo Mrs. Mills, Stourport Rd., Kidderminster. 15

NORTON Spots Combination, fitted with P. and lamps, Bouniksen speedometer, mechanical he condition of the whole outfit is as new; 12145; can be seen any time; trial by appointing Albany, Booth Rd., N.W.9.

NORTON 3/sh.p., 3-speed sports model, Stur Archer countershart, K.S., recently component of the process of the property of the process of the

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£20.—Lightweight N.S.U., Boseh, good Dunlaps, p feet order.—3, Priory Plain, Gt. Yarmoutli. [5]

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LIGHTWEIGHT N.S.U., perfect, rebushed thorough overhaul, all on; private; £40, or of -54, The Vineyard, Richmond, Surrey. N.S.U. 31/2h.p., 2-speed, wicker sidecar, 1910. a cheep combination for a beginner; -Olivos Motors, 120, Bollo Bridge Rd., Acton.

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N.U.T. 1915 Twin, o.h.v., single speed; £65.—Le. [X9

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Royal Ruby

21-h.p. Royal Ruby, 2-speed, trial; £35,-togerson, Newtown, Wigan. [X9136

togerson, Newtown, Migan.

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L RUBY 1919 8h.p Combination, like new, accessories; £160. — Seen Knight Garage, y Mews, Gloucester Place, W.1. [5850 y Mews, Globecster Flact, Chope's, 9, Shoe Lane, London.—8h.p. oyal Ruby combination, 1919, fully equipped, cessories, Cameo wind screen, Cower Lorn; 4718

L RUBY 8h.p. Combination, 1919, very late, completely fitted lamms, horn, mirror, speed Easting, speeml child's dickey, and Tan-Sad: 85.—Box 3,265, c/o The Motor Cycle. [6043]

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E Multi 31th.p., hand clutch, K.S.; any trial; 5.-4, The Square, Carshalton. [5925]

E Multi, 1920, 5-6h.p., just delivered; 115 s.—Tu nill, North Peterborough. [5836 Rudge 1.O.M. Multi, re-enamelled, as new; 80,-Grove Green Rd., Leytonstone. [5808] 31mh.p. T.T. Rudze: list price; immediate devery.-Merriss, 139, Finchley Rd., N.W.3. [5056

ie Mu'ti 3Ch.p., 1916, splendid condition; £70, tutland, 12, Townley Rd., E. Dulwich. [4761 E. clutch model, £45; C.B. siderar, £8/10.— 12:01, 333, Acton Lane, Acton, London, [5461

Rades Multi 51/sh.p., clutch; any trial: £65.-ord, 5, William St., Mancherter Sq., W.I. Rudge Multi Combination, re-enamelled, as w; £30.-574, Grove Green Rd., Leytonstone, [63]4

(E 31,h.p., mag., waterproof, handle clutch, d; £35.-162, Abbty St., Bermondsey, Lon-[5081] Rulre Multi Combination, as new; £85, or agment offer, -94, London Rd., Kingston-on £85, or

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alding. 1.O.M., 1920, Lucas lamp, horn, Cowey ometer, 600 miles; offers.—Box \$3,290, c/o [6069]

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3½h.p. Rudge, new tyres, lamps, born, speedo-eter, fast solo 'bus; £52.—Morriss, 8, Victoria ibury Park, N.4. [5612 T.T. Rudge Multi, I.O.M., P. and H. head mp. Lucas horn, as new; £120.— Biltmore, tt Chase, Hindhead. [5100

E Multi 3½h.p., delivered June, 1918, lamps, n, tools, complete; £83; near Kingston.—
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communitari, 195 km, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 1957, 195 RUDGE Multi Combination, 3%h.p., coachbuilt on, good condition; seen Williamson, Cycle A Cupar, File; £85.—Streeten, Brompton Barracks, 6

RUDGE Multi 1914 3½h.p., 90 m.p.g. sole, roomy subsent, spare tyre, engine No. 7432, just over-handed, land clutch, pedal start; £63.—Brake, Aleces, Eeds. [5007]

19 20 3½h.p. Rudge Multi, 1.O.M., speedting for, born, spares, full insurance, unscratt-hed; any examination: £118.—Wells, 163, Sutherland Av., Manda Vula, London. [4079]

R UDGE, 3-speed Armstrong, in good going order, good tyres and belt, ready ride away, or carriage naid; £49; fine machine.—Hughes, 65, Hall St., Burslem. [6167]

R UHGE Multi, 1916, Middleton sidecar, 1919, screet, apron, lamps, nearly new tyres, tast, smart turnout; £85.—Southey, 70, Ferndene Rd., Herne Hill. S.E.24.

RUDGE Multi, I.O.M., 3½h.p., believed 1917, stored war period, clutch pedal starter, lamps, horn, etc., splendid order; 90 gns.—Payae, Brinkworth, Chippenham, Wilts. ham, Wilts.

FOR Sale, 1915 31th p. Rudge Multi, with Mills-February ford conclaimit sideour, Miller lighting set, tyres, belt nearly new, splendid condition; 80 gas.—10, Gup St., Reading.

11.p. Rudge Combination, wicker side-ar, N.S.U. 2 gear, real good condition, lamps, hora, apion; nearest offer to 450.—Mathews, 3, Albert Crescent, Penarth, Wales [4786]

P UDGE 35/ph.p., believed 1913, just overhauled, new piston rings and gudgeon pin, rebushed, good condition; £53, or close offer.—Curran, Park End Farm, Bewdley. [5669

Purpose Multi 1916 31-h.p. Combination, hand clutch, all accessories, tyres, bell, as new, just overhauled; £90; owner going abread.—Durb.c. 6, Cross Lane, London, E.C.3.

5 6h.p. Rudge Multi and Coachbuilt Sidecar, with Cape cart hood fitted, carrier seat for third passenger, top-hole lot; seen and tried by appointment; price 100 gms.—Heard, Hadleigh, Essex. [6175]

2 1h.p. Rudge Malti, concludint sidecar, believed 1915, complete, lanus, 650×65 tyres perfect running order; any trial; £75, reasonable offer.—Corentry House, North Frambotough, Hunts. [5890

1913 3/3h.p. Radge Combination, multi gear, pedal starting, newly canamelled, perfect condition; 50: cash returned if not satisfactory.—Wallace, 12. Canterbury Rd., West Kilburn, London, N.W.6. (5442)

1915 33/4h.p. Rudge Multi and Torpedo Sidecar, but overhauled and repainted, new mudguards and belt tyre in perfect order; £90, or carest offer.—Fearn, Ballour St., East Kirkby, Notes,

R UDGE Multi Coachbuilt Combination, 1910 S-6h.p., Lucas gas lamps, horn, pump, mirror, wind screen, spares, good tyres (1 newl, good condition, stored during war; £95.—16, Hoddesden Rd., Belvedere.

Beneater.

J.O.M. Rudge Multi 3½h.p., November, 1917, engine 25x2½ front, P. and H. lamp set, mechanical horn, good condition throughout; 75 gns.—Hogben, Ash, Canterbury, [5298] good condit Canterbury.

Olth. Rudge Multi, h.b. clutch, Senspray, new Debug Dundon rear, large P. and H. lighting set (1,200 ft. beam). T.W.R. auminium rear, spare belt, horn, nump, etc., wtry last; first £55 secures.—Daives, 5070 Dexter St., Derby.

R UDGE Multi T.T., I.O.M., believed 1917 special, very hot stuff, 2 lamps, horn. Watford speedometer, kaee grips, straight through copper exhaust pipe, sportsman's 'bus; £90 or near offer; after 8.—Plavies, 80, Sloane St., S.W.

players, 80, Sloane St., S.W.

19 Ruley Multi 3/h.p. Combination, system Cancelet sulcert, original trees as new, 3 happen. Cancelet sulcert, original trees as new, 3 happen. Cancelet sulcert, original trees as new, 5 happen. Cancelet sulcert, and trees took its £120.— Illis, The Grove, Lower Teddunston Rd., Hampton Wick, Phone; Kingston 1259.

19 08 malge Multi 3/sh.p., with Cancelet sidear, hamps, Stewart horn, took, spare belt and fasteners, only ridden 350 miles, perfect condition, better than new; £150; appointment.—Dr. Wagstaffe, 14, St. Thomas's Mansions, S.E.I.

MOTOR CYCLES FOR SALE.

Rudge.

Rodge.

F.O.C.H. bave a 1919 Rudge Multi and Sidecar, 3½ h.p., small mileage, fully equipped, excellent order.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station), Phone: Hampstead 3782. Hours 97, including Saturdays. (8507

Stead 3752. Hours 9-7, including Saturdays. [050-stead 3752. Hours 9-7, including Saturdays. [050-stead 3752]. Radge Multi, engine No. 12062, Senson, Saturday and Francis (Carlotton, Sound running good, excellent mechanical condition, sound running groder; £80; seen by appiontment, or Saturday afternoon.—Cope, 99, Tettenhall Rd., Wolverhampton.

B UDGE, 1915, re-enamelled, plated overhauled, Philipson, lamps, etc., new covers and tuber, spare cylin gent and cittle, ganzanteed 3 months, not used durins wer; £60, or near; arter 6.—12, Balfour Rd., Acton. W.S. (Neur G.W.R.)

R TUDGE UML Combination 3½h.p., hand clutch, kick attract, new Palmer cords, lamps, horn, perfect condition and appearance, new C.B. sidecat, wind screen, apron, petrol carrier, reliable, economical outfit, fully equipped and owner driven, usual sparse, trye, belt, etc. trial; 298/10.—Page. 84, Rand, Eastrigs, Dumrires-kire.

Saltley.

SALTLEY 1920 21/h.p. 2-stroke, 2-speed, h. horn, etc., condition like new; £65,—Ski 6, North Parade, Bath. 'Phone: 1070. lamps. [X9355

I MMEDIATE delivery of Sattley-Villiers 2-stroke, single-speed £56, 2-speed £66.—London concessionnaires, Lancaster Motor Co., West Norwood. A lew agencies available.

Scott.

SCOTT, just delivered, unridden; what offers - Coatis, Glanconway, [X9184]

SCOTTS.-Place your order now with the Bedford Garage, Walsall. Phone: 270. [5308] SCOTT and Sidecar, in good condition, recently over-hanled.-36n, Queen's Rd., Bayswater. [5131

19²⁰ Scott Combination, mileage 300, Lucas lamps, horn; £160.—Rhodes, Welburn, York. [5357 SCOTT.—Exceptionally early delivery; latest toming and sporting models.—Parker's, Bradshaweate, Rolton. [X9334]

Bolton.

3 h.p. Scott, Bosch, new Dunlop, 2-speed, K.S., ne4 chanically good; first £43 secures.—Foulger, Alice

Kaichley. [5464]

SCOTT 2-speed, kick starter, Binks, new chains, good tyres, recently overhauled; £46.—Vale, Stapenhill, Burton-on-Trent.

SCOTT.-Immediate delivery from stock of sports models, 120 gns., at Blackburn and Sons, Station Garage, Spaiding. [4956]

1920 Scott Solo, only ridden 60 miles, no accessories; £126, or exchange late Sunbeam or Trinmph.— 4, Oxford St., Lincoln. [X8956

SCOTT, 2-speed, Binks, Bosch, lamps, excellent side-car chassis, good tyres, running order; £48.—West-holme, Park St., Lytham. [4892

GOOTT 3thp, 1914 2-speed, kirk start, overhauled, and enamiled accessories; 270.—Wood, 79, 1916, blend kd., Paddington, W.9.

GOOTT, 1916, enamelled like new, all en; any triat; lowest, 270.—Mansell, 5, Malines Terrace, Gloucester Rd., Littlehampton.

19¹⁵ Scott and Sidecar, new chains, sprockets, splendid condition, all accessories; £85.—W. Harmood Place, Chalk Farm, N.W.1.

1914 Scott Combination, wicker sporting body, engine, tyres, etc., as new; £85.—Charles, 15, Haringey Rd., Middle Lane, Hornsey. [5665]

1914 Scott, Bosch, Binks, tyres equal to new, good condition throughout, not used during war; £55.

Palmer, 51, Bridge St., Worksop, Notts. [X9277]

SCOTT Combination, C.B. sidecar, 2-speed and clutch, thoroughly overhauled, ready for tour, complete; 95 gns.-4, The Square, Carshalton. [5926]

comprete: 99 gas.—4. The Square, Carshatton. [5926]
S'COTT, late 1919 fost sporting model, Lucas accessories, black disc wheels, genuine sportsman's mediuc.—Enquire Patters, Brindebaugard, Bolicosaya, Color 1918, pp. 2-speed, just overlauled, new times, including 2% or 22/hp. [gears].—W. J. Corbett, 90, Newschings 2% or 22/hp. [gears].—W. J. Corbett, 90, Newschings 2% or 22/hp. [gears].—W. J. Corbett, 90, Newschings 2% or 2/hp. [gears].—W. J. Corbett, 90, Newschings 2% or 2/hp. [gears].—W. J. Corbett, 90, Newschings 2% or 2/hp. [gears].

S COTT, 1914, stored during war (under 1.000 miles), with Browning's patent folding detachable chassis and C.B. sideran, complete, very smart lot; rice 95 gns.—Hurst, 257, Ongar Rd., Brentwood, Essex. [5120 SCOTT, 1912, engine 1092, semi-T.T., discs, re-engine dled and plated, new extra heavy Dunlop on back, speedometer, mechanical hom, lamps, and cane torpedo sidecar; £44.—1, Chandos Rd., Tottenham. [4771]

sideer; £44.—1, Cammos ava, Account.

S. COOTT Combination, 1915, 2-cpl, 2-stroke, 2 speeds,
S. K.S., lamps, speedometer, and hour, just been
overhanded, new rings and chains, excellent condition,
and sparse; £90.—E.C., 9, Wilson St., Battersea, S.W.11.

[5139]

GEPT. (1915) Scott (works card shown), re-enumeled and ulated, and fully renewed by makers at cost 250, anused since, bill shown, guaranteed by makers equal to new; £100.—116, Seabrook Rd., Hythe, Kent.

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1918 TRIUMPH, 4 h.p., countershaft		0
few left	£63	
1915 ENFIELD, 2-specd, lamps, etc	£65	0

COMBINATIONS.	
1920 A.J.S., new Offe	rs.
1920 A.J.S., mileage 200, fully equipped . £230	0
1919 B.S.A. and large bulbous back Sidecar,	
equipped £135	0
1919 TRIUMPH and Gloria, bood, screen,	
equipment and spares£155	0
1919 TRIUMPH, lamps, horn, tools, etc £145	0
1919 ENFIELD, 6 h.p., lamps, horn, speedo-	
meter, as new Offe	rs.
1918 MATCHLESS Victory, Lucas lamps,	
as new £155	0
1916 SUNBEAM, 3! h.p., black and gold,	
horn, speedometer, new Sidecar, black	
and gold, mileage 645 £145	0
1917 ROVER, 31 h.p., C.S., indistinguish-	
able from new £130	0

1916 ENFIELD, 6 h.p., equipped £137 10 WANTED. Good-class SOLOS and COMBINATIONS, new and nearly new. Top prices paid in spot cash.

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Overhauls, Repairs, Renewals, Painting, etc., at competitive prices. No job too difficult. Estimates given,

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SPORTING Scott 3%h.p. Twin, 2-speed, spopressure drip oiling, semi-T.T. long exhaust, sine and gears recently overhauled by makers, enatyres, and running order good; £55,—95, Rivers Rd., Highbury, N.5.

Singer.

19 14 Singer 4h.p. Combination, 2-speed; £5 near offer; any triel.—Donnis, Woburn Sac SINGER 2%h.p., 1913, T.T., discs, fast, Bos Amac; £38, offers.—D. Dodd, 25, Princes & X8

SINGER, 1912, 2%h.p., Bosch, B. and B., horn, running order, ride away; £28.—Devonia. Rd., Richmond.

SINGER, 31/h.p., free engine, foot clutch, pr start, excellent order; £40; seen after 7.— Hambalt Rd., Clapham Common.

SINGER 1914 T.T. Model, 3½h.p., all red, di requires few accessories, ride away; £28, barg -25, Bacchus Walk, Hoxton, N.1.

Sopwith.

F.O.C.H. have a 1919 Sopwith Pearson, Dalm enging 2-speed, clutch, and kick starter, excellent ord fully equipped.—Fair Offer Car House, 5, Heath's Hampstead (near Hampstead Tube Station). Phot Hampstead 3752. Hours 9-7, including Saturday).

Sparkbrook.

19 20 Sparkbrook, new, 2-speed, 2-stroke: 26 Smith's, 86, Chalk Farm Rd., opposite Clarm Tube Station.

SPARKBROOK 6-8h:p. Combination, 1915, per running order, excellent condition.—Bonell, T House, Audlem, Ches.

Sun.

19 14 2%h.p. Sun-Villiers 4-stroke, 2-speed; 2. Bradbeer Bros., Minchead. SUN-VILLIERS 2-stroke 25/h.p., late model; & offer.-159, Kentish Town Rd., N.W.

SUN-PRECISION 35th.p., clutch, Philipson pure rebushed, Bosch mag.: £50.—Lt. Lees, H. Barracks, Gosport.

SUN-VITESSE 24h.p., 1920, 2-speed, access cost £75 March; accept £67/10.—Bakewell, Villa Rd., Nottingham,

SUN-PRECISION 31/h.p., coachbuilt sidecar, screen, 3-speed, clutch, kick start, accessor equal new: £75.-36, David Lane, Shadwell, E. [5]

SUN-VILLIERS 1915 23/h.p., 2-speed, 2-lamps, horn, just been overhauled, and in did order; £40.—Olivos Motors, 120, Bollo Bridg

A SNIP.-6h.p. Sun-Jap, side valves, late mo Sturmey-Archer 3-speed countershaft, brand i heavy tyres both wheels, enamel and plate very gengine bearings little slack but runs well, and p sidecar with 3 up; ride away for £89.-Walbon McCycle Works, Saffron Walden, Essex. 'Phone: 4

Sunbeam.

19 16 31/h.p. Sunbeam, 3-speed, coachbuilt c bination; £128.-1, Bellingham Terrace,

19²⁰ 314h.p. Sunbeam; braid new, unridden, registered; offers.—Box 3,253, c/o The M Cycle

SUNBEAM 1920 3½h.p. Combination, run tremely small mileage.—Birch's Garage, Wolhampton.

SUNBEAM 3½b.p. and Sidecar, in excellent contion; a bargain, £147/10.—Savage, King Peterborough.

19 19 Sanbeam 3½h.p.; 3-speed countershaff, ex lent condition, Lucas horn and speedometer: £1 -Lester's Garage, Lichfield.

SUNBEAM Combination, 8h.p., 1917; expert ex-ination; £170, nearest.—Mons, Churchill I Bordesley Green, Birmingham. (X8)

23h.p. Sunbeam, 1914, 2 speeds, new K.S. Steft guards, undershield, good condition; £77.—Vet 23, Park Parade, Cambridge.

1915 31/2h.p. Sunbeam Combination, stored 1917 just overhauled, splendid condition; £13 Squier, 66, Swiss Av., Chelmsford.

1920 31/h.p. Sunbeam Combination, just deliver owner bought car; best offer will be accepted Box 3,155, c/o The Motor Cycle.

JULY, 1919, Sunbeam Combination, 3½h.p., lan Lucas lamps, tyres and condition perfect; trial; £180.-37, Regent St., Rugby.

8h.p. 1920 Sunbeam Combination, 6 weeks old new, Lucas lamps, Cowey horn, all spares; offer over £220.—Clark, Kilrie, North Berwick: 5

SUNBEAM Combination, 4h.p., 1919, hardly ride specdometer, Lucas lamps, horn, tools, w screen, hood; £170.—Turnill, North Peterboron

19 (Guaranteed) 3½h.p. Sunboom Combination black, gold, as new, fally equipped; present price £195; bargain, £165.—4, Nursery Walk, 16

OTOR CYCLES FOR SALE.

Sunbeam.

AM 2%h.p., 2 speeds, kick starter, chain s, Bosch, Senspray, lamps, and horn, splendid sht; £76.—Mandes', 100, Gt. Portland St.

(late) 31,2h.p. Sunbeam, with Ariel sidecar 919), in good condition, complete with lumps, ols, etc.; £130.—Allen, 183, Hainton Av.,

Sunbam Combination, Oct., 1919, 3 lamps, sedometer, horn, spare cover, low mileage, condition; £175.—M.L., 42, Sedgwick St.,

RINARY Surgeon, buring car, has 1914 Sun-un 25th.p., 2-speed, clutch, chain drive, all acces-erfect condition; 75 gns.—Amey, Caldeett, ide. 55309 [5269

Sunborm, 1919, and Sunbeam sideour, fitted ith Easting wind screen, indeage about 500, perfect; best offer.—Wilson, Fern House, Barnsley

AM Sh.p., 1919 (late), luxurious coachbuilticar, Easting wind screen, delightful combinative fieldly brand new; 190 gus.—29, Montford ennington, S.E.11.

AM 3'Jah.p., 1918, enclosed chain drive, small eage, black and gold finish, as new lamns; owned; £120.—Tel.: Kensington 137.—Fike, turch 8t., Chelsea, London.

9AM Combination (Gloria), 6h.p., 1914, J.A.P. seed, C.S., all-chain, h.b.c., new, driving chain, rest rear and sideen; neurest £160; any trial rkins, Chemist, Ystalyiera.

rkins, Chemist, Istanyiera.

¿AM Late 1919 8h.p., fitted with Lucas ps, horn, Tan-Sad, luggage rack, large side-plete with hood and screen, run 800 miles, throughout; £250.—Birch's Garage, Wolverthroughout;

AM Combination, 314h.p., countershaft 3-d, all enclosed, excellent condition and order, mps, speedometer, tools, 1914, but very little 125.—356, Lordship Lane, S.E. 'Phone: 3653 (4063

October) 31'gh.p. Sunbeam, just overlauded, new linder, piston, valves, solo and sideen sprockets, t C.B. sideen; lamps, etc.; solo £115, or writ £140; Coventry district.—Box 521, c/o The total.

cle. (A.5). C. (

315h.p. Sunbeam, 3-speed, chain, Sunbeam adshields, black and gold, low mileage, tyres ex-mechanically perfect, lovely appearance, Luca-acrifice 102 gns.—The Knoll, Croslands Patk ar-Furness.

n-Furness.
3½h.p. Sunheam Combination, 1920 sidecar,
ew, chain drive, hand control, 3-speed gear
ups, horn, accessories, splendid outfit, in ideal
1; best offer over £175 secures.—Evans, NewLanglesey. [5074]

5AM.—We are Wolverhampton agents; spare is in stock; repairs, overhauls, re-enamelling ing under the supervision of Mr. T. C. de la te Sunbea nland).—The Molineux Garage Co., olverhampton. Tel.: 1160. [3458]

olverhampton. ten: 1100.

Sunbeam, 19f4 (new 1915), completely overuled, new covers and tubes, enamel uni, Lucas accessories, Binks, new tool kit,
idecar, quick detachable, guaranteed perfect
re; £115.-43, St. Matthew's St., Ipswich.

SAM, 4h.p. 1919 French military chain-cumit nodel, Sandum Elite C.B. black and gold omatch, 3 Lucus lamps, horn, accessories, in-A.A., under 400 miles; seen any time; offers on-Parsons, Lanrel Bank, Huntspill, Symetrical

Sunbeam Combination, just overhauled by akers, stored through war, as new, Lucas set, 2 horns, speedometer, spare tyre, wind ad hood, tools, and few spare parts; insurance ecluded; owner going abroad; complete, £190. Wilton Rd., Victoria, S.W.1. [5440]

Wilton Rd., Victoria, S.W.1.

new 3/4h,p. Sunbeam Combination, equipped ith Cowey speedometer, Cowey horn, P. and lighting set, rear and sidecar lamps, with generator, storm apron, pump, and complete registered and ready for the road; £210.—

in Dials Motor Cycle Depot, Prestonville Rd.,

8b.p. Sunbsam Combination, M.A.G. engine 1920), Amac, Lucas dynamo lighting, electric b horns, spare wheel, hood, screen, apron, trop, Cowey speedometer Tan-Sad, numerous verhauled and repainted, first-class mount, in a condition; nearest to £200.—Stewart, 104, Barry.

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Motor Cycle, 25th p., accumulator ignition, ing order; £18, or near offer F. Stokes, ning order; £

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T.D.C. 2-stroke 2\sh.\tmu, B.B., Bosch, horn, good tyres, rids away; £30.- Moar, 53, Hampton Rd., Forest Gate.

23h.p. T.D.C De Luxe 2-stroke, 2-speed, brand new, for disposal.—East View, Chase Court Gardens, Enfield.

Torpedo

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Trlumph.

TRIUMPH 2-troke, 1918, lovely machine; £66.Mullard, Shepton Mallet. [4917]

TRIUMPH, 1912, good reliable machine; about £28, -F.F. Stores, Gamlingay. [5416] 19 16 4h.p. Triumph, 3-speed, nice order; £82.-1, Bellingham Terrace, Catlord. [5994

TRIUMPH 31/h.p., perfect condition; any trial; £35.-4, The Square, Carshalton. [5924]

TRIUMPH, 4h.p., 3-speed, new sidecar, ride away; £75,-514, Old Ford Rd., London. [5846]

TRIUMPH Conchbuilt Combination, equal new; £65.

-Marks, 121, Acton Lane, Chiswick. [5286]

TRIUMPH, 2-speed countershaft, top-hole condition; £55,-1, The Risc, Crayford, Kent. [6108 TRIUMPH Clutch Model, perfect condition; £40.-Marks, 121, Acton Lane, Chiswick. [480

19¹¹ Triumph, free engine, gears, fine condition £45.—King, Egrove Farm, Oxford. [X9316]

1h.p. Triumph, 3-speed gear, in splendid order; price 2 £60. or near offer.—Rossie, Haslemere. [497] 19 18 Triumph, as new, powerful engine; £90.— 293, Wandsworth Bridge Rd., Fulham. [5495]

TRIUMPH 31/4h.p., Grado gear, guaranteed perfect, accessories; £38.-135, Edgware Rd., W.2. [5426

4 h.p. T.T. Triumph, re-enamelled, disc wheels, very fast 60 gns.-12, Fordwych Rd., Kilburn. [5194 31h.p. Triumph, rebushed, good condition; £30; after 6.—Furlong, 434, Fulham Rd., London. [4989]

4 h.p. Triumph, countershaft, rebuilt, complete; ride away; £85.—Wallis, 117a, Ivy Rd., Cricklewood.

LATE Timph, countershaft, absolutely like new £120.—Thomas, 34, Cartwright Gardens, W.C.1 10 16 4h.p. Triumph. 3-speed countershaft, tyres belt new; £75.—Dodd 104, Plough Rd., Battersea. [5609

10 new; £75.—Bond 104, According 15609

11 lb. Trinniph Combination, 3-speed Sturmer-Archer: 285.—15, Kelvin Av., Bowes Park, London, N. [5123] TRIUMPH 31/h.p., new piston, rebored, guides, new Grado gear, belt; £42.-Challen, High St., Godal-(5307

BABY Triumph, complete with lamps, in good condition: £47/10.-R. Ellis, High St., Billericav, [5244]

19 Triumph, 3-speed countershaft, Swan sporting sidecar; £125.—626, Lea Bridge Rd., Leyton.

19 18 Triumph, countershalt, overhauled and remarked by valed by makers; £90.—374, Grove Green Rd., Leytonstone.

1917 Trinmph Junior, 2-speed, lamps, excellent condition; 249/10.—Lynton, Park Crescent, Church End, Finchley.

End, Finchley.

19 14 Triemph 4h.p., 3-speed cintch, splendid condition; £65.—V. Roberts, 46, Westbourne Terrare, North, Paddington.

17 RUMPH, 3-speed, chutch, completely vershauled, all accessories; £68.—Call arter 2, 30, Homested, Rd., Fulham.

Rd., Fullham. [5163]

1913 Triumph. 3-speed, clutch, fully equipped; ride nway: trial; £50, or offer.—H.C.S., 44, Hanover Rd., Plimatead. [5717]

TRIUMFH, countershaft, 3-speed, kick, perfect throughout; £65. — Hatch Cottage, Harmondworth, Middlesex. [5839]

worth, Middlesex. [5839]
3 1h.p. Triumph, Bosch, tyres splendid, new belg 2 tank re-enamelled; bergain, £35.—Gale, 55, Chiswell, Portland.
WAUCHOPE'S. 9, Shee Lane, London, E.C.4.—Wayb.p. Triumph, 1912, free engine, 2-speed, S.U. gear; £65.

19 18 Triumph; any trial; £80; sideent if desired, £20, nearly new, coachbuilt.—G., Rowallen Cottage, Weybridge. [5633]

tage, Weybridge. [5633]
TRIUMPH Junior, late 1919, in splendid condition, lamps: £70.—Mattock Motor Co., Mattock Lane, Ealing, W.5.

19 13 Triumph, 3-speed, ready to ride anywhere, lamps, horn, tools; £65.—Hyland, 23, King William St., Swindon.

2%D.p., 2-stroke, excellent order; £37.—StandGarge, New-Inn-Ifail St., Oxford. [5117] All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B41

MOTOR CYCLES FOR SALE.

Wolf. WOLF 2½h.p., single-speed, J.A.P. engine, good tyres and in good running order; £32.—Grove and Britten, Bletchley. good

WOLF-VILLIERS 2-stroke, 2-speed, chtch, kick-starter, lamps, hora, tools, perfect condition, done less 200 miles, owner deceased; £65, with insur-ance.—Mrss, 345, Woodbridge Rd., Ipswich. [6140

Zenith.

WAUCHOPE'S, 9, Shoe Lage, London, E.C.4,-For new Zeniths; hook now. [4721

1920 8h.p. Zenith, new; best offer over £150.-

NEW 1920 6h.p. Zenith, standard, Cowey £126.—Ellersle, High St., Polegate. ZENITH 5h.p. Twin' Combination: £98.-59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.S. [5220

19 19 Zenith, Model C, lamps, discs, Klaxon, like new: £115.-Lees, 9, Hatchlands Rd., Red Hill

ZENITH 8-10h.p. New Combination, Henderson heavy sidecar; £210.—Renshaw, Skating Rink, Chester field.

1914 6h.p. Zenith, stored 4 years, perfect, like new, complete with lamps, etc.; \$80.—Contes, Glanconway. [X9185]

T.T. Zenith-Gradua 1914 4h.p., special tank, long exhaust, sporty; £55.-17, Convent Gardens South, Ealing. [4739]

Ealing.

ZENITH-GRADUA, 41/h.p. Precision, perfect sidecar machine; bargain, £37/10.—Dowell, Byfleet.
[6103] Sh.p. Zenith Combination, 1913, just overhauled and enamelled by makers; £90.—Huggins, Winnipeg.

Staines. 5-6h.p. Standard Zenith, 1914, fully equipped; £58: best offer; real bargain,-5. Green Walk, Ching-ford, E.4. [4782]

ford, E.4.

ZENITH, 25/h.p. o.h. J.A.P., T.T., excellent condition; any trial; £65.-4, The Square, Car-

1 9 16 Zenith 4h.p. Twin, disc wheels, splendid condition; 85 gas.—The Old Crown, Church St., Kinston, Snrrey. [4855]

19 19 Zenith 31/2h.p. T.T. Single, brand new tyres, belt very fast; £80.—Hannay, Bleuheim Barracks, Aldershot.

ZENITH-GRADUA 4h.p., 1916, £65; Phœnix coach sidecar, £12.—Bartlett, 16. Nutbrook St., Peckham Rye, S.E. [5275]

1916 Zenith 4-5h.p. Twin, countershaft, clutch, kick start; a sporty bus; £85.—374, Grove Green Rd., Leytonstone [580]

ZENITH, 1916, 5h.p., T.T., countershaft, lamps, new belt, good tyres, good condition; £90.—Threlfall Cheapside, Lancaster. [X934]

ZENITH 1920 8h.p. Twin, clutch, Model H, stock, for immediate delivery; £142.-Birch stock, for immedia Garage, Wolverhampton.

ZENITH Combination, 8-10h.p., full equipment, ex-cellent condition; £125; exchange coasidered.— 49, Baronsmere Rd., East Finchley. [6090

ZENITH 3/2h.p., Nov., 1914, just overhanled, in perfect running order, F.E.; £58.—Apply, 10 Heath Grove, Barming Heath, Maidstone. [576]

ZENITH. 8h.p., 1920, actual Olympia sporting model, disc wheels, Lucas lamps, born, small mileage; £180.—Bell, Redthorpe, Lancaster. [5952

1920 Zenith 8h.p. Sporting Model, just delivered, unregistered, too powerful for owner; will accept best offer.—Box 3,224, c/o The Motor Cycle. [5175]

ZENITH-GRADUA, 1919, Angust, 4-5h.p., kick start, Montgomery sidecar de luxe, all on; £150. -35, Stafford Rd., Wallington. Croydon 1643. [6089 ZENITH, 1916, 5-6h.p., countershaft and kick starter, disc wheels, Cannolet sidecar, 3 lamps: £138.—Maudes', 100, Gt. Portland St., London. [6022] Oh.p. Zenith-Gradua and 1920 Henderson sidecar, lamps, mechanical horn, speedometer, tyres good; £98.—Paul, Ambleside, Approach Rd., St. Albans.

E88.—Paul, Ambieside, Approach Rd., St. Albans.

6 h.p. Zenith Countershaft, kick start model, 1915
equal to new, trial, with canoelet sidecar, £120;
solo, £95; bargain.—207, Blackshaw Rd., Tooting.
[522]

ZENITH 5-6h.p. 1915 C.B. Combination, fine running order, looks well, lamps, horn, tools, etc. new back tyre, others good; £95, offers.—L. Welsh.

ZENTTH 6h.p. Sports Model, 1920, just delivered complete us makers' specification, Danlops, Gradun-£125 for quick sale; Lancashire.—Box 3,156, clo The Motor Cycle. [4861]

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CAMBER.—Coach sidecars from £16/10 to Makers, Bright and Hayles, 78, Chur Camberwell, London.

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ONITED STATES—The International News Associated, New York, New Yo

Trials of Concentrated Difficulty.

AST year when the London-Edinburgh run was resumed after a long interval, an innovation was made by eliminating the return . journey. The example was again followed by the M.C.C. this Easter on the London-Land's End, and the Birmingham M.C.C. adopted the same idea by running their Sangster Cup Trial from Birmingham to Barmouth, wisely cutting out a return journey so that competitors could find their own way home at leisure.

The scheme is a good one, especially when applied to these holiday week-end trials, for the entrants may wish to tour home again pleasantly, and to dally by the wayside where the scenery is attractive. Physical and nervous strain is considerable after the first fifteen or sixteen hours driving, and in consequence the inclusion of a monotonous main road return journey of three or four hundred miles at a very short interval, after the completion of an outward journey of the same length, constitutes a test of staying power more severe on man than machine.

To the modern machine an endurance run over the classic London-Edinburgh route presents no difficulties whatever, and even the London-Land's End route of pre-war days was not abnormally troublesome. However, the elimination of the return journey allows the severity of the outward run to be increased.

Perhaps of all trials the London-Edinburgh, at Whitsuntide, has proved the most monotonous, despite its classic atmosphere. In the days of fixed gears and doubtful ignition systems there was little opportunity for the rider to become bored, but the later runs degenerated into processions.

This year the route, to use a colloquialism, is considerably "gingered up," and any rider whose machine makes an unflagging ascent of Kirkstone Pass, after some three-hundred miles of steady and continuous running, may be reasonably proud. From a scenic point of view, the route will have a variety of interest, as from Harrogate onwards the competitors will see some of Yorkshire's wildest moorland scenery and gain impressions of the rolling foot-hills which lead up to the Pennines. They will see the Lake mountains gradually looming in the distance and possibly may find their Waterloo amongst them! Further North they will ride over lowland hills and valleys through a country which is unfamiliar to most south country motor cyclists.

Altogether, the innovation is an admirable one and in every way to be commended.

The Government and Fuel.

ANY months ago The Autocar urged that the Government should control fuel supplies. The object in mind was the protection of a key industry of growing importance, which is, to all intents and purposes, in the hands of the petrol ring, the existence of which is denie'd.

As we go to press, rumours are affoat that the Government is now negotiating for a controlling interest in the Shell Transport and Trading Co. If this should prove to be correct, it may form an important step towards Government fuel supply. The war has shown us the vital necessity of ample oil fuel supplies, and it is to be hoped that some satisfactory agreement will be reached. Despite the importance of the move, it must not be looked upon as the solution of the fuel problem, for there is a threatened shortage of oil fuel throughout the world, and, unless further supplies become available in the near future, this shortage is likely to become acute.

In the development of the British oilfields lie possibilities which must, however, not be overestimated. Shale oil and the encouragement of benzole production can, undoubtedly, help to ease the situation, but power alcohol would appear to be the ultimate solution, since the supply is to all intents and purposes inexhaustible.



A Problem in Duplicate.

S an exercise in theory, I am asked to propound the following technical point to readers. Two separate riders, both semi-novices, own Scott machines. Each engine misfires. Yet in both cases the separate cylinders fire perfectly evenly when the other cylinder is cut out. What is the cause?

The Black Prince Runabout.

HAVE not been able to get up north since the Show, but I intend to visit Barnard Castle at · the first opportunity, and get Archie Cocks to demonstrate the Black Prince runabout. The firm seem to have shelved their "one-plug twin" for the . moment, but the runabout is quite a new break, as the florists put it. A four-wheeler at £100 is something of a rarity in these days, and this low figure is attained by adopting a wooden fuselage as a substitute for the normal steel frame with separate coachwork, and by annexing a tip from American marine engineering practice as regards the engine. A couple of 234 h.p. Union two-strokes are coupled together, being mounted vertically cheek by jowl. This layout seems to have distinct possibilities. A pair of 300 c.c. two-strokes, which will two-stroke obediently at low r.p.m., should make a good power unit for a light machine.

Ton Miles per Gallon.

OTOR cyclists always regard their fuel consumption as phenomenal when compared with the expensive gallon mileage of cars. Of course, in positive economy we have much the worst of the comparison, as is easily proved by translating the illusive miles per gallon into ton miles, i.e., the unit for measuring the distance to which a gallon transports a given weight. The motor cycling correspondent of The Times has been dotting the "i's" of the A.A. benzole trial, in which the following figures were obtained:

16 h.p. Sunbeam car, 24.57 m.p.g., 44.22 ton miles per gallon.

3½ h.p. Triumph motor cycle, 84 m.p.g., 31.34 ton miles per gallon.

The authority in question identified five conceivable explanations of the motor cycle's inferior economy, viz., cooling, air resistance, carburation, transmission, and road resistance; and concluded that air-cooling was to blame for the 40% superiority of the car. An Autocar correspondent assails this view, and suggests that the motor cycle suffers much more from road resistance than the car. He suggests that a heavy motor lorry will give an even better ton mileage than the Sunbeam, indicating that the heavier the vehicle the better it ploughs through a holding surface. The

matter deserves some enquiry, considering that, while the Triumph figures are almost extremes (84 m.p.h. with sidecar on winter roads!), the Sunbeam figure is often beaten over short distances; for example, in the last Junior Car Club consumption trial, a 9.5 hp. Standard car, weighing 18 cwt., did sixty-four road miles per gallon, which works out at 57 ton miles: almost double the motor cycling figures. With petrol, at its present cost, we all want to know how to make the most of it.

Jointing Mediums.

NUMBER of trade firms are kindly sending me samples of jointing mediums, partly no doubt through sheer kindness of heart, but possibly with an eye to testimonials. Let me say frankly that I am not prepared to differentiate between these various nostrums. There are dozens of them on the market, and it is practically impossible to give any ofthem a preference. I never tried one which could not make a good joint; but so will ordinary commercial fish glue, gold size, boiled oil, and one or two other vulgar commodities. In motor cycling practice the making of a joint seldom depends on the special adhesive used, but rather on cleanly, mechanical. methods, and on the design of the metal parts concerned in the joint. Anybody can joint up an ordinary valve cap with any old stuff. But with certain-induction systems a mechanical genius, armed with a pot of stuff which makes birdlime seem as thin as Government beer, cannot eliminate air leaks more than once in ten tries. So I plead that this bombardment of sample tins may cease; there is no advertisement in it for anybody. Incidentally most of these patent nostrums strike me as unnecessarily expensive; I know few motoring accessories which are dearer, except the dopes which are sold for rendering goggles and windscreens transparent in fog and rain; and everybody knows that such dopes have melted platinum as a basis.

Cowling Air-cooled Car Engines.

QUITE agree with Messrs. Enfield-Allday that they have evolved the most carefully thought-out system of cowling an air-cooled engine which I have yet seen, but I think they are in error in imagining that the Palladium people and, themselves are the only firms who have adopted cowling. In actual fact, the balance is about even, for the only uncowled carengines of my acquaintance are the C.A.R., G.N., and Morgan. But are Messrs. Enfield-Allday quite accurate in all their deductions? Reference to The Autocar for March 12th, in which a 750 mile trial of the C.A.R. was described, will give them ground for believing that the uncowled C.A.R. is as well cooled as any small water-cooled engine, although its fan and air draught do not employ cowling. Similarly,

Occasional Comments .-

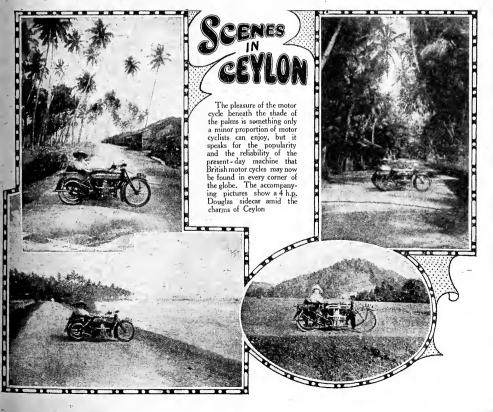
the G.N. has accomplished an engine non-stop from London to Edinburgh. The exposure of cylinders to weather, mud, and dust does not necessarily render the cooling unsatisfactory, as their letter implies; it merely tends to disfigure the car by rusty and stained excrescences, and so to prejudice potential buyers against the new cooling. To my mind, if efficient design be taken for granted, the question whether to cowl or not to cowl resolves itself into a battle between the superior appearance of cowled engines and the superior accessibility of uncowled engines. An aircooled engine can hardly be better cooled than the, uncowled C.A.R.

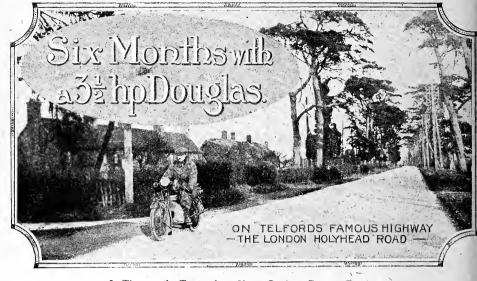
The New A.B.C.

PRODUCTION now seems to have begun in the Sopwith factory, and the agents' windows at last afford country riders a chance of seeing this most interesting machine. One or two further modifications are noticeable. Difficulties have been encountered in connection with the proposed gear box drive for the speedometer, which is now operated off the front wheel in the ordinary way; and the kickstarter is not at present being supplied, though I understand that purchasers will be given the option of buying one as an extra in about three months' time. The machine attracts keen attention wherever it goes, and its acceleration is quite of the Henderson or T.T. Norton type,

Soldering Outfits.

YERY motor cyclist should stock a bantam soldering kit of the Tinol or Fluxite type. The art is easily learnt and is extremely handy for repairing Bowden wires, petrol and oil piping, etc. Moreover, it is absolutely essential where electric lighting outfits are used. In many such outfits the final copper cables are soldered into short plugs for attachment to the lamp sockets. This system gives little or no trouble on a well-sprung car, for the wire is not subjected to any special strain if an owner handles it carefully, though even on cars the cables will not always stand repeated removal from the lamp But on most motor cycles there is a fair amount of vibration to be reckoned with, and the brittle cable may have no real support for an inch or so below the plug. Fractures at this point are not uncommon with certain types of fitting, and as they may often occur at awkward times I would not own an electrical outfit unless I carried a pocket soldering kit and knew how to use it.





A Thorough Test of a New Spring Frame Design.

T was during the 1919 Six Days Trials that we fell to the charms of the 31/2 h.p. Douglas. Though we had closely followed its progress while other work claimed our attention, it was not till the first big post-war reunion of motor cyclists at Llandrindod Wells that we fully appreciated its many Perhaps it was the Welsh surfaces that clinched the argument in favour of the spring frame, whilst the engine, "just a little bit larger," proved a great attraction for an enthusiastic rider of a 234 h.p. model. Next came the vital question of delivery. Owing to the fact that the model was experimental and a few sets of parts existed, it was not long before we "took over" at Bristol. Before leaving, we were given to understand quite

clearly that the machine, in its existing state, embodied several features which were more or less experimental and might be considerably modified before reaching

of possession, and early the following morning we set off to Coventry for the first trip.

Business at Malvern led us to deviate from the direct route. though the bumpy surface of the Bristol-Gloucester road was sufficient to demonstrate the excellence of the rear springing. While in the neighbourhood of Mal-

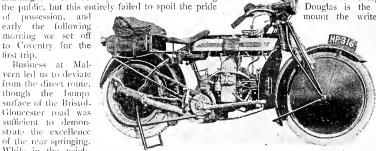
vern, the temptation to try the new machine on the Old Wyche cutting overcame us, and, in spite o the fact that an experimental carburetter was fitted which would not run with the throttle more that half open, the ascent was accomplished with ease.

Since this preliminary journey, and with the exception of one week, when at the makers' request the machine was returned to the works for the fitting of a more efficient type of cylinder, the machine has been on the road daily, and the only road stoppages have been occasioned by a faulty chain link, easily replaced and a broken belt-not a bad record for the time.

Once only has the engine been stripped for decar bonisation, and on this occasion the facility with which the engine was removed from the frame by merely undoing three accessible bolts and the necessary petro and oil connections was greatly appreciated.

Without exception, the 31/2 Douglas is the most comfortable solo mount the writer has possessed; the

engine with its rolle big ends set closely together is ordinarily free fron vibration at speed, and thi absence of dither combined with the excellent front and rear springing, give an entirely deceptive idea of road speeds with the result that one travels consider ably faster than one



Fully equipped for the road. The appearance is enhanced by the aluminium Ace disc wheels.

Six Months with a 31 h.p. Douglas .-

thinks. Indeed, on one or two long runs goodly averages have been maintained without any fatigue or impression of high-speed travelling. Those who are fearful of the instability of spring frame machines should take note of the fact that both rear frame and forks are adjustable for lateral play, and that, after five months' hard work, the wear was imperceptible, and the slightest movement of the adjustment locked the frame rigidly.

Footboards, with an underscreen and sensible mudguards, keep the rider reasonably clean, but the addi-

tion of a combined leg shield and underscreen, with the latest type of aluminium Ace disc wheels, have combined to make a wonderfully weather-proof and easily cleaned machine. Incidentally, it may be added that the disc wheels have caused no inconvenience after the first day or two.

Refinements.

Oil is fed to the front cylinder only by a small vane pump driven by gear from worm intermediate timing wheel, the flow being controlled by 'a needle valve and sight-feed indicator. Once the drip has been regulated correctly, one can forget about lubrication, except for a prolonged blind or long steep hill, when a partial turn of the needle valve is all that is required.

The magneto can be removed— by merely slacking two set pins: The clutch is remarkably sweet in action and has a

very light pull for the handle-bar control. The gears change easily and are quiet in action, and the twelve inch armoured toolbags mounted on either side of the sprung carrier enable one to carry a reasonable supply of tools and spares without fear of damage from road shocks.

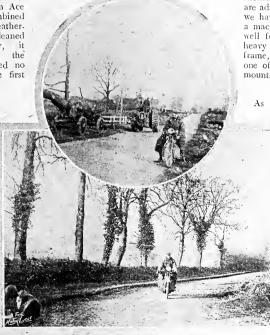
The main frame lugs are made from steel forgings, instead of the more usual malleable castings, and grease cups of sensible proportions replace oil fillers wherever practicable. One other feature seldom included in a modern specification is the adjustable pulley, which is the greatest boon to one who rides in all weathers and in all parts of the country, and, incidentally, furnishes an easy way of taking up a slack belt, provided that the belt is not already at the top of the pulley.

It is not easy to criticise a "hand made" experimental model without giving an unfair idea of the final article, so that it should be remembered that the following remarks apply to the actual machine delivered to us in October, 1919, and not to 1921 models, which, we understand, are to be modified. First, we would recommend a rin, belt in place of the present 7/8 in. belt now fitted. Next the rear mudguard, which moves with the sprung rear wheel, requires better support, and more room should be given to facilitate wheel removals, and, thirdly, the foot brake is capable of considerable improvement: beyond these points and the silencing arrangements, which are admittedly in a state of flux, we have nothing but praise for

beyond these points and the silencing arrangements, which are admittedly in a state of flux, we have nothing but praise for a machine which, with its seat well forward, 26 ×2½in. extra heavy tyres, and excellent spring frame, may be considered as one of the most luxurious solo mounts ever produced.

On the Road.

already stated, the machine is faster tlian would appear from first impressions, and, though the maximum attainable speed has not been tested, it is such that the machine has never yet been all out on the level, except for occasional bursts when carburetter testing. etc. Most of the Midland test - hills. such as Sudeley, Gambles Lane, the Edge Hills, the Old Wyche, and suchlike, can be ascended with consummate ease, and we cannot help expressing the opinion that, when the 3½ h.p. is placed on the market in

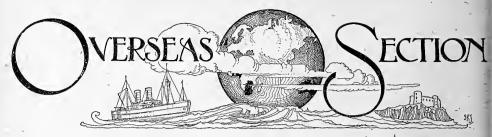


(Top) The Douglas on a fine stretch of road near Dunchurch. (Lower) Ascending the "easy" side of Newnham Hill, near Daventry.

ultimate form, it will-enjoy a popularity even greater than that of the 234 h.p.

The machine has been equipped with a four-volt forty ampère accumulator carried in a strong wooden box on the left-hand footboard. The current is supplied to a half-watt bulb in a Hunt head light, and has provided a satisfactory source of illumination for short evening runs throughout the latter part of the winter.

In conclusion, it may be added that the 3½ h.p. is fully capable of sidecar work, as has been demonstrated by works machines, but, in spite of the natural desire of a family man for occasional passenger-carrying, the writer has so far refrained from any form of passenger attachment.



A Commentary based upon Practical Experience and a Study of Overseas Opinions.

THE new scale of taxation which is likely to come into force in 1921 will hit motor cyclists hard. There are many who own old machines, picked up for a song in pre-war days, which, by means of careful attention, are capable of conveying a sidecar containing as a rule the wife and family. These outings take place only on

occasional week-ends, and the total annual mileage is very small. To such as these a £4 tax will form the last straw, and the faithful mount will have to be sold or laid aside till better times arrive. To some degree buyers will be restrained from purchasing new mounts on account of the combination of high prices and increased taxation,

but the majority of motor cyclists will remain motor cyclists in spite of all. If British manufacturers could succeed in turning out a surplus due to a decrease in sales-an unlikely occurrence-they would be forced to divert a greater proportion of their products Overseas.

161 161 161 The Results LOOKING around the of Suggestion. machines gathered together at the start of

any big competition, one is immediately struck by the change in modern motor cycles. Big wheels, big tyres and tanks, spring frames, and rigidly constructed motor cycle and sidecar chassis are the order of the day. Urged by our Overseas readers, we have never failed to

emphasise the value of these features, and the results are now beginning to show, though they have naturally taken time to develop. It is rather curious to note that, while tyre sizes in this country are steadily increasing, those in America are decreasing. This, cf course, refers to outside diameter; the tyre sections of both countries tend to increase.

Flexible A SIDECAR chassis must be strongly con-Sidecars.

structed if it is to withstand the severe strains to which it will be subjected, but the matter of sidecar attachments has not yet reached its full development. Flexible sidecars were tested

and discarded in this country many years ago, but rigidly attached sidecars are very hard on cycle frames, and it seems not improbable that semi-flexible attachments will be developed before long. The advent of spring frames will hasten developments along these lines, but in-the meantime a well-sprung sidecar wheel goes fartowards solving the

problem.



SIDECARING IN EGYPT. An Ariel outfit posed in contrasting surroundings-a typical native mud hut and the Sidi Gaper Mosque, Alexandria.

Gear Ratio. It is a curious fact that many big reliability trials are far more suited for testing machines destined for Overseas use than for work in the British Isles. In spite of the evil road surfaces frequently encountered in post-war days, no ordinary tourist requires a mount to climb such hills, for instance, as Aultnaharie. Nevertheless, the inclusion of really severe hills and bad surfaces is necessary in order to eliminate weaklings, and to form a test for reserve engine power and brake efficiency. Such tests have, however, led to the bad practice of gearing standard machines too low for their normal work. In England the average rider does 90% to 95% of his work

on top. Why, then, some ask, pay for the weight and complication of a three or four-speed gear box? It is not suggested that three or four ratios are undesirable, but, rather, that the top gear should be higher and the lower ratios in proportion. Gear changing on the modern motor cycle is so simple that the veriest tyro can hardly make a mistake.

Overseas Section .--

Passenger At the present time an interesting Machines. situation has arisen with regard to the future of the light passenger vehicle. Sidecar machines of 1,000 c.c. are only really

necessary in a few districts of the home country, and they have become so luxuriously appointed and so fully equipped that their prices have soared past those of the cheaper and lighter three and four-wheelers.

Now, it requires a very enthusiastic motor cyclist to deny himself the extra comfort and protection of a proper seat, with screen and hood in case of bad weather, and it only remains for the runabout to prove that it can do the work of the motor cycle at the same cost.

The public is much interested in the problem, and 1920 should be able to provide a fairly satisfactory answer. There are many who maintain that it would be a simple proposition to turn out a two-seater at a lower price than a motor cycle and sidecar, and though the designs might be somewhat unorthodox it does not follow that they would be any the less sound.

0 0 0

Competitions. THE competition programme for 1920 has already been arranged, in so far as the more important events are concerned, and a bright and interesting season is assured provided that labour troubles settle quickly enough to allow manufacturers to produce their new models in time for forthcoming events.

The amalgamation of clubs to run a big event in each district is desirable in every way, and signs are not lacking of a tendency in this direction; indeed, a fusion has already occurred in more than one case.

Trials are a healthy stimulus to the trade provided that they are well-organised, but the A.C.U. has done well in limiting the number of open events, as fewer trials better run are undoubtedly preferable.

A Selection of Letters from Readers scattered all over the World. Motor Cycles in Portugal. Prices in India.

Mn. F. S. Rowe, Lisbon, Portugal, discusses tyre valves: "Having bought a new 28 x Jin. inner tube of Dunlop make from the agent in this city, I was astonished to find that the valve was of the pedal cycle type. As all the motor cycle tyre pumps in use in this country are arranged motor cycle tyre pumps in use in this country are arranged to fit Schrader (car type) valves, is it not damaging to British firms to attempt to sell material which the buyer would find great difficulty in using?

"Why not adopt the Schrader valve in England, anyway?
With its double seal, it is much safer than the other type.

"The Americans are doing a tremendous business here in motor cycles. Why are no British machines being offered?"

Pillion Riding in New Zealand.

One of our correspondents in New Zealand evidently sees humour in the attitude of the majority of people in this country anent pillion riding. He sends a photograph of his American Militaire machine (unfortunately, unsuitable for reproduction), which he uses as a solo mount and sometimes carries a passenger on the rear mudguard. He writes as follows: "I am amused at the excuses put forward by your correspondents who are anxious to abolish pillion riding. Are or were they ever motor cyclists, or are they simply looking for trouble? They are evidently made of different stuff from the Colonials, as out here it is an uncommon sight to see a cyclist touring alone. It is always two up, and it is not uncommon to see American big twins loaded up with three. My present machine is an American Militaire four-cylinder. It has no pillion seat, but I can carry a passenger on the rear mudguard."

American Flat Twins in the Argentine.

A correspondent living in Buenos Ayres says: "I recently purchased an American flat twin for £85. Some machines recently arrived in the Argentine, and were all snapped up at once. I have not had mine running long enough to pass criticism on it, but it certainly strikes me as being a pass criticism on it, int it certainly strikes me as being a very sound proposition and exceedingly cheap at the price. I think it will be a very long time before English manufacturers can market a similar model at this price out here. A 1913 fixed gear single-cylinder clutch model English r.o.tor bicycle cost 650 dollars about a year ago, and now none are to be bad. A popular English single-cylinder is about the only British machine to be seen out here in any numbers, nd taken all round these machines are very unsuitable for and taken all round these machines are very unsuitable for the work they have to do. I had one before I got the American mount, and found it impossible to do any serious long-distance riding, as the machine was quite incapable of standing up to the frightful roads in this country. I wad all the letters published in the Overseas section of The Motor Cycle with great interest, and back up the necessity for a real colonial model motor bicycle of English manufacture. But I must admit that unless they are practically the same price as the American machines, they would have no sale here. A 7-9 h.p. Harley only costs 1,050 dollars, which, at the present rate of exchange, is under £100.".

In sending us a Triumph agent's advertisement which appeared in the Calcutta newspapers, an Indian correspondent draws attention to the prices of these machines, i.e., 1,400 rs., which at the present rate of exchange represents 2165 6s. 8d. "I believe," he writes, "the current price of the same model Triumph in England is £97 (plus some per cent., which does not bring it over £110), and I think that the Association of Motor Cycle Manufacturers might take

the matter up and see if anything can be done,
"There is a magnificent market in Calcutta for all makes of English machines, but all we see are Harleys and Indians, and it really makes one disgusted to find that our makers are not even represented, and when a specimen does appear the price is far beyond what the man who wants a motor

the price is far beyond what the man who wants a move bicycle can afford to pay.

"I should esteem it a favour if you, with your wide circle of influence, could do anything, and perhaps the Triumph Cycle Co., Ltd., and other firms could try and see if machines could be exported to India, and be sold at the English price, where the state and drive only." plus freight and duty only.

Oriental Preference.

"PLANTER," writing from Gula, Perak, F.M.S., speaks of the big potential market in the Straits Settlement: "In this epistle I do not intend to follow the usual practice of Colonial readers, and will refrain from burbling about Colonial reads, large tyres, spring frames, etc., but merely append a few notes for the benefit of manufacturers and agents, which, if they mark, learn, and inwardly digest, will save them time and money if they mean to send motor cycles

out East.
"This country and the East Indies are crowded with potential buyers—Orientals—who, with regard to motor cycles, are where we were ten years ago. To sell a motor cycle to any of these the manufacturer must note the

following:

"First, three-speed gears and chain-drive are useless; the agents out here can point to a caseful of spare chains.
"The country is as flat as a pancake, and the average Celestial never by any means adjusts his chains, and it there are no spares he is right in his antipathy to chaindrive. The American chain-drivers sell well, but then the 'service' is excellent. The manufacturer should take for his model the 1909 type of 'bus, single cylinder, belt drive, and free engine. This last is thought the limit of useful advancement.

"Secondly, the most important item of all is the handle-bars. If they resemble 'semi-T.T.,' the machine is branded. Make them narrow, lengthy, and totally horrible, and they are 'it.' The other day I tried to sell my machine: a hot stuff 2½ h.p. spring frame, two-speed, chain-driver. The bars stun 22 h.p. spring frame, two-speed, chain-driver. The bars had a bump in them, and it was a wash-out. I am on an outstation, and sometimes get the dry heaves, but *The Motor Cycle* always bucks me up, and my bicycle is worth its weight in gold to me, being the only means of communication with the nearest white man."

Further Additions to the Two-stroke Ranks.

A Well-equipped Lightweight and a Machine for the Italian Market.

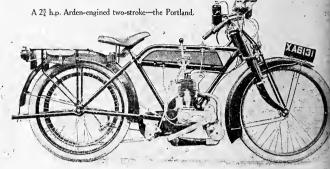
THE PORTLAND.

THE most recent addition to the existing large stock of machines at
Mandes' Motor Mart, 100, Great
Portland Street, London, W.1, is a twostroke, employing a 23 h.p. Arden engine unit, which has been placed on the market by this firm. The machine will be offered to the public at a low figure. The Arden engine unit has been previously described in The Motor Cycle, but an Amac carburetter and a Best and Lloyd lubricator have been standardised. The Albion two-speed gear box is used.

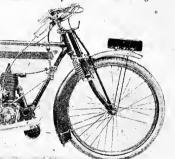
Spring Footboards.

Appearance has been improved by slightly tapering the tank, and the saddle provides a very pleasant riding position. A feature in the design of this machine which greatly adds to the rider's comfort is the spring footboards. The rear ends of these are pivoted to the rear footboard spindle, while the front spindle is provided with a sleeve, on which are two plungers reciprocating in sockets cast with the sleeve.

Saxon spring forks are fitted to the front wheel, and the equipment supplied



with the machine includes a roll of tools and a pump. The temporary chain case at present fitted will, in later models, be substituted by an aluminium casting.



The Hampstead two-stroke, a T.D.C.-engined machine, which is to be placed on the Italian market by a London firm

THE HAMPSTEAD.

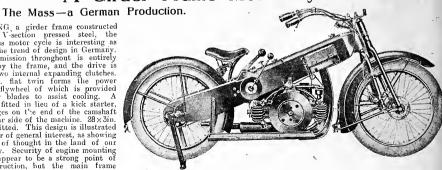
A LIGHT machine with a. T.D.C. A engine and Albion two-speed gear is to be placed on the Italian market by Messrs, Motors, 78, High Street, Hampstead.

The layout of the machine follows conventional lines, and the frame has a dropped top tube. No secondary tube is fitted under the tank, and this is a feature which is not in accordance with accepted practice..

An E.I.C. magneto is driven directly off the end of the mainshaft, a platform being provided on the off side of the crank case. Gas is supplied by a Senspray carburetter, which is clipped directly on carburetter, which is clipped directly on to the short induction stump cast integral with the cylinder wall. Druid spring forks are used, and the handle-bars are of the semi-T.T. pattern. No doubt on account of the forward riding position provided, the two-speed gear control is mounted on the front down tube of the frame, where it will be within convenient

A Girder Frame Motor Cycle.

AVING a girder frame constructed of V-section pressed steel, the Mass motor cycle is interesting as showing the trend of design in Germany. The transmission throughout is entirely enclosed by the frame, and the drive is through two internal expanding clutches. A 7½ h.p. flat twin forms the power unit, the flywheel of which is provided with four blades to assist cooling. A handle is fitted in lieu of a kick starter, and engages on the end of the camshaft on the near side of the machine. 28×3in. tyres are fitted. This design is illustrated as a matter of general interest, as showing the trend of thought in the land of our late enemy. Security of engine mounting does not appear to be a strong point of the construction, but the main frame should be both light and strong.



A desi- n permitting the total enclosure of the transmission within the frame

AMONG THE ACCESSORIES.

A Selection of the Latest Ideas in Motor Cycle Equipment

EVERY week sees a large number of new accessories on the market, and the pressure upon our space compels us to deal with them briefly. In the majority of cases, however, very little description is necessary, since the illustrations are adequate in this respect.

illustrations are adequate in this respect.

Three types of horns are illustrated—an electric model by the Apollo Plug Co., Moseley Street, Birmingham; a mechanical horn by S. Smith and Sons, Great Portland Street, W.1; and a new type of bulb horn, which has been placed on the market by A. W. Gamage, Ltd., Holborn, E.C.4. The lastmentioned has a straight trumpet, in which he sound issues from the reed and through an inmer cone, thus obviating the use of several

twists.

In leather goods, there is a In leather goods, there is a useful draw type valise for the carrier and a spare tube container, both marketed by Dunhills, Ltd., Enston Road, N.W.1, and a belt for the motor cyclist who carries a passenger on the pillion, which is sold by Macklins, 157, Dale Street, Liverpool.







The "Vibra-tomic"



The "Easy" adjustable eat for juvenile side-A Smith mechanical car passenger, horn.

Apollo

electric horn.



Sidecar owners will be interested in the Sidecar owners will be interested in the adjustable and collapsible child's seat introduced by Mr. A. W. Ayden, 63, Walm Lane, Cricklewood, London, N.W.2. This seat provides the option of three positions, and, when in a collapsed position, measures only 18×9×6 inches. Its weight is 6 lb. Another sidecar accessory is the Arco folding grid for fixing to the sidecar hody. It is of

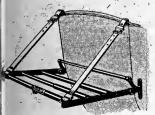
for hxing to the sidecar hody. It is of telescopic construction, permitting it to be fitted to bodies of varying width. The aluminium number plates illustrated are sold in sets of numbers by Arthur Gough, 173, Brond Street, Birmingham, and when fitted to the usual number plates the fixing rivets are not visible. 21s. is charged for three sets, 2s. extra being charged for fitting.







Dunhill's valise, size $15 \times 7\frac{1}{2} \times 6$ in., which sells at 30s."



Arco telescopic grid, for which £2 2s. is charged. -

An Atomiser.

Intended for fitting to any existing make of single jet carburetter, such as the B. and B. or old pattern Triumph instruments, the Vibra-tomic atomiser illustrated is marketed by Vibra-tomic, 107 Vivis P. Devel Position. 103, King's Road, Peckham, S.E.15. It consists of a small tube, chisel-shaped at the npper end, on the outside of which is a loosely fitted spiral spring. On the flats of the top portion two slots are cut, over which are balanced two fine mesh gauzes secured only at the top. Suction in the jet causes the petrol spray to issue from the slots and impinge upon the two gauzes, which are vibrating in the air stream.

A means to lock a motor cycle stand has been brought out by Morgan and Green, 24, Chancery Lane, W.C.2, and the construction is clearly shown in the accompanying sketch.

The Manchester Welding Co., of 20, Hardman St., Deansgate, has introduced a silencer on the vortex principle, in which the use of baffles is eliminated.

It is well-known that if the hot exhaust gases can be reduced in temperature and pressure to those of the atmossilencer under review aims at cooling the gases by its internal arrangement.



Macklin's safety belt.



Morgan and Green's stand lock.



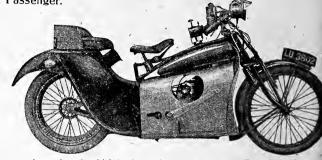
A silencer on the vortex principle.

A TANDEM-SEATED MOTOR BICYCLE.

A Motor Cycle designed to give Increased Comfort to the Pillion Passenger.

DETAILS of a striking new design have been placed in our hands, the salient features of which mark a further step in motor cycle construction, which will help to make the two-wheeled vehicle a comfortable and clean mode of transport for two persons. Judging from the mudguarding and engine protection, the general lines of the frame, and the proposed engine and transmission, it should secure a popular market amongst the high-powered touring motor cycles.

the mudguarding and engine protection, the general lines of the frame, and the proposed engine and transmission, it should secure a popular market amongst the high-powered touring motor cycles. The illustrations depict the first experimental model, designed by Mr. Arthur E. Hagg, 151, Audley Road, Hendon, London, N.W., who has held the post of assistant chief designer to the Aircraft Manufacturing Co., of Hendon, where this machine was constructed. The object of the designer has been to provide a machine equipped with an engine of adequate horse-power to carry two persons and luggage in comfort without reducing the handiness of the machine for use as a solo mount. As the provision of an additional seat forms one of the principal features, stability has received considerable attention. The improvised pillion seat placed on the carrier of a solo machine often necessitates, very cautious control, because the passenger's weight is largely in the rear of the back axle. This disadvantage has been rectified in this machine, and, moreover, the lateral stiffness of the rear suspen-



An experimental model designed expressly to carry two persons. The enclosing of the power unit and transmission has been effected quite satisfactorily

in the photograph, the twin air-cooled cylinders will be placed vertically side by side. The exhaust ports face a hole cut in the front shields, the draught through which, aided by the partial vacuum created by the air rushing past apertures cut in the engine cowling, will ensure adequate cooling of the unit. Detachable cylinder heads will be fitted, whilst the construction of the cylinder, types of which have been tested for a considerable time, will provide a high power output and

prolonged efficiency. A three-speed gear box will be contained in the crank case casting, having the lay-shaft constant mesh pinion in direct engagement with a pinion mounted on the crankshaft. The final drive to the rear wheel will be by a short enclosed roller chain in lieu of the belt fitted to the experimental model.

A special type of ignition will be standardised, which will also provide the source of illumination for the electric lighting equipment.

ment.
A 3½ h.p. Precision
two-stroke, having a
bore and stroke of
74×81 mm., 350 c.c.,
has been utilised in
the experimental
model, and is held in
position by plates
fixed to the centre of
the steel undershield,

on either side of which are fixed the footboards. A Burman gear box is mounted on a steel platform fixed to the undershield.

The construction of the frame provides a comfortable and low riding position. Two tubular frame members, which are held to the front end of the under pan, extend diagonally to the rear, and are fixed to an extension of the rear end of the tol tube (see fig. 1). Two similar member are fixed at the same point on the under shield and form the attachment to the steering head. In place of the



Fig 1.—Rear suspension system and undershield. Observe the unique frame construction

usual saddle tube is a triangulated construction, the top member of which forms a horizontal seating for the saddle Steel stampings are used in the existing rear suspension, and will be used to are even greater degree in the final design. Located vertically below the saddle, is an enclosed coil spring, housed in a steel cylinder. A sleeve around this attached on either side to the rear



A rear view, showing how effectively the mudguarding has been carried out,

sion system forms one of its most striking features. A low centre of gravity is obtained by housing the engine at the lowest possible point, and a 5ftt wheelbase renders it stable on greasy

An 8 h.p. overhead valve air-cooled engine will be fitted to the machine when marketed in place of the two-stroke shown



, Tandem-seated Motor Bicycle .-

ork stampings, and the whole is capable f a reciprocating movement which comresses and expands the spring. ircular member is placed between, and secured by rivets to the two stampings, he centre of which forms the fulcrum only, which consists of two studs pro-ided with grease cups. These studs re held in position by the rear side hields, attached to the frame below he saddle and to the rear ends of the ndershield. The rear member (fig. 2) ombines the mudguards, carrier, and illion seat, the latter being mounted in flanges and adjustable.

The gear operating mechanism (fig. 5) somewhat unique. As may be seen in the illustration, the selector rod protrudag from the top of the gear box is conjected by a rod and lever to a horizontal

spindle, held in bearings fitted to the Laterally attached to the undershield. spindle at the front end is a lever provided

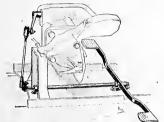


Fig. 3.-The loot-operated gear control

with a pedal at either extremity, which latter emerges through slots cut in the engine cowling. Pressure exerted on the near side pedal engages the low gear and on the off side the top gear. The neutral on the off side the top gear. The neutral position is, of course, provided when both pedals are horizontal. A ratchet device will, in the later models, be provided for retaining the pedals in any required position. A hand-operated clutch is used and a neat hand-starter is attached directly to the kick-starter spindle.

Access can be obtained to the engine by releasing the spring clip on the top of the cowling and by withdrawing two long bolts, when the shields may be totally removed.

During our trial run on this machine the absence of rattle was noticeable, though a higher-powered engine was required for general utility.

A Duplex-framed Scooter.

The G.S.C. Autocyclette, which has a Rigid Frame with Spring Insulation for the Rider.

A NEW design by Capt. Smith Clarke, who has been responsible for the lay-out of several well-known scooters, as just been completed. An experimental model was recently demonstrated o us by its maker, Mr. J. W. Clarke, of llenvoy, Waverley Road, Kenilworth, nd it appears to have several advantages truction is exceedingly simple, and acilitates assembling. It is completely riangulated, and a minimum of brazing s used in building, most of the tubes eing detachable and secured by bolt nd unt fixings,

Owing to the fact that the frame con-ists entirely of completed triangles, the ixing by bolts and muts through the pices of these is in no way detrimental o the continued stability of the frame, s each member is in direct compression nd tension, bending stresses being liminated.

- A Long Steering Head.

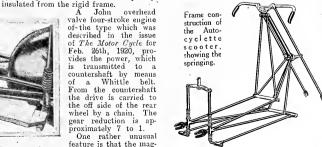
An objection to many scooter frame lesigns is that the steering head is very hort, and this may seriously affect the teering. In the frame under review, towever, the steering head is of excep-

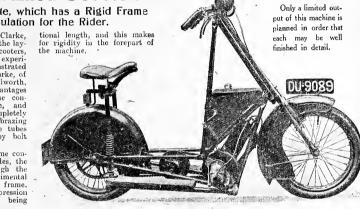
It will be noticed that two tubes are pivoted on the lower front cross member. one on each side of the main frame, and these are connected to two springsupported vertical rods working in guides, which form an integral part of the rear fork ends.

The vertical rods carry the support for the saddle, the upper surface of which is only 24in. from the ground. The long pivoted tubes carry the footboards, and in consequence the rider is completely

neto runs at engine speed, being connected to an extension of the main shaft by a coupling; consequently there is an idle spark when the piston reaches the top of the exhaust stroke. This arrangement is adopted in order to simplify the power unit by eliminating a separate transmission to the magneto.

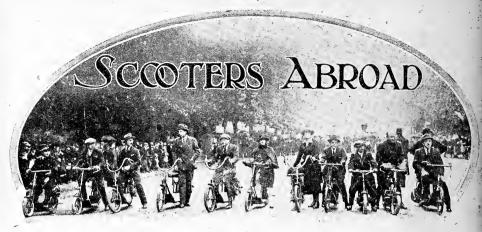
The size of the wheels is $18 \times 2in$, Palmer cord tyres being fitted, and the machine will be sold at about £50.





he transmission will impletely enclosed.

In the production models



Competitors lined up ready for the speed event in the Park of St. Cloud, Paris

A FRENCH TRIAL FOR MINIATURES.

THE first motor secoter trial ever held in France took place in the historic park of St. Cloud on April 18th, and was witnessed by big crowds, attracted probably as much by the amounteement that well-known actresses would be among the riders as by the machines themselves. Among the well-known artistes taking part were Miles. Mistinguette, Guyta Dauzon, and Myrtho Lavérne; M. Chavenal also took part.

Varied Tests.

There were three distinct tests, namely, a 220 yards hill-climb, with standing start; a speed test on the level, distance 1,093 yards, with standing start and finish and three sharp turns; and, finally, a driving test. The fastest machine on the hill was a Lumen driven by Dieudonné, which covered the 220 yards in 26§s. The second and third machines were of the same make. The Lumen is a French machine, fitted with a little overhead valve single-cylinder engine. In the speed test on the level, which also called for a considerable amount of flexibility as well as skill on the part of

the rider, owing to the standing start and finish and the three turns, the first four places were won by Skootamotas. The best time was made by Antony in 2m. 3\xi_8.

A Trial of Skill.

The leading figure of the competition was Mlle. Schweitzer, a French girl of only fourteen years of age, who showed wonderful skill in the handling of her machine. In this test, the competitors had to pass between two rows of skittles, swing round the end one, and return the same way. Four riders (Milc. Schweitzer, Antony, Colombel, Woolf) made this run without knocking down a single skittle, and as a final test the skittles were placed closer together and the turns made more difficult. this final, Mlle. Schweitzer knocked down two skittles, and thus secured first prize, for among her competitors Antony over-turned three skittles, Woolf knocked down seven, and Colombel eight.

Final results were arrived at by adding the times made on the level and on the hill, and gave the following results:



Dieudonné, winner of the hill-climb, on the Lumen scooter.

The Institution of Automobile Engineers.

The last London meeting of this session will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W.I., on Wednesday, May 5th, at 8 p.m., when Major B. H. Thomas will give a paper on "The Electro Deposition of Iron as applied to Motor Vehicle Repair Work." This process was evolved in the Army during the wâr, and was found to result in very great economies in the saving of warn parts of vehicles, and should prove of great use in peace time.



Mademoiselle Schweitzer, fourteen years of age, winning the driving test.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

PRICES.

Sir,—At Christmas I broke the oil pump glass on the dashboard of my runabout. I wrote to the car makers for a spare, and was quoted 3s. I waited three weeks, and could not get delivery. I then went to a factor's ten miles away, and he delivered in ten days post free for 9d. Would American firms treat their clients like this?

JOHN PEEL.

Sir,—Requiring some Renold chain, I wrote to three dealers in motor cycle accessories. One quoted me 6s. 4d. per foot, another 7s. per-foot, the other 8s. per foot. The second man was charging 2s. 6d. carriage. 1s. was the actual cost.

I feel it my duty to warn your readers requiring standard parts to write round the market.

Profiteering can only be stopped by refusing to deal with

profiteers. Torquay.

PROPOSED RE-UNION OF EX-D.R.'S.

Sir,-As an ex-D.R. of the Royal Engineers, I should SIT.—As an ex-D.R. of the Royal Engineers, I should be pleased if you would, through the medium of your valuable paper, insert this letter, in the hope that it may be seen hy many of the "old hoys" who originally enlisted in the D.R.'s, with the idea of holding a reunion. I notice that many other units are doing this. I am rather surprised that we have not had something of this sort ere this, and I am sure there are others who hold the same opinion. F. CUTWELL, ex-Cpl., R.E., 73040.

GOOD SERVICE.

Sir,—A friend and I started last Good Friday on my 4 h.p. Triumph combination for the south coast, but were 4 h.p. Triumph combination for the south coast, but were held up about twenty-six miles from Coventry on account of the bearings firing in the back hub, causing the wheel to be put entirely out of action. This, I may state; was my own fault, by adjusting the cones too tightly without removing the belt. Being near to a telephone I rang up the Triumph Co. at Coventry, explaining my trouble, and immediately they sent one of their testers to the place where I was stranded, with a new cone complete. We were able to continue our incurrery with a delay of one and a half hours, and I was journey with a delay of one and a half hours, and I was charged for the new part only, nothing for the fifty miles

which had to be travelled to put the machine right.

I have had several makes of machines, but never expected the service that was shown to me this holiday time.

Birmingham. MORE THAN SATISFIED.

INTER-CLUB COMPETITIONS.

Sir,-I was quite pleased to see your leading article on

club teams in big trials.

I think that inter-club competitions should be more numerous, and I am hoping that, as a result of the discussion at the last general meeting of the Union, it may not be long before the whole of Great Britain have their centres organised and can challenge one another in inter-team competitions.

I also think it will be quite possible that the A.C.U. might not only give a club team prize confined to amateur riders representing clubs affiliated to the Union, but might also

offer a prize to the best team representing a centre on the same lines.

I am extremely pleased to notice your suggestion that no trade entrant be allowed to ride at the same time as a

member of the club team. I believe that if the trade were to stand down from competing in club trials that a large amount of dissatis-faction and lack of keepings amongst bona fide amateurs would be avoided, and clubs would be better supported. The trade could do their usual by supporting the club as members and by carrying out various duties doing the general work of the club.

S. W. PHILLPOTT.

THE REAR SPRINGING PROBLEM.

Sir,-There is no doubt that "Chinook's" article on the Sir,—Interests in doubt that difficulties of rear springing is excellent, and shows that he is in touch with both sides of the question, viz., both from a rider's point of view and the manufacturing problem, but I wonder it any one system of rear springing can beat. the following:

(1.) Everything insulated except mudguard and wheel. (2.) An almost unlimited range of springing without any alteration of chain length, allowing the use of a spring to carry an extra fourteen stone on carrier if desired.

Entirely free from side play under all conditions. Extra weight on cycle about 8 lb,

(5.) In case of a broken spring, machine can be ridden by putting springs out of action.

(6.) Very little alteration in frame design; in fact, can

be adapted to an existing motor cycle.

(7.) Wearing parts easily inspected, but dirt-proof.

(8.) Sufficient friction to stop too much liveliness.

(9.) Can be made at a nominal cost.

I do not wish for my name to appear, as I am not seeking advertisement, but would like a comparison with other systems. The above machine has been ridden 1,000 miles. It is not yet ready for the market, but we hope to have it ready in a few months. PROGRESS Southampton.



HOW TO BE POPULAR.

Sir,-May I encroach on your valuable space re the above and the research on your valuable space re the above matter. Your correspondent "B," in your issue of April 15th, states that one reason for the unpopularity of motor cyclists at hotels etc., is not tipping the staff when out at a club run or trial. I think this reason is very small, and instances are very rare, compared with my wider noted experience

Last summer I was staying at a small hotel in the West-Midlands, when a well known motor cycling club arrived for tea on its way home from a week-end trip to Llandrillo, N. Wales. The members ranged their machines outside the front entrance of the hotel, and completely blocked up the door. One produced a football from a sidecar and Shrewsbury to Wrexham, by starting a miniature football match on the road. Not satisfied with this, they kicked the ball over an adjoining wall into a private garden, dis-turbing some ladies who were having tea there. I afterwards found out that this club had made no previous arrangements for tea at this hotel on this particular Sunday afternoon. If this kind of thing goes on at all club meetings, the men concerned will soon suffer, as they will find that the general public resent such behaviour, and well behaved motorists will not tolerate it.

If certain people have been able to buy machines on their war earnings, there is no need to advertise the fact by behaving like a lot of street urchins; it is behaviour

such as this that makes for unpopularity. Birkenhead.

THE CARBURETTER FOR SCOTTS.

Sir,—I am sure that your readers who are Scott riders will have appreciated heartily "Wharfedale's" contribution in a recent issue of your excellent journal. He obviously knows the Scott from A to Z.

He has aroused my curiosity about his "hush" carburetter, and I trust he will soon be in a position to let his brotners of the road have the benefit of the discovery.

I would much like to have his opinion on the Scott carburetter. I cannot understand why the Scott people have abandoned it instead of improving upon it. It strikes me as being;

- 1. Fundamentally sound in design, with its dice-box barrel. 2. It is integral with the crank case, and is warmed up even to the float chamber by heat conducted from the crank case.
- It inhales warm air from the interior of the crank case. The only attention required is to remove the air-valve and give it a dose of engine oil every 500 miles, and to

and give it a dose of eaging on every 500 nines, and to ensure that the dash pot is lifting freely.

5. It gives 55 to 70 m.p.g. solo, according to road and weather conditions, and I have never heard of any other

carburetter doing better.

To my mind, the chief disadvantage of the Binks carburetter on a Scott is that it is exposed to the cold draught.

I find that the Scott carburetter acts satisfactorily if the magneto lever is advanced or retarded, according to speed required. Full advance at speed over 15 m.p.h., gradually applied, will give acceleration with

economy on the open road. Paisley. CLERICUS.

CARBURETTER DESIGN.

Sir,-Your correspondent, Mr. Holland, raises a very interesting point in The Motor Cycle of April 15th in connection with the theory of the Eta carburetter.

As you probably know, the theory on which the design of the Eta is based was formulated as the result of a somewhat exhaustive series of investigations carried out by Mr. Aspinall and myself (who are joint patentees in the Eta) into the general theory of carburation.

The original design was based purely on this theory (i.e., there was no preliminary experimenting), and a complete prediction of its performance was calculated. Within the limits of experimental accuracy, this prediction was proved absolutely correct, even to the exact mileage obtained —90 m.p.g. on a 3½ h.p. Rudge Multi and sidecar with petrol -except on one point, where it was absolutely wrong, for, basing our conclusions on the values obtained by other investigators for the effect of temperature on the kinematic viscosity of petrol, we expected that any considerable variation in temperature would result in a corresponding variation in mixture strength, as suggested by Mr. Holland.

As a matter of fact, in practice we have been absolutely unable to detect the slightest variation in mixture strength over the temperature range usually found in England.

The fact that the performance calculated from theory proved entirely correct in every other particular leads to the belief that the theory itself is correct, and there, therefore, seems to be some doubt as to whether previous investigators have not reached an incorrect conclusion as to the effect of temperature variation on petrol flow under the influence of a venturi pressure drop. These data are the only ones that we did not investigate ourselves, and we are about to remedy the omission.

We shall also test an Eta over a much wider temperature range than we have yet used, and will let you know the results we obtain, if you are interested. [We accept with

pleasure.—ED.]

We are carefully rechecking the theory of the Eta from a purely mathematical standpoint, but, as is frequently the case with matters that seem very simple, this is exceedingly complex, and will take some time. (The functioning of the venturi alone is affected by no fewer than twenty-one variwenter and is affected by no lewer than twenty-one variables all of which are ultimately integrated and cancelled by the injector!) The matter is only of academic interest anyway, as in practice there is no detectable variation, and that is all that really matters.

The heating up by the engine has no effect on the mixture actually supplied by the carburetter, but the heating up of the induction pipe certainly has a considerable effect or the induction pipe certainly has a considerable energine, on the mixture actually reaching the engine, as there is a large amount of deposition in a cold induction system. Running for half a minute on the pilot is quite enough to warm the engine sufficiently to give steady running on the,

coldest day

We consider that this trouble, which is not a carburetter fault, but which is more pronounced with accurate carburetters than with inaccurate ones, would be almost entirely eliminated if engine manufacturers would fit reasonably proportioned induction pipes. Most motor cycle induction pipes are far too large for the engine, with the result that at low speeds the gas velocity is insufficient to prevent the unvaporised fuel which is always present from settling on the walls of the induction pipe, and so producing an erratic mixture.

In conclusion, we are pleased to see the increasing interest that is being taken in carburation by the general motor cycling public, as shown by the number of letters on this subject which have appeared recently in the correspondence columns of The Motor Cycle, and which proves that motor-cyclists are at last awakening to the enormous influenceaccurate carburation has on engine performance.

G. WARNER PARR.



A group of Swiss military motor cyclists during mobilisation. The motor cycles are fitted with the famous M.A.G. engine, mounted on Enfield frames, with Enfeld changespeed gears. We have to thank Lt. M. Blanc, of the Swiss A.S.C., for sending this photograph



Members of the Birmingham N.M.C.F.U. at Bidford-on-Avon Much enthusiasm is shown by this section of the Union, and at most week ends a run is arranged.

RUNNING COSTS.

Sir,-The article by "W.W.S." on running costs is of great interest, and no doubt accurate, but I think it hardly gives in concise form the exact information that is desired by a person who anticipates taking up motor cycling. It is admitted that there are hardly two individual cases that present an exact parallel, but the majority of those who think of taking up the pastime have been able to beg, borrow, steal, save, or otherwise find themselves possessed of the necessary sum to cover the initial cost of the machine and its accessories, and what they want to know is how much they will have to set aside regularly out of their income to run the machine, and also, possibly, what the actual running cost per mile is in case they may be faced with the alternative of a train journey or a road journey, and wish to decide as to which is the cheaper. I think it is possible to give figures that may be relied upon to give this information with agures that may be relied upon to give this information with fair accuracy, so that everything, excepting exceptional expenditure arising out of breakages or other accidental causes not covered by insurance, may be closely estimated, and the average weekly expenditure calculated.

First, depreciation must not be taken into account. This

is too uncertain, and, if the machine is kept in repair, the ultimate loss when sold second-hand should be looked upon as capital loss, and not as part of the "running costs." The actual running costs during 1919 of my machine, a 1914 3½ h.p.

Sunbeam with sidecar, are as follows:

(a) Fixed annual expenditure, viz., insurance, licence, tax, subscriptions, (b) Actual running costs, viz., petrol, oil, tyres, and renewal of wearing 9 17 6 parts (mileage run, 4,393)... ... (c) Repairs arising out of accidental breakage and sundry other repairs 10 10 0

The greater portion of the last item was exceptional, and should not recur. An estimated annual expenditure of, say, 45 should cover easily all ordinary repairs, and, if the owner is lucky, even this sum would not be required. The cost per mile for (a) works out at .54d., for (b) 1^1_2 d., and for (c) .575d., or an inclusive total of 2.6d., for two persons, as against 3d. per mile for third-class railway fare. To compare the cost of any particular journey as against the cost of railway travelling only (b) need be taken into account, and this shows that two persons can travel at the cost of one railway ticket-a not inconsiderable saving.

As regards the figures comprising (b), the oil consumption was very heavy, and I found that I had been consistently over-oiling, due, no doubt, to over-anxiety in avoiding the other extreme. The petrol consumption was 62 m.p.g., and oil 488 m.p.g.! The oil consumption has been cut down very considerable, without any detributed of the consumption of the consumption of the consumption of the consumption has been cut down very considerable, without any detributed of the consumption of t considerably without any detrimental effect, and is now in the neighbourhood of 800 m.p.g. As regards tyres, the side-car tyre was old when the outfit was hought (second-hand). A new one has been fitted, and the old one retreaded to act a spare. Both have therefore thousands of miles of useful life before them yet. The front type has now done over 5,500 miles without a puncture, and is good for thousands more. The back tyre was replaced by a new one at about

5,000 miles, has been retreaded in readiness as a spare for the front wheel. As it is not advisable to use retreaded tyres on the driving wheel, it looks as if I shall accumulate more retreaded tyres than the front wheel is capable of wearing out. In arriving at the running cost, credit has been taken for the estimated value remaining in the tyres.

Hornsey, N.

PILLION RIDING AND SIDECAR OUTFITS.

Sir,—In the Manchester Evening Chronicle of April 13th prominence is given to a statement made by the coroner at an inquest held at Bolton enquiring into the deaths of two young men as the result of a motor cycle accident. One of the two was driving the machine, the other riding on the carrier, whilst a third person was in the sidecar attached, the

last-named escaping practically unhurt.
Without going into the details of the unfortunate tragedy, without going into the actuals of the unfortunate tragedy, may I ask you, through the medium of your columns, to point out the fallacy of the belief, which, apparently, the coroner had when he stated that he severely deprecated the practice of pillion riding, expressing his regret that there was no law to prevent it. I make this request because of its importance to sidecarists, feeling that you will agree with me when I state that the chances of accident with a pillion passenger on a combination are no greater than when riding

with passenger sidecar only.

I may here add that I have no trouble in manœuvring my machine with pillion passenger and minus sidecar either in the country, at speed, or in slow-moving traffic, though I refrained from comment when the discussion regarding the dangers attending this form of riding took place in *The Motor Cycle* a short time ago, because I do agree that since there are so many machines still in use without change gears and clutch the danger does exist, except where these machines are in the hands of experienced drivers.

.I do think, however, the time has arrived for a strong protest when a statement like the one referred to is made; for though in the case mentioned it may have been made, owing to wrong evidence, certain people, whose sole hobby is to attack the innocent and healthy pleasures of others, will is to attack the innocent and nearmy pressures of security seize this as an opportunity to obtain restrictions entirely J.M.C.

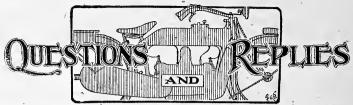
Northwich.

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle.

HINTS AND TIPS FOR MOTOR CYCLISTS," Containing over 400 useful "wrinkles" and helpful hints in regard to motor cycles. Seventh Edition, Just published. Price By net. "TRACING MOTOR CYCLE TROUBLES,"
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A selection of cuestions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tujor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal question; should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Blow-back through Carburetter. I get a good deal of blowback

through the Amac carburetter of my 23 h.p. Singer, which causes petaol to drip from the air cone. Is it the fault of the automatic inlet valve? Please suggest.—F.B.E. The blowback through the carburetter is probably caused by the automatic inlet valve spring being too weak or to the valve being allowed an excessive lift. Not more than \$\frac{3}{2}\$ in. lift should be

Quiet Exhaust.

Having a new 350 c.c. twostroke, I do not like the noise it makes, as I have always had a more or less silent machine. I know that it can be made silent.

because I have seen machines on the road that do not make any noise. How would you deal with the engine to make it quiet? Is it the tendency that under certain conditions a two-stroke will four-stroke that makes it noisy?—
SILENCE.

If a two-stroke engine commences to fourstroke, considerable noise may be expected. It is possible that the fourstroking is due to excessive oiling. You might also try the effect of fitting a long exhaust pipe.

Overheating and Gear Slip.

(1.) What is the cause of a 6-8 h.p. Rex twin overheating with the following valve setting: Inlet valve opens top centre; exhaust valve opens to be fore top dead centre (in advanced position); lubricating oil, Vacuum "T.T."; fuel, petrol; jet, .025im.; choke tube, §in. After about three or four miles the engine will get so hot that it pulls up. (2.) The cause of the two-speed hub gear slipping on top gear. I have adjusted this so that it is difficult even to turn the engine when the clutch is disengaged.—S.T.B.

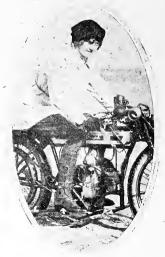
(1.) Apparently your trouble is caused by a defect in the carburetter, or, possibly, a combination of this and inadequate lubrication. We should recommend that you carefully check the petrol level in, the float chamber, and experiment with the fitting of various jets. Your valve 'timing appears to be correct, but verify the position of the piston at which the exhaust valve closes: this should not be before top dead centre. The ignition timing is somewhat late; let the points separate \(^2\)in. before top dead centre. You might also check the trans-

mission for any undue friction. The slipping gear mentioned in your second query no doubt has some bearing on the trouble. (2.) As you have already adjusted the hub to its fullest extent, it will be necessary to have the top gear band relined with suitable material, as the present lining is probably hard and glazed.

Hub Gear Trouble.

Can you tell me how to adjust the clutch of my Mark VII. Armstrong hub gear? Sometimes it will not pull out, and is worse when in bottom gear. The spindle or axle appears to be in two parts. Is that right? The clutch side moves in the back fork. The gear side is quite firm. Is this movement the cause of trouble? Otherwise, the hub appears all right, and I have no trouble with the gears.—F.K.

Apparently, the axle is broken, as there should certainly be no movement at either side. It would be best to have the hub dismantled and a new axle fitted. This trouble is no doubt the cause of the defective clutch action, and no amount of adjustment will put matters right.



Mrs. Eric Longden, wife of the well-known North-country motor cyclist, now in London, and formerly of Southport,

F.N. Tricycle.

I wish to ask a few question regarding an old F.N. four ordinder with Bosch magneto an carburetter marked "Depose Brevete." (1.) Are there as books published on this particula engine, also on the magneto and carbetter? (2.) Can I retain the registr tion number; if so, where do I.appl and what is the cost? (3.) This is three-wheel single seater. What revening the proder of the p

(1.) We should advise you to write Messrs. F.N. (England), Ltd., Kimberl Road, Willesden Lane, London, N.W. stating full particulars, and giving enginumber, etc., when no doubt they will able to give the information you requin Also much valuable information is cannot in "Motor Cycles and How Manage Them" from our publishers, 10d. post free. (2.) We cannot s whether you can retain the number; depends upon whether the previous own has cancelled it. The cost depends up the weight and will be either 5s. or 3 (5.) £1, as in the case of a motor cycles.

Fitting a Variable Gear.

(1.) I have recently purchas a 4 h.p. Rex single-cylind machine, single gear, in first-cle order. I wish to fit a gear this machine to take a sidec I do not want a hub gear, and count shaft gear would be very difficult fit, as magneto is gear driven behi engine, and platform is part of engiplates. The only method I can thi of is either eighe-shaft gear, or fit n pair of rear stays longer than those use at present with gear bracket a fit countershaft. (2.) Would a lon, wheelbase make any difference? I hi been offered a Brampton varia pulley. Can you advise me if this g is reliable? The lowest ratio I co obtain would be about 7 to 1. The ugine has plenty of power, and I owish to attach a light Watsonian si car.—F.W.W.

(1.) Provided that your engine is good tune, we think that the Brampa variable pulley will give you a nenough gear ratio, especially in voof the fact that you are only fitte a very light sidecar. (2.) Of couryou must not expect to tackle freak Is with this gear, but for ordinary everyous that the search of the side of the search of the

MOTOR CYCLE

Levis Lubrication. .

I have just purchased a 1915 Levis two-stroko second-hand, which has only one oil pipe, leading into the crankshaft, the oil pipe that should lead into the eylinder and gudgeon pin being missing. Will you please enlighten me on the following points: (1.) Is it possible to run it in this condition without harming the piston and cylinder? (2.) Whether the petroil system of lubrication, which is used on most two-strokes, may be applied to a Levis?-E.J.B.

(1.) Provided an increased quantity of oil be given, there is no reason why the machine should not be run for a short time with one of the oil pipes disconnected. We do not recommend that you use it continuously in this condition, how-ever. In any case, it should be quite easy to refit the pipes in accordance with the requirements of the oiling system provided. (2.) The petroil system might be applied; but as your engine is designed to designed by the makers, we do not think that it is advisable.

Transmission Trouble.

. I have a 1919 chain-driven 41 h.p. B.S.A. Since flushing out the gear box and re-oiling, I have had occasion to adjust the have had occasion to adjust the clutch. Now, when the engine is started up, with the machine on the stand, and the clutch let in, the runing is apparently perfect on low gear, but on second and top gears a curious joiting and jarring noise is heard, particularly when the engine is running very slowly. On disconnecting the chains, the cogs of the gear box appear to run perfectly, either with clutch in or out. The adjustment of the gears is accurate. The noise is not made when the engine is running the gears is accurate. The noise is not made when the engine is running with the clutch out. This noise also occurs on the road when travelling at low speed on second or top gears, but otherwise the machine runs well. The otherwise the machine runs well. The chains do not catch on the gear case or chain cover. Can you explain this? The machine has the usual B.S.A. carburetter. Why is it that the more the petrol lever is open the less air the machine takes? This is particularly noticeable on steep hills, when it is necessary to open the petrol lever nearly to its fullest extent, and almost to close the air lever.—E.P.L.

The jolting may be due to intermittent clutch slip, resulting from the use of an unsuitable lubricant. Thin oil only should be used. When running light on high or middle gears, jerky running may be caused by the rear wheel overrunning the rest of the transmission, but this should not occur under a normal load. You may get a certain amount of harsh running if you attempt to run too slowly on top speed. Slackness of either slowly on top speed. Slackness of either of the chains would accentuate the trouble, and it would be as well to adjust these properly. It is usual, when slimbing a hill, on top gear, to cut down the air supply as the speed of the machine falls off. You can make the carburetter more automatic by opening the adjustable jet still further, say, two revolutions of the needle from the fully closed position. You will then find that the air control is not nearly so sensitive.

Fitting a Speed Gear.

Will you tell me if a counter-

shaft three-speed gear can be fitted to a 1911 Triumph free engine model always used with sidecar?-L.G.R.

It is quite possible to fit a three-speed countershaft on to a 1911 Triumph, but it will be necessary to rebuild the back stays of the machine in order to fit a bottom bracket suitable for carrying a gear box.

EXPERIENCES WANTED.

"G.F.E.W." (Lancaster). - Punctureproof inner tubes.

"G.C.R." (Devonport).-Exide unspillable accumulators on unsprung solo motor

RECOMMENDED ROUTES.

COLCHESTER TO OUNDLE .- R.B. Colchester, Halstead, Haverhill, Withersfield, Linton, Cambridge, Huntingdon, Ellington, Barnwell, Oundle. Approxi-mately 90 miles.

OUNDLE (NORTHANTS) TO NEWCASTLE-

OUNDLE (NORTHANTS) TO NEWCASTLE-UNDRE-LYME.—R. B.
Oundle, Beuefield, Weldon, Cottingham,
Ashley, Langton, Leicester, Checkley,
Longton, Stoke, Newcastle-under-Lyme.
Approximately 100 miles.

HORLEY, SURREY, TO EDINBURGH, via RETFORD, NOTTS .- A.J.S.

Horley, Reigate, Sutton, Mitcham, Cheshunt, Hoddesdon, Ware, Puckeridge, Buntingford, Royston, Godmanchester, Huntingfon, Norman Cross, Stamford, Grantham, Newark, Retford, Doncaster, Ferrybridge, Wetherby, Boroughbridge, Catterick Bridge, Scotch Corner, Dar-lington, Durham, Newcastle, Morpeth, Wooler, Coldstream, Greenlaw, Lauder, Edinburgh.

IMPORTANT DATES.

Sat. May 15th— Live pool Motor Club Open Speed Trials.

Fri. and Sat., May 21st and 22nd-M.C.C. London-Edinburgh Run.

Sun , May 30th— Motocycle Club de France Grand Prix Race Sat., June 5th-Scottish Speed Championships at St.

Andraws. Tnes. June 15th-Junior T.T. Race, Isle of Man.

Thurs. June 17th-Senior T.T. Race, Is'e of Man. Mon., July 5th, to Sat., July 10th-Scottish Six Days Trial.

Wed. and Thurs., July 7th and 8th-Arbuthnot Trophy Trial.

Thurs., July 15th, and Fri., July 16th-Irish End-teend Trial

Sun., July 25th, to Aug. 1st -International Six Days Trial in France. Sun., Aug. 1st, to Wed., Aug. 4th-Anglo Dutch Trial,

Sat, Angust 7th—
S.A.C.U. Grand Inter-club Meet at
Callander.

Mon., Aug 23rd, to Sat., Aug. 28th A.C.U. Six Days Trial.



Facilities for Welding.

We understand that the Coventry Welding and Engineering Co. of 44a, Mich Park Street, are prepared to execute all kinds of welding repairs.

Competition Rider-agent.

Rex Mundy, the well-known competi-tion rider, has secured premises at Duke Street, Richmond, where he is now specialising in the sale and repairs of motor cycles and light cars.

"Everything for the Motorist."

We have just received the 1920 catalogue of Messrs. Brook Brothers, automobile agents, Burnham-on-Sea, Somerset, an interesting booklet giving particulars of different makes of motor cycles, motor scooters, sidecars, and accessories handled by this firm.

Triplex Goggles.

A leaflet has been received from the A leafiet has been received from the Triplex Safety Glass Company; Ltd., 1. Albemarle Street, London, W.1, describing goggles comprised of Triplex glass specially designed for motor cyclists. These goggles are for lady and gentleman-videus "Triplex glass, which does not riders. Triplex glass, which does not splinter, is highly suitable for motor cyclists' use.

The Book of the Scott.

An exceedingly well produced hand-book, copiously illustrated with sketches and photographs, has just been received from the Scott Motor Cycle Co., Ltd., of Saltaire, Shipley, Yorks. The matter deals in a very clear way with everything the rider should know about his machine, and many things that the average mechanic would do well to study. In addition to the instructional portion, a completely illustrated spare parts list is included, while the final pages are suitably ruled as a log book.

New Micheliu Guide:

The latest edition of the Michelin Guide to France, now in its sixteenth Guide to France, now in its sixteenth year, 5s., has now been issued by the Michelin Tyre Co., Ltd., 81, Fulham Road, London, S.W.3. The guide is indispensable to all those who are taking their holidays this year across the water.

It remains just as excellent and useful as before the war, but naturally, owing to the increased cost of living, owing to the increased cost of imag, the prices of the hotels are not given. The hotels, however, are classified according to types. An extra good hotel is represented as having four gables, the next best hotel three gables, and the remainder two gables and one gable respectively. Even the smallest hotels in France are almost invariably good. especially if mentioned in the Michelin Guide, or if they bear the T.C.F. sign. Excellent plans of the towns are given, and information as to how to use the Guide.



Cimes to Light Lamps.

Apr.	29 th			8.37.	p.m.	
May	1st			8.41		
,,	5rd	• • •	• • •	8.45	,,	
,,	5th	•••	•••	8,48	,,	

American Designer Here.

Mr. Arthur Davidson, of the Harley-Davidson Co., U.S.A., is now on a visit to this country.

Climbing Snaefell.

The designer of the Manx Aurora two-stroke, Mr. J. Wilson Oates, succeeded last week in climbing to the summit of Snaefell mountain (2,034 feet). This, he believes, is the first time a lightweight has succeeded in climbing the mountain.

The Petrol Prices Protest.

Signatures to the petition to the Premier protesting against the price of motor fuel now total 1,236,627. The Automobile Association now awaits a definite date for the presentation of the petition to the Prime Minister after his return from San Remo.

A.A. Subscriptions.

On and after May 1st, car owners joining the Automobile Association will be charged an entrance fee of one guinea, in addition to the present annual subscription of two guineas. New motor cycle and cycle car members will be enrolled at the usual annual subscription of half a quinea, plus an entrance fee of 10s. 6d. In future there will only be two classes of "A.A." membership—car owners, and motor cyclists with whom will be in-cluded owners of cycle cars. These changes will not affect motorists who are already A.A. members. Motorists from the Colonies, U.S.A., and abroad, are entitled to "A.A." membership for a special subscription of two guineas.

A Candid Magistrate.

Motorists who are unfortunate enough to have to appear before the local Benches of magistrates do not always find the justices going out of their way to be sympathetic, and it is therefore all the more pleasing to report the remarks of the Chairman of the Hfracombe Beach recently, when a Coventry rider, Mr. Frank Hutchinson, was summoned for not having his rear lamp lit. His solicitor explained that, owing to the weather and the state of the road, it was impossible to keep the lamp alight, and in dismissing the case on payment of costs the Chairman of the Bench remarked that the proper people to be summoned were the county council for keeping the road n such abominable condition

THE PRICE OF PAPER.

Paper to-day costs approxi-mately five times as much as in pre-war days.

Since Jan. 1st last, paper has risen 2d, per lb., which represents an increase of over £35,000 in the annual paper bill of "THE MOTOR CYCLE."

The paper used for each copy of this issue costs over 3d., exclusive of printing and pro duction charges.

The Budget and Road Users.

A meeting of the Parliamentary Road Transport Committee took place at the House of Commons last week to consider the Budget proposals as they affect road users and transport.

Special Features.

THE VICTORY TRIAL. SIX MONTHS WITH A 31 h.p. DOUGLAS. OVERSEAS COMMENTS.

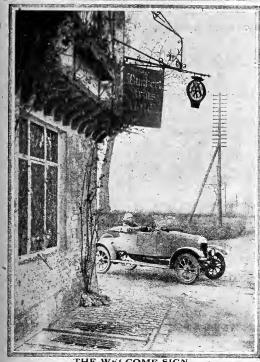
Alcohol Motor Fuel.

Alcohol Motor Fuel.

A report of far-reaching interest to the outire motoring community will shortly be presented to the Government by Professor Harold B. Dixon. At the request of the Inter-departmental Committee of Alcohol Motor Fuel, he agreed, about year ago, to carry out a series of experiments. He had already determined the ignition points under atmospheric pressure, and also with firing by compression not only of alcohol, ether, benzole, appetrol, but of mixtures of these, takin them two together. He has given species them two together. He has given special attention to a mixture of alcohol and Professor Dixon has also deter ether. Frofessor Dixon has also determined the safe compression to use i the case of each fuel in order that ther may he no premature ignition. When the Government has decided how to make the new alcohol fuel undrinkahle a further series of experiments will b necessary to see whether the addition to the spirit which is to be adopted affect the explosive properties of pure alcohol



A motor cyclist making use of the bulk storage petrol installation at the premises of the Briston Motor Works, Ltd., 289a-291, Briston Road, London, S.W.9. Motor cycles are driven into the forecourt by one gateway and fill up with petrol, passing out through another gate.



THE WELCOME SIGN An A.A. hotel on the Oxford Road.

YOUR NEXT "BREAK"

Easter figures which show how to make the most of Whitsuntide.

In spi'e of unfavourable weather conditions during the Easter holidays there were many thousands of motor vehicles on the roads.

The A.A. Patrols were, as usual, busy directing traffic, giving road information, obtaining fuel, spare tyres, In view of the popularity of this branch of A.A. Service a few particulars of cases replacements, etc. where practical mechanical assistance was rendered will be of interest.

The Patrols helped nearly 500 members who suffered breakdowns, or temporary derangements to their cars or motor. The A.A. "Mechanical First-Aid" Machines travelled some thousands of miles, and the mechanics in charge dealt. with sixty cases of mechanical breakdown In connection with accidents which occurred during the holidays, the A.A. Patrols rendered assistance in twenty-eight cases, and the AA Roadside Benzole Filling Station at Aldermaston on the Bath Road, was used considerably...

A valuable adjunct to the Patrol Service is the AA system of roadside telephones. These instruments are installed in all patrols' sentry boxes, and the service is now available to members both night and day, a special key . giving access to the box whether the patrol-in-charge. is on duty or not,

A further facility in A.A. Road Service, and one much appreciated by touring members, is the Home and Foreign Touring Assistance furnished by the Association. Routes are prepared to suit the requirements of members touring with their cars or motor cycles in Great Britain and Ireland, whilst members going abroad are supplied with routes, also triptyques, which save trouble, delay, and expense in depositing duties at frontiers.

One of the most valued of A.A. benefits is the comprehensive scheme of Free Legal Defence. This scheme now includes free legal representation by the Association's solicitors in civil cases arising out of the use. or ownership of privately owned cars or motor cycles in addition to covering the defence of members in any Court of Summary Jurisdiction in the United Kingdom in respect of summonses issued under the Motor Car Act and other regulations controlling the use of motor vehicles.

Other benefits of A.A. membership include Engineering Assistance, Special Insurance Facilities, AA. Hotels, Appointed Repairers, etc.

In view of the coming Whitsuntide-when, it is safe to predict motor traffic will greatly exceed that of Easterall motorists are advised to join the Automobile Association without delay so that they can motor with the maximum of comfort and the minimum of inconvenience.

Send a postcard, to-day, to the Secretary, The Automobile Association, 21, Fanum House, Whitcomb Street, London, W.C.2, for a free copy of the booklet, "The Key to the Open Road," and learn how the Association can be of real benefit to you, personally



Three Gold Medals THREE CARS ENTERED

In the M.C.C. Reliability trial from London to Lands' End, three G.N.'s were entered and, despite the arduous conditions which eliminated many entrants, qualified for Gold Medals. The test hills were climbed non-stop

in excellent style, and throughout the entire run of 314 miles none of the team was troubled

The only team to gain premier awards

G.N. LIMITED, EAST'HILL, WANDSWORTH. . LONDON. S.W.

Captain A. F. Nash . . Touring G.N. Mr. Clifford Finch . . Touring G.N. . Mr. T. Gilmore-Eliis . Vitesse G.N.

THE SUN VITESSE MOTOR CYCLE

has less parts in the Engine than any other Motor Cycle before the Public.

Simplicity is its GRAND FEATURE.

Design is its OUTSTANDING CHARM

ITS SPECIFICATION SPEAKS FOR ITSELF.

SPECIFICATION.

Sturmey-Archer Model,

Sturmey-Archer Model.
FRAME with best Weldles Steel Tube.
FORK—Druid Pattern
WHEELS—Built np with Ceventry Swaging.
Co's spokes. Brampton hubs.
ENGINE—Vitesse, made by the Valveless.
2-stroke Engine Co, Ltd. Birminebam.
MAGNETO - Luc's TB. or CAV.
CARBURETTER—B and B special type
FOOTBOARDS—Fitted with rubber footings, which can be easily replaced when
worn.

worn.

TYRES—Dunlop studded 26 × 2in.

BELT—Dunlop \$\frac{2}{1}in.

BELT—Dunlop \$\frac{2}{1}in.

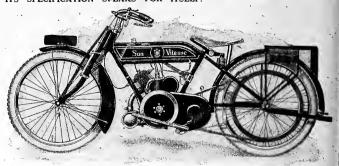
SADDLE—Lyett Pan L.6.

BRAKES—Front. Bowden. Rear, foot, acting on Belt R m.

TOOLBAGS—Two leather, with metal box.

TOOLBAGEOUTFIT
MUDGUARDS—Very wide, 7in
CARRIER Tubular, with brazed on luss at all points, 1 gallon petrol, quart of oil. —Capacity I gallon petrol, quart of oil. —Fitted with ... Enots sight feed

CEAR—Surmey Archer 2-speed with clutch and kick starier DRIVING CHAIN—Coventry. CHAIN CASE—Speedwall.



Price, with Albion 2-speed gear £64-10-0 Sturmey-Archer 2-speed kick start and clutch £70 - 0 - 0

"Motor Cycles and How to Manage Them."

We are requested by our publishers to mention that the twenty-first edition of "Motor Cycles and How to Manage Them" (price 2s. 6d. net, by post 2s. 10d.) will be available in the course of a few days, also an improved edition of "The Motor Cycle Route Book" with maps (price 5s. net, by post 5s. 4d.). Copies of either of three books may be obtained from the Publishing Department, Hiffe and Sons, Ltd., 20, Tudor Street, London, E.C.4.

Speed Trials at Weston-super-Mare.

Given favourable weather the Bristol 's open speed trial on Saturday, May 8th, will prove a popular and enjoy-able event. The officials at Weston-superable event. The olineals at Weston-super-Mare are doing their utmost to make it a regular gala day. Entries are rolling in freely. Apparently this class of seaside racing is extremely popular. The com-mittee omitted to include in its programme the open class for machines not exceeding 750 c.c. and also the open exceeding 750 c.c. and also the open class for machines not exceeding 750 c.c. with sidecars; thus, there will be two more events in which many machines are eligible to compete. There is a special handicap event for ladies open to all classes and powers, and the Western Counties speed championship for a team of three machines is creating considerable interest. No doubt there will be marked ivalry and keen competition between the clubs in the West of England. The nclusion of the two additional events has made it necessary to extend the closing day for the entries another forty-eight nours, and these may now be sent to Mr. R. Bennett, 182, Wells Road, Knowle, Bristol, up till to-morrow (Friday).

News in a Nutshell.

156 riders survived the second Victory Trial of the Birmingham M.C.C. held last Saturday. Record crowds congregated to see the competitors on the test hills.

The new taxes of motor vehicles are likely to become law in the absence of collective and definite apposition in Parliament.

The inclusion of Kirkstone Pass in this year's London-Edinburgh Whitsuntide Run has given great satisfaction.

More second-hand motor cycles are changing hands than at any previous stage in the history of the motor cycle.

The Research Association is going ahead, and promises to do much to solve problems of motor cycle design.

With the Royal Scottish Automobile Club's light car trials abandoned, motor cycle competitions form the only open sporting road trials of 1920.

A rally of Midland light car owners is to be held at Stratford-on-Avon on May 8th, meeting at the Swan's Nest Hotel.

A Welsh open hill-climb is down for decision at Fiddler's Elbow to-day (Thursday).

The Football Cup Final attracted many Birmingham and Huddersfield motor cyclists, who journeyed to London by road.

There was quite a Colonial stretch in Saturday Victory Trial, between Sudeley and Broadway.

A competitor who for a wager started the Victory Trial wearing a top hat was suitably "ticked off" by one of the A.C.U. consuls at Cheltenham.

The T.T.

Latest advices would show that the T.T. will become a Wolverhampton v. America event!

The A.C.U. Six Days.

It has been definitely decided that the A.C.U. Six Days Trial this year will be held in the North-east of England, and the radiating point will probably be Darlington.

Anglo-Dutch International Trial.

The A.C.U. has decided to invite entries for the Anglo-Datch Trial. From these entries a selection will be made to provide a representative British team. Entries are also to be invited for the International Six Days Trials in France.

Important Open Speed Trials.

The joint open speed trials organised by the Essex M.C. in conjunction with the Southend-on-Sea and District A.C., will take place at Westchiff-on-Sea on July 15th. Intending competitors should communicate with the hon organiser, Mr. E. J. Bass, 18, Market Square, Bishops Stortford, Herts. Further details will be published in these columns as soon as available.

Killing Time.

The police are very active near about the fortieth milestone on the London-Birmingham Road. Last week a large number of notorists were stopped for licences, and when the police were questioned on the subject they admitted, they were doing it to "kill time." Their successful efforts at killing other people's time besides their own was not appreciated, to say the least.

AN ARDUOUS ONE-DAY TRIAL.

An Edinburgh M.C. Club Event covering Part of the 1920 Scottish Six Days Course.

EXCELLENT weather conditions prevailed on the occasion of the annual spring holiday trial organised by the Edinburgh M.C., which was held over particularly interesting course last week, inasmuch as it is the route to be followed on the last day of this year's seattish Six Days Trial.

Starting from Liberton the course ran in Broughton, Tweedsmuir, Talla Lime, and over the famous Talla Hill. Here, lespite the poor surface, several fine secents were made, including S. Miller 34 P. and M.), A. H. 'Alexander (34) Douglas), R. S. Macrae (7.9 Harley sc.), S. Alexander (8 Enfield sc.), and the wo A.B.C.'s. The run along St. Mary's coch to the lunch stop was uneventful, he road being in good condition. The iexx section included Dunaskin and Redtone Hills, Elmschurch Snout Hill, and Redtone Rig to Haddington. Again, the I.B.C.'s, Alexander (Douglas), and Miller and M.): made fine performances. Infortunately the majority of the cometions took the Garwald Road to Hadington, and the only two who finished time were R. S. 'Macrae' (7.9 Harley c.) and S. Miller (34 P. and M.). The course should provide quite a stiff

The course should provide quite a stiff ast day for the Six Days competitors, he roads being for the most part very ough, and include no fewer than twenty-hree watersplashes.



An excellent view from the top of Talla Hill, showing R.S. Macrae (7-9 Harley-Davidson sidecar) making a good ascent.

VICTORY CUP TRIAL.

156 Survivors of 165 Starters in the Birmingham Motor Cycle Club's Open Trial last Saturday. Six Difficult Hills in as Many Non-stop Sections.



The Old Wyche, Malvern, one of the steepest test hills on the route. The rider is B. Bladder (8 New Imperial sidecar).

A DIFFICULIT trial, splendidly organised, sums up the second Victory Cup trial of the Birmingham M.C.C. It was one of the twenty open A.C.U. events of the year, and 177 entries resulted. Of these, twelve riders failed to start, and 156 survived. Hills there were in abundance included, in six non-stop sections, but the outstanding event was the flexibility test up Birdilp Hill. Once the terror of motor cyclists, this Gloucestershire gradient is now an easy climb. So much so, indeed, that the competitors restarfed with ease on a steep part of the hill, and accelerated as if the road were flat. Spectators gathered at all the points of vantage, and must have outnumbered previous crowds. Many had The Motor Cycle. with the list of competitors and official numbers, and closely observed the performances.

Details of the Run.

Saturday broke dull and threatening. Machines were weighed at Hampton, while Mr. Tom Silver sealed the competitors' watches. It began to-rain about 9 a.m., when Mr. Alec Ross commenced to start the riders at one minute intervals from Berkswell.

The trial began with a nineteen mile non-stop section over the rough lanes which lie on the south side of Birmingham, and included Beacon Hill (observed). The roads were wet, and in many places covered with slimy clay. Beacon Hill leaves the main Birmingham-Worcester road a little way beyond Rubery with a sharp turn and steep gradient, which soon eases, but the surface becomes very bad, especially for sidecar machines, owing to the deep clay ruts at the sides of the road; that on the left took the sidecar wheels up to their axles and caused them to bounce horribly and drag the machine out of its course. The more astute riders kept the bicycle wheels on the centre, where the surface was fair and the sidecar wheel on the grass, but this required considerable nicety of steering, as the marrin for error was very small.

margin for error was very small.

The solo viders had no great difficulties to face, and most of them came up steadily in the middle of the road, where the surface was wet and muddy certainly, but not particularly bad. We saw one incident which deserves mention. F. J. Price (23 Diamond) was baulked by M. Hartland on a similar machine at the worst bit of the road. He swung to the right through clay ruts six or eight inches deep, on to the grass and back into the road without any apparent effort and continued his way—a skillful piece of riding! Then followed nearly thirty miles of main road riding, through Protitwich and Wor-road riding, through Protitwich and Wor-road riding, through Protitwich and Wor-

cester to Malvern, rendered very upleasant by the incessant rain whi marred what would have been an enjous able run through pretty country made g by the blossom on the fruit trees.

Climbing the Wyche. .

At Malvern we noticed Mr. J. Norton with his arm in a sling, due an attack of neuritis. Performances the old Wyche were better than usu although there were some perhaps texpected failures.

Among the lightweight riders, H. Cutler (23 Verns), G. Kuhn (24 Levi) F. J. Lidstone (24 James), C. H. Hawright (23 New Imperial), and J. Walker (24 Edmund-Jap) were c sistently good.

Outstanding impressions, without ference to notes, include the splen climb of E. A. Colliver (A.B.C.), wasterwards experienced wheel coroubles and retired. Colliver made very fast climb, and had to cut-out y down from the summit. All the Jan machines showed up conspicuous. This make was represented by all types manufactured, 2½ h.p. two-street the splent of the sp

MOTOR (YOUR

Victory Cup Trial .-

driving or ignorance of the hill. With a large number of machines of one make in a trial, it is to be expected that the drivers may not all be of the highest standard, but the Norton and Sunbeam representatives were of pretty consistent quality. The Harley-Davidsons were fast, but G. Grinton, the Scottish rider, seemed to have difficulty in finding his gear when changing near the summit, but the way on his machine and his desterity saved the situation.

G. Nott's Matchless was misfring badly near the summit. W. E. Emery's single-cylinder Rex sidecar climbed the

G. Nott's Matchless was misfring badly near the summit. W. E. Emery's single-cylinder Rex sidecar elimbed the bill very steadily, quite the reverse from the pre-war method of single-cylinder sidecar drivers, who got into low gear early and reared away with the thruttle

fully opened.

In pre-war trials it was usual for trials organisers using the hill to requisition a gang of "navvies" with ropes-to take machines and their riders. Most were good, two or three remarkable, and a few did not impress us at all favourably. Dance on a Sumbeam made fastest time in 25s., but will probably be beaten on formula by the A.B.C.'s, which made wonderful ascents, particularly that of Porter who tied with Howard Davies (6 A.J.S.) for second place, §s. after Dance; Applebee (A.B.C.) took 25gs., and Woodcock (6-7 Ariel) 25gs. These were the fastest solo climbs. Though actual failures on the test were rare, one or two stopped before the summit; this, however, did not entail any loss of marks. The times varied from 25s. to over a minute. Anything under thirty for a solo mount, and under forty for a sidecar, must be considered distinctly good. One large sidecar outfit (American) took 55gs. The acceleration powers of some of the machines were really remarkable; they started smartly and seemed to gather speed all the way.



R. H. Nicholls (B.S.A. sidecar) passing interested spectators on Rising Sun. Note the loose surface of the road.

harge of the machines that failed on the ill, but so greatly improved are presentlay motor cycles that the only ropes in ise were those utilised to keep back the interested public.

From Malvern the competitors were aken across country to Portway and Birdlip.

The Acceleration Test.

Near the foot of the latter hill was a ime check from which the competitors ere sent up as they arrived to the acceleation test which was held on the straight tretch near the top of the hill, finishing amediately below the left turn just allow the summit. Here competitors were opped behind a tape, given the word to by Mr. Phil Mosedale, and their time iken till they passed the white flag, after hich they had to proceed to Chelten-am down Leckhampton Hill. Most of e riders made an excellent start on the eep gradient-better, we contend, than similar batch of cars could do. Many ade a mistake in changing up too soon; ten the speed decreased when this was ten the speed decreased when this was one, and some had to change down ain near the summit. A few riders cut if or the top corner, which was really mecessary, as others took it cleanly on a inside of the bend at a higher speed. ime of the performances here were excelat, and reflected great credit upon the The fastest solo times were as follow:

E. Porter (5. A.B.C.) S. H. R. Diwige (6. A.S.) R. C.) W. Woodcock (6.7 Ariel) J. H. Wasker (4. Triumph J. J. Blake-Marsh (4. Triumph W. Wortall (3)§ Sunbeau M. C. Breeze (44, B.S.A.) A. L. L. Seeley (47, B.S.A.) M. C. Attberley (3½, Norte	 P.)	25556666667775
F. J. Watson (6 Ariel)	vidson) Davidson) am)	 363 363

H. B. Denley (8 Morgan) 52 H. F. S. Morgan (8 Morgan) fast F. W. James (8 Morgan), good start, then steady climb.

W. Brandish and F. A. Applebee missed the turn at the top of Birdlip, and went some way along the road to Cirencester.

On Birdlip we saw the Martinsyde-Newman, which was finished too late to start. The engine was running ex-

The capacious vard in the Plough Hotel and the refilling arrangements by Steel's Garage were commendable, and the usual crowd, never apparently tired of watching the three to four home's procession of competitors, looked on with evident interest. The rearguard of the procession took tea instead of the hunch intended, the time being so late. Entering the hotel yard, G. Nott, the only Matchless rider, bent his footreet and damaged the controls. due to the sidecar wheel lifting, but he continued.

Rising Sun.

Leaving Cheltenham, the course lay along Gambles Lane, rejoining the main road at the top of the famous Rising Sun Hill. As usual, many spectators had gathered to witness the climb, and though the road surface was dry and distinctly better than on the occasion of the Colmore Trial, there were several quite exciting moments, especially when competitors floundered about in the loose stones, or had to get past others who were in difficulties.

The majority of the riders made light of the hill, some roaring up seemingly in a great hurry, others taking it easy on low gears. Quite the fastest ascent was made by S. E. Longmore (8 Harley-Davidson sc.). He fairly "zoomed" up, bouncing in his saddle all the way. J. N. Roberts (3½ Scott), F. A. Applebee (5 A.B.C.). W. B. Gibb (2½ Douglas), and G. Dance (3½ Sunbeam) also made fast climbs. W. Ford (2½ Coulson B) came up well, but fell near the top. Both T. F. Watson (4 Norton sc.) and E. Porter (3 A.B.C.) were baulked by the spectators and slower machines, but managed by magnificent driving to get past without mishap. J. S. Bacon (6 Regent sc.) failed on the corner, and, running backwards, was narrowly missed by T. Stephens (4½ James sc.).

Altogether a dozen competitors failed,

Altogether a dozen competitors failed, all these being low-powered sidecars or lightweights.

There were several quite spectacular performances, which evoked much enthusiasm and comment on the part of the crowd. Gus Kuhn (2½ Levis) roared up with one hand on the bars, showing that familiarity with the hill breeds contempt. L. Paynter (3½ Norton) waved furiously to the crowd, and very nearly fell in consequence. The luckiest competitor at this point was, however, G. W. Walker (3½ Norton). He came up swerving in an alarming manner, and very nearly ran into the spectators in his attempt to recover. Everyone gave him up for lost, but he found himself safe at the top. The two G.P. Morgans climbed very well.

Sudeley Hill.

Performances were so consistently good on this hill that mention of individuals would prove almost monotonous praise. Suddley probably provided less incident than any observed part of the course, and the observers were apparently very bored to have to stay there three hours with so little entertainment. T. F. Watson (Norton sc.) climbed at speed, with H. F. S. Morgan (Morgan) along-side. It seemed that the two machines would collide when the top of the hill



H. H. Saddington (5-6 James sidecar) and R. C. Atcherley (4 Triumph) turning into the "Colonial Section" at the top of Sudeley.

was reached, where the competitors were directed through a gate on the left. Skilful driving, however, saved a collision.

When sixty-odd competitors had climbed the hill without one of their number even showing the least sign of distress, we left a colleague to watch the rest of the 170 riders, and joined in the procession. The next few miles provided more room for thought, as this was the "Colonial" stretch across rough farm tracks over the wolds, a five miles

section providing conditions approximating to those overseas. Very careful driving was necessary on the part of certain sidecar competitors to prevent underslung chassis scraping on the ridges between the ruts, but we did not hear of, nor see any, "casualties" in this section.

Willersey was the last hill, which, although the surface was rough, did not present the difficulties expected by the organisers when they planned the course, and there were few failures—indeed, the

performances generally were almost uniformly good. G. Dance (3½ Sunbeam) was exceedingly fast, in fact his speed was reminiscent of a hill-climb. Again the James entrants showed up conspicuously, and G. Kuhn (24 Levis) displayed his ease by riding one handed. S. Hall, (22 O. K.-Union), S. T. Ashby (2½ Connaught), S. G. Neal (3 Neal-Dalm), M. C. 'Atcherlev (3½ Norton), B. Jessop (4 Triumph), W. B. Gibb (22 Douglas), J. C. Walker (2½ Edmund), F. A. Applebee (3 A.B.C.), and E. Williams (3½ Sunbeam) were among the many who made good climbs. H. Gibson (2½ -Clyno) nearly fell in the stones, but made a fine recovery. O. G. Smart (8 Sunbeam sc.) had no rear guard, and as his back wheel was fitted with Parsons chains if presented quite a weird appearance.

After this hill the route was over mair roads through Stratford, Warwick, and Kenilworth, back to the starting point at the George-in-the-Tree Hotel a Berkswell.

The scene at the finish was a veranimated one, for, in addition to the 250 competitors and passengers, and the multitudinous officials, there were severa hundred spectators to welcome the rider back. Only nine competitors failed the check in at the finish.

It is expected that the results will be available for next week's issue.

INCIDENTALLY -

One competitor, Rev. J. M. Philpott A.C.U. consul and chaplain of the Country and Warwickshire M.C., climbed a hills successfully on a brand-five 23 h.1 Wilkin-Blackburne, which was only handed to the owner on the previous afternoon.

A Martinsyde-Newman was to make it $d\ell but$ in the hands of S. Newman, but i was not ready until 10 a.m. on the do of the trial. As a result Mr. F. ξ Whitworth toured round as a spectato



On the Old Wyche H. F. S. Morgan cuts the corner.

H. Boynton (5-6 james) in the Street Brook watersplash.

V.ctory Cup Trial .--

but was soon lost in admiration for the acceleration powers of the new twin V agine, which, it will be remembered, has overhead exhaust valves, a reversal of the usual practice with engines having valves over one another.

Our condolences are extended to E. Matthews (Brough), who, after climbing all hills and conforming to the conditions, broke a chain on the very summit of Willersey—the last climb.

For thorough organisation, the Birmingbam Club's methods in Saturday's trial would be bird to beat. We congratulate ill concerned on the clear and concisely written instructions issued to competitors and officials alike.

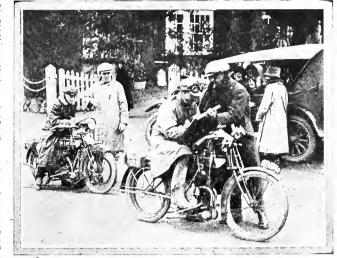
If there is a noted hill in England with a smoother and better surface than Birdlip we should like to hear of it.

The procession of riders lasted three solid hours—rather too long and tiring. We fancy the minute interval starts will be cut down in future.

A prospective T.T. rider, whose chances are greatly fancied, made fastest time in the acceleration test. He was G. Dance, riding a 3½ h.p. Sunbeam, a make of machine on which he has scored many successes since the end of the war. His time of 25s. equals a speed of upproximately 29 m.p.h.

Beaten by one-fifth of a second only in the acceleration test on Birdlip, Howard R. Davies (6 A.J.S.) and E. Porter (3 A.B.C.) tied for second place. The pick-up of these leading machines from a standing start was simply extraordinary.

Large crowds of spectators congregated at Berkswell, Malvern, and Cheltenham



One of the New Neal Dalm two-stroke and a B.S.A. checking in at British Camp

(Rising Sun), proving once again a point we have dilated upon, viz., the increasing popularity of motor cycles since the war, ascribable in no small measure, in our opinion, to the yeoman services rendered by motor cyclists in the great war.

Undoubtedly the trial for the Victory Cup proved that the Cotswold test hills, so formidable to the average pre-war machine and rider, can no longer provide great honours in competitions, and that almost any machine made to-day can climb the Old Wyche at Malvern, Portway, Sudeley, Willersey, and the famous Rising Sun.

In wet weather, of course, these hills present very certain difficulties, and had the roads been in bad condition the performances last Saturday would not have been so consistently good. This indicates that it is conditions, not gradients, that sift out machines and riders.



Competitors awaiting their turns to start in the accelerating test. H. V. Collins (41 B.S.A. sidecar) and O. G. Smart (3 Sunbeam sc.) leading

TAXATION.

Extracts briefly giving the Opinions of our Readers on this Vital Topic.

HE publication of the proposed new taxes on motor cycles has brought us a great many letters from readers, who have, very naturally, been quick to see the gross injustice which it is apparently the intention of the Government to inflict upon motor cyclists, and that without giving a motor cycle representative a place on the Advisory Committee. Major Stenson Cooke, of the Automobile Association, was apparently alone in his protest against the unfairness of the recommendations.

Below we give extracts from some of the many letters we have received on this subject, most of which are by no means unreasonable.

In answer to the question, "Are motor cyclists to be taxed off the road?" Mr. V. F. Bush writes:

The answer to your question is "yes" unless all motorists take a firm stand against the proposed new tax. My opinion is that 75% of the motoring public do not realise what the Government is up to. An increase of from £1 to £4 for a Sidecar machine is out of all proportion, and is nothing less than "barefaced daylight robbery," and—mark these words—the tax will not stop here, but next year will be increased to £6, and so on each year ad infinitum as long as the motorist will pay up and say nothing.

"J.C.," Eccles, is of opinion that motor cyclists could unite, and force the Government to fairer pro-

posals. He writes :

I, myself, can still afford to run a combination, yet there are thousands who would be cut off entirely from the health giving pastime. I think if we absolutely refused to use our machines (including those who could just afford to run) and car owners did the same, it would let the Government see that something fairer we were determined to have. Instead of the Government stimulating motoring (which would bring all the money they require from us), they are going to kill it, and kill trade—what has the manufacturer got to say who is on mass production of powerful combinations?

If things go on as they are for any length of time England will not be a fit place for any honest hardworking Britisher, and the sooner he clears out the better.

The Light Sidecar Outfit.

Mr. A. A. Smith champions the cause of the light sidecar outfit as follows:

Is not the proposed taxation a little unfair to the owners

of lightweight combinations? I think so.

My motor cycle weighs under 200 lb., the proposed tax is 30s., but because I possess a light sidecar I must pay £4 for the combination—in other words, £2 10s. for the sidecar.

Surely a light sidecar should not be taxed as highly as a lightweight motor cycle by a long, long way. Why not

tax the sidecar according to weight?

[It is proposed to tax sidecars £1; therefore, a sidecar attached to a machine under 200 lb. in weight would be taxed £2 10s. altogether .- ED.]

Mr. E. Arnold has a word to say for the working man who can only afford a cheap second-hand outfit, and is in danger of being driven off the road for the simple reason that he cannot afford to pay a heavy tax.

Take the case, he says, of a working man who can only afford a second-hand machine (about £35). He will He will have to give up if the new tax comes into operation, thus losing his week-end run into the country with his wife losing his week-end run into the country with his and children whereas the man who buys a piano is not taxed. Is not the 6d, a gallon on petrol the fairest way of taxing? All I have to say is that I and several of my friends are going to get rid of our machines if the new scale of taxation passes which I hope it will not. I feel sure, there are hundreds like me who can just only manage to keep a motor cycle.

Mr. F. F. Cleghorn writes of the unfairness of expecting motor cyclists who have been debarred from the use of their machines being expected to pay for the damage done to the roads by war traffic during this time. He writes:

I-and I expect there are thousands in a similar position struggling under the present enormous load of taxationjust about manage to carry on my favourite pastime

It seems to me that the unfortunate motorist is always expected to "stand the rub"; in this case, he is expected to foot the bill for depreciation in the roads which he had no hand in causing, because the majority of us have been absolutely debarred from using our machines until quite recently.

Disabled Motor Cyclists.

Mr., J. L. Hodson, who was badly knocked abou in the war, and finds a sidecar outfit his only con venient means of locomotion, naturally objects to an extra £3 tax. He concludes as follows:

My job was lost by joining the Service, and I have som-difficulty nowadays in making ends meet, so that the extr. £3 is not to be taken too lightly. Ex-Service men, such as myself, desire no charity, neithe will we have it, but we would like a little consideration especially when the motor cycle takes the place of leg ruined in the war. No doubt there are many like myself.

Justice," Edinburgh, wants to know why the ta: on a sidecar should be increased four-fold while that or a luxurious Rolls-Royce is only approximately doubled and he suggests an organised protest. He writes:

It is astonishing to find that it is proposed to quad ruple the tax on the unfortunate owner of a motor cycle and sidecar, while that of the war profiteer, who can afford a-luxurious Rolls-Royce, is only approximately doubled Surely this is not a sample of British fairness. expects to pay increased taxes, but why this unjust burder on the particular class which can least afford to bear it? I on the particular class with income under £1,000 feel the pinch of present day circumstance more than any other class, and still the burdens are piled on for they form the bulk of the owners of motor cycles and light cars, the tax on the latter being at least trebled under

the new proposals. Further, the C the Committee were requested to draw up scheme which could yield £7,000,000, but the present proposals are estimated to yield £9,000,000.

I would suggest that a strong organised protest be made by motor cyclists to prevent these taxes being adopted. It might take the form of writing to M.P.2s, or, better still, an organised protest on similar lines to the petrol protest.

In the meantime, the A.A., the A.C.U., and the Manufacturers' Union are far from idle. The A.A. has sent out to everyone of its members a copy of Major Stenson Cooke's "minority" report, and has addressed a forcible pamphlet to all members of the House of Lords and House of Commons. In addition to the minority report, additional facts are adduced showing the inequities of the heavy increase proposed in the Budget statement, and urging the retention of the petrol tax which varies the individual tax in proportion to the use of the road.

If the continued efforts of the various associations, the press, and the motor cyclists should prove of no avail, the least we may expect is that motor cyclists are given the same privileges as car owners in having (a) the option of paying quarterly, and (b) a rebate on old machines.



THE TOURIST TROPHY RACES.

Important Alterations in the Course. Practising from May 31st to June 14th. Flying Kilometre on Douglas Promenade for "The Motor Cycle" Cup-a Feature in the Isle of Man Carnival Week.

BY OUR ISLE OF MAN CORRESPONDENT.

ITH the near approach for the closing of the entries for the fortherming Transit III. for the forthcoming Tourist Trophy races, to be held in the Isle of Man on June 15th and 17th, the Auto w in the sle of Man on June 15th and 17th, the Auto-Cycle Union is now hurrying on with its arrangements, and last week the Rev. E. P. Greenhill (chairman of the Competition Committee) and Mr. Loughborough (the secretary of the A.C.U.) paid a short but busy visit to the Island, during which they interviewed His Excellency the Lieut-Governor, Maj-Gen. Fry, the Government secretary, the Highway Board, representatives of the Douglas Corporation, and other officials.

Practising Dates.

It has now been decided that practising is to start at 4.30 on the morning of May 31st, and will be continued up to the morning of June 14th, week days only. Practising finishes at 7 a.m., and after that hour, and after reaching their respective garages, racing machines, under no circumstances, will be allowed on any road in the Isle of Man. Machines before practising must bear their racing numbers, and riders must comply with the regulations with regard to wait the state of the regard to the racing helmets' and other safeguards.

Practising to be Controlled.

Practising will be controlled, and each competitor before starting his morning's practice must "clock in" at the official timekeeper's box. This is to comply with the regulation making it compulsory for riders to complete a certain number of circuits of the course, one of which must be done at a certain minimum speed, before being allowed to take part in the actual competition.

Alterations in the Course.

For reasons it is not necessary to mention here, but which For reasons it is not necessary to mention here, but which are considered good and sufficient, there is likely to be a slight variation in the famous T.T. course. Motor cyclists who know the Island, and who know the course, will remember that, after passing the bottom of Hillbery (that exceedingly fast last drop coming down the mountain), the course need to bear off to the right at Cronk-ny-Mona, and from there past Edge's Hedge to Johnny Watson's Corner, about lialf a mile from the top of Bray Hill, the old starting and finishing rout. finishing point.

The New Course.

The condition of the road from Cronk-ny-Mona is not good, and, to avoid these nasty corners, the course this year will not bear off to the right at Cronk-ny-Mona, but will go straight on along the road which leads to the top part of straight on along the road which leads to the top part of Onchan village for about 300 yards, when it will bear sharply to the right and pass down the road called the "Old Glencutchery Road." This road runs past the back of Government House, and joins the Governor's Bridge with an acute right-hand hairpin corner, which will probably be the most difficult corner on the course; so difficult, in fact, that no rider will be able to take it fast

After passing over Governor's Bridge, riders will travel along the Glencrutchery Road to the top of Bray Hill. This is a fine broad road in good order, along which riders will travel at speed, and will proceed down the Bray Hill as before. This alteration will make. Bray Hill probably the fastest part of the courses.

It has also been decided that the start will be along the Glencrutchery Road, facing the Playing Fields, which the Douglas Corporation have placed at the disposal of the

A Motor Cycle representative recently travelled over the course, which was found in fairly good order, with the exception of the four-mile run from Sulby to Ramsey,

A Bad Stretch.

This part of the course is very bad, so much so that the A.C.U. officials last week informed the Highway Board, who are responsible for the repairs of the Manx roads, that, unless steps were immediately taken to effect the necessary repairs, the race would be cancelled.

To be Repaired Forthwith.

A special meeting of the Highway Board was summoned on Wednesday, April 21st, and the Board instructed its surveyor to stop all other road repairs, and to concentrate surveyor to stop all other road repairs, and to concentrate on this part of the road, and assurances were given to the A.C.U. officials that it would be repaired in ample time for the practices. His Excellency the Lieut-Govennor, Maj. Gen. Fry, has kindly consented to present the prizes after the Junior and the Senior events on Tuesday and Thursday evenings respectively, at the Palace Ballroom.

It is now fairly generally known that T.T. Week in Douglas this year is to be a great Carnival Week. All sorts of sports have been arranged, and, amongst other items, there is to be a race for motor cycles along the Douglas Promenade, similar to that field in 1913. The distance of this race will be one kilometre, and the race will televables exit below. will take place on the cement footpath. This race is being organised by the Manx Motor Cycling Club under a permit from the A.G.U., who will supply the chief marshal and the timekeepers. There are to be three classes: 500 c.c., 350 c.c., and 275 c.c.

The Prizes.

The cup for the fastest time has been presented by The Motor Cycle, and numerous other firms have offered prizes. Anybody can compete who is on the competition register of the Auto Cycle Union, which is rendering great assistance to the promoters in every way to make this event a 'real success.

The Organisers.

Further particulars can be obtained from the hon. secretary of the Manx Motor Cycle Club, Hill Street, Douglas. The entry fee is one guinea. Machines may be stripped, the only restriction being that they must possess two efficient brakes.

On the Friday afternoon, there is also to be a motor gymkhana, details of which have not yet been settled.

Headquarters.

Headquarters. The A.C.U. headquarters for the I.T. races have been fixed at the Castle Mona Hotel, whilst the A.C.U. office is in Athol Street, opposite the *Times* Buildings, the premises being placed at the disposal of the A.C.U. by the proprietors of that journal.

Early Arrivals.

Several riders have recently been practising on the T.T. course, including Sunbeams and Indians. Quite a large number of firms have already booked their rooms. The well-known Clincher Tyre Company propose erecting a coffee stall at the official start at the Playing Fields. It coffee stall at the official start at the Playing Fields. It will be open every morning during the practices, which will start every morning at the new starting-place. The A.C.U. anticipate a very good entry, notwithstanding the fact that several of the older firms are unable to compete.

Closing Date for Entries.

It may be well to remind intending competitors that entries at ordinary fees (£21) close at noon on Monday, May 3rd, after which date until May 17th double fees will be necessary.



CLUB NEWS.

Rochester, Chatham and District M.C.

The first picnic tea rnn will take place on May 2nd to Box Hill.

Bridgwater and District M.C. and L.C.C.

It is proposed to hold a reliability trial in the future, to compete for the challenge cup which Mr. Carver has kindly presented to the club. The hon. secretary is Mr. J. W. Hooper, The Oaks, Wembdon, Bridgwater.

Newcastle and District M.C.

A flexibility test will be held under the auspices of the Newcastle and District Club on May 2nd. The members will meet at Moor Honse (six miles north of Weldon Bridge), on the Wooler Road, at twelve o'clock prompt. There will be seven classes, calculated on cubic capacity, and a gold medal will be the reward for the winner of each class.

North London M.C.C.

An enjoyable run was made to Harlow, and Bishop's Stortford on the 18th inst. Two watersplashes were encountered, and caused considerable amusement, while a Morgan demonstrated the quality of its inner tubes by allowing one to "balloon" in a. most disconcerting manner. The club will hold a paperchase on May 1st.

Luton and Bedford A.C.

A very sporting hill-climb was held by the club on the 24th. The hill was kept secret, all competitors being piloted to the starting point by officials, having been weighed in at Luton. The sharp left-hand bend accounted for several competitors, who tried to get round too fast and fell in consequence. The results, worked on The Motor Cycle formula, were as follow: 350 c.c. Class: F. F. Briggs (24 New Hudson). 600 c.c. Class: F. F. Briggs (24 New Hudson). Unilmited Solo Class: H. Reyne (3 A.B.C.). Unlimited Sidecar Class: Capt. Cooke (5-6 James sc.).

The Bedford and Dist. M.C.C. and A.C.
There will be an extraordinary general

There will be an extraordinary general meeting at the headquarters, the Rose Hotel, High Street, Bedford, on Saturday, May Ist, at 8.30 p.m.

TRADING WITH FORMER ENEMY COUNTRIES.

The following resolution has been passed by the Council of the British Association of Trade and Technical Journals, Limited:

"In view of the expression of opinion by Sir Auckland Geddes, as President of the Board of Trade, regarding the acceptance of advertisements of goods manufactured in late enemy countries. the Council have carefully considered the whole position. They now recomend members to adhere to the adopted policy of the Association not to accept such advertisements for the present, in order to enable British manufacturers to recover their normal working conditions, At the end of the present year (1920) the subject will again be considered, with a view to further advising members on the subject."

The publishers of "The Motor Cycle" readily accept this recommendation, and have, in fact, constantly refused offers of advertisements of German goods.

Hull M.C.C.

The following awards were made in connection with the first competition, which was held on the 24th inst: Gold medal, L. Runton (44 B.S.A. sc.). Silver medal, R. Fearnley (5½ Rudge Multi). Bronze medals, G. Thompson (4 Triumph), H. Scarlett (5½ Rudge Multi), and G. Goodall (6 to 8 New Imperial).

Wakefield and District M.C.C.

On May 2nd a reliability trial will be beld by the above club, starting from the White Horse Hotel, Wakefield, at 10 a.m. The route will be about 120 miles in length.

N.M.C.F.U. (Portsmouth).

On May 2nd a run will be made to Beaulieu Abbey, starting from the "Coach and Horses?" at 10 a.m. The rente includes Farcham, Wickham, West End, Burgess Road, Redbridge, and Totton.

Loughborough and District M.C.C.

A branch of this club has been former at Coalville, with Mr. S. Clarke, 122 Ashby Road, Hugglescote, as hon. sec A very interesting lecture on "Moto Cycle Ignition" was given, at the annua meeting, by Mr. G. C. Gelling.

Horsham and District M.C. and C.C.C .-

Competitions and social runs have already started, and the club is in a good financial position. There is a steady increase in membership, and any loca motor cyclists who wish to join are in vited to communicate with either Mr S. F. Lampard, 21, North Street, or Mr A. Brice, 43, East Street, Horsham.

Surbiton and District M.C.C.

Fifty-four competitors assembled at the Angel Hotel, Thames Ditton, to compete for the Dale Cup on the 24th inst. The course lay via Esher, Cobham, Fetcham Leatherhead, Hook, and Surbiton, an lad to be traversed twice, and then third time in the reverse direction, making a total distance of 55 miles. Watcheand speedometers were barred, and competitors had to make a non-stop run a 20 m.p.h. The following awards wermade: Dale Cup and gold medal: H. F. Udhe (23 Douglas). Silver fixedals: W. J. Kelly (8 Zenith). F. R. S. Spiking (7) Harley), C. K. Roberts (34 Lea-Francis)



MOTOR (YCLE

News -

Sheffield and Hallamshire M.C.C.

he Stacey Trophy Trial, which before war was run annually over difficult byshire country, was recently re-id. Starting from the Beauchief tel, a very interesting route was foled, including several well-known trials s. Twenty-nine riders took part in event. A scene on Padley Bank is wn below.

Battersea and Clapham M.C.

t is intended to form a motor club in Battersea and Clapham district, and interested motor cyclists should get touch with Mr. M. H. Hersey, 16, mue Mansions, Clapham Common,

prominent local firm is prepared to ply up-to-date garage accommodation facility which will be greatly apprecid by members,

ley Abbey and District M.C. and L.C.C. it a meeting held recently, it was ided to form a motor cycle and light club in Netley Abbey and district, h headquarters at the Prince Consort tel. The hon. sec., Mr. G. C. Cosier, Victoria Road, Netley Abbey, will pleased to hear from motor cyclists the neighbourhood who would care join. The opening run will take place May 1st, leaving headquarters at p.m. for Rufus Stone.

Future Club Events.

Apr. 29.—Westmorland M.C.C. Hill-climb, May 1.—Coventry and Barwickshire M.C. Navice

May L.-Corenty and Harwickshire M.C. Navice Competition,
May L.-W.M.C.F.U. (Birmingham), Gyakhana,
May L.-W.M.C.F.U. (Birmingham), Gyakhana,
May L.-Narth Landan M.C.C. Paperchase,
May L.-Narth Landan M.C.C. Paperchase,
May L.-Narty Abray and District M.C. and L.C.C.
May L.-Narty Abray and District M.C. and L.C.C.
May L.-Narthy Abray and District M.C. Riberhale,
May L.-Ballon and District M.C. and L.C.C. Club
May L.-Ballon and District M.C. and L.C.C. Club
Ran,

May I.—Didgord and District M.C. and L.C.C. Club H. M. May I.—Edinburgh and District M.C. Hillsclimb, May 2.—Licester and District M.C.C. Reliability Trial,

May 2.—Licester and District M.C.C. Reliability
May 2.—Monagrove M.C.C. Run to Clent,
May 2.—Watefield and District M.C.C. Reliability
Trial,
Map 2.—M.M.C.F.U. (Portsmouth). Run to
May 2.—M.M.C.F.U. (Leeds). Run to Selba.
May 2.—M.M.C.F.U. (Leeds). Run to Selba.
May 2.—Manbury and District M.C.C. Run to
May 2.—Marrogate. and District M.C.C. Team
Reliability Trial.
May 2.—Marrogate. and District M.C.C. Team
May 2.—Liceptool M.C. Old Crack Hill-climb and
May 2.—Liceptool M.C. Run to Ruthin

Henie.

May 2.—Warrington M.C. Run to Ruthin.
May 2.—Reading and District M.C. and L.C.C. Run
to Richmond.
May 2.—Stalpbridge and District M.C. Inter-club
Social.
May 3.—Manchester M.C. Speed Trial.
May 3.—I ork and District M.C. Reliability Trial,
May 6.—Galehester and District M.C.C. Reliability
Trial.

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N.M.C.F.U. (Rotherham).

In future all club meetings will be held in the Y.M.C.A., Howard Street. The next is fixed for the Z0th inst.

Southampton and District M.C.

It is proposed to restart the abovenamed club as a purely motor cycle club, and all local motor cyclists are invited to join. Communications should be sent to Mr. E. C. Prince, Kenilworth, 90, Gordon Avenue, Southampton, who was one of the original members before the war, and many times captain and competition secretary.

Bromsgrove M.C.C.

A sporting run to Clent will be held on May 2nd. Members will meet at the Swan, Upton Warren, at 2,30 p.m.

Leicester and District M.C.C.

Good progress is now being made by the club, and several runs have been arranged to take place in the near future. A reliability trial for the Petty cup will he held on May 2nd, starting from Newton Linford at 3 p.m. Hon. sec., Mr. R. A. Spittal, 30, Princess Road, Leicester.

Farnworth and District M.C.C.

At a meeting of motor cyclists in the above district, held on April 15th, it was decided to inaugurate the abovenamed club, and any information regarding it may be had from the secretary, Mr D. B. Williamson, 189, Albert Road, Farnworth, near Bolton.

Warrington M.C.

A large crowd of interested spectators assembled on Keckwick Hill to witness the hill-climb recently held by the above club. Altogether there were seventy entries in the various classes, and the event was a great success.

The performances of the brothers J. and B. Caldwell attracted particular attention. In the "Any Capacity."
Class they twice tied for the fastest time

Class they twice tied for the fastest time of the day, their time being 24/s.

The results were as follow: Class 1 (350 c.c.), A. C. Wallington (22 A.J.S.). Class 2 (500 c.c.), A. C. Wallington (23 A.J.S.). Class 3 (600 c.c.), S. K. Hodgson (4 Triumph). Class 4 (750 c.c.), B. Caldwell (23 A.J.S.). Class 5 (any capacity), J. Caldwell (3½ Norton) and B. Caldwell (23 A.J.S.). Class 6 (750 c.c., sidecars), A. J. Bailey, (4 Norton). Class 7 (sidecars, any capacity), J. Massey (6 7 (sidecars, any capacity), J. Massey 16 Royal Ruby). Class 8 (light cars), S.



Competitors—a twin Rover leading—on Padley Bank, the last test hill of the Sheffield and Hallamshire M.C.C. Trial for the Stacey Trophy
The course included difficult country in Yorkshire and Derbyshire.

BORROWING IDEAS FROM THE CAR.

A New Machine with V Engine placed across the Frame, Shaft Drive, and a Driving Wheel supported on One Side only.

SEVERAL years ago a T.A.C. motor cycle was produced which had shaft drive and a V twin engine placed across the frame. The V engine was later displaced by a four-cylinder unit. This disposition of the engine, with the exception of the A.B.C., has not received the attention which its possibilities seem to warrant, although of late Continental designers have given consideration to this type of machine, one example of which—the Brevete Spring—was illustrated in The Motor Cycle for February 19th this year.

A Two-track Three-wheeler.

Mr. W. A. Wood, A.M.I.E.E., of Leytonstone, is the latest designer to consider the advantages of a transversely disposed V twin engine in conjunction with other ideas of more than usual interest. The construction of the framework is such that the cycle element may be said to end at the seat-pillar, from which point the vehicle (one can scarcely term it a "combination") departs from conventional practice. There is more sidecar chassis than motor cycle frame in the make-up of the complete machine, and cycle car principles are not entirely absent. In fact, the influence of all types of light passenger vehicles appears to be present, and it is interesting to dissect the design to see where one ends and the other commences. If we do this we may classify the parts as under:

Motor Cycle.
Front forks and steering.
Sidecar.

The construction of the framework which supports the passenger accommodation.

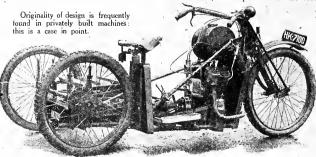
The rear axle and springing.

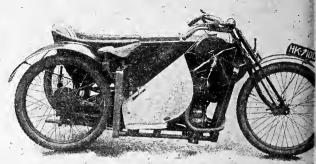
Engine position, gear box, and shaft drive.

NEW IDEAS.

The methods adopted to connect up the various units.

The designer himself evidently appreciates the hybrid nature of his vehicle, since he has christened it "Carnation," the name being derived from the words car and combination.





The extra broad mudguarding, giving big clearance, and metal cover for the transversely seeing engine, are details worthy of note.

Starting from the fore end, a pressed steel member forms the steering head, to which is connected another pressed steel unit, which takes the place of tubular members to form a duplex frame. From the foot of this section there are two

pillar structure, but the other is contirrearwards, and is supported with adpanion tube by a transverse struct which is also of pressed steel construct. This latter is suspended by coil spron the tubular axle supporting the wheels.



forms an approximate triangle.

The engine unit is a 6 h.p. J.A
which is placed off the centre line of
"cycle," in order to permit a strai
through drive to the bevel gearing alo
side the driving wheel. A handle
control clutch, two-speed gear box, an
shock absorber form part of the dry
mechanism.

It will be noticed that both rear when may be detached with the same convence as in a car, while the mudguard too, follows car lines. Altogether-design which is covered by patents, interesting, and although at first-as one may be constrained to regard it as over-development of the sidecar, a consideration it is quite conceivable to a "sidecar" machine of this type to probably be produced more cheaply the more conventional combinations motor cycle and sidecar attachme Further, it permits of a position for a twin which experts consider his drive without having to transmit drive through a pair of gears began that the subal in car practice.

Further developments of the design we he watched with interest. And amon these developments we expect to fi that the engine is set so that the validace forward instead of backward, si one of the main advantages of the traverse engine position is lost by.

present arrangement. If this afterst is carried out it may prove necessary enclose the valve mechanism.



Showing the bevel casing on the side of the driving wheel and the rear suspension.

parallel tubes running longitudinally to a similar pressed steel structure which serves, among other duties, to supplant the seat-pillar. One of the longitudinal tubes referred to stops short at the seat-



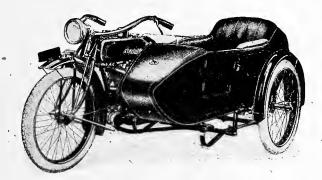




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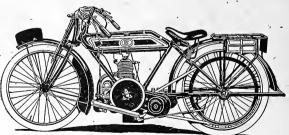


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TS for early delivery, apply, Bedford Garage Walsall, 'Phone: 270, [5305]

T Combination, new 1920 model; list price.— Craamore, Potters Bar. 'Phone: 40. [7406] 10 8h.p. Bat Combinations, for delivery in May.

-Apply to Automobile Service Co., 60, MorSt., W.1. [6556

AUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 8h.p. Bat, new, 1920 model, delivery from stock; /3. [6854

T-J.A.P. 6h.p. Solo, £48; no offers; also new Burman gear, £8.—St. Michael's, Epsom Rd., ierhead. [6896]

T.J.A.P. 8h.p. 3-speed, clutch, C.B. sidear, 3 Immps, speedometer, horn, Biaks, perfect condition, ol, plating new; £85.—Randall, 88, Church Rd., 38, S.W.

18, S.W.

TJ.A.P. 8h.p. Combination, Xmas, 1919, P. and H. head, tail, electric side lamps, Tau-Sad, several s, magnificent turmout, in perfect condition, done nules; £180.—Williams, Makener, near Derby.

T.J.A.P. 8-10h.p., overhead valve Brooklands model, everything perfect, Bosch, Amac, new belt, saddle, and bearings, poes like sinoke [as saying is], condition absolutely as new; £72; after 7.—Barnes, 82c, Trinity Rd., Toofers.

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Blackburne.

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ACKBURNE 4h.p., brand new, naridden, un-scratched, as delivered from manufacturers, inu-stratched as delivered from manufacturers, inu-dates sale; Dorset; £121, no offers.—Box 3,504, c/o Motor Cycle.

Bown.

20 Bown-Villiers 2½h.p., 2-speed, kick starter and clutch, in stock.—Frank Whitworth, Itd., New St., Birmingham. [X9810

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p. Bradbury, single speed, lamps, Klaxon, good trees, in perfect order; £40.—75, Forest Rd. Wallstow.

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MOTOR CYCLES FOR SALE.

Bradbury.

BRADBURY 1912 4h.p., Brampton gear and free engine, new Dunlop tyre on back, in good cor-dition; £48.-R. D. Varty, Thundersley, Essex. [692] 4th.p. Bradbury, Bosch, B. and B., Phithpson, race-bounds, nearly new tyres, good appearance and good order; £35; photo.—Box 5,464, cfo The Motor Cycle 577 5

BRADBURY 4h.p., 2 speed and clutch, Boseli, new tyre, B. and B., Lamps and horn, complete, L. good lumning order; 245.—Wellington, 49, Lowlands Rd., Harrow

B RADBURY Coachbuilt Combination, 4h.p., 2-spec 1 countershaft, clutch, kick starter, overhauled, tyres new, lamps, horn; bargain, 60 gns.—Stradwick, 40, Chetwode Rd., Trinity Rd., Balham, S.W. [705]

10.15 Shp. Twin Bradbury Combination, 3-205-10.15 Shp. Twin Bradbu

BRADBURY 1914, 3-speed clutch, sound mechanical condition, smart appearance, drop frame, really for any distance, lamp set; any trial, examination £40.—The Nooks, Derset Rd., Mettingham, Eitham.

Brevet.

BREVET 2 sh.p. Twin, slight adjustment; £20.-Wilkinson, 13, Torrington St., Hull. 6547

Brough

BROUGH 4h.p. 1917 2-speed, discs, lamps; £35.— Guest, Causeway, Peterborough. [7014 SOUTH Stathfrdshire Agents for Broughs, early livery guaranteed, Bedford Garage, Wal

SOUTH Lancashire, North Cheshire, and Isle of Man only.—Brough enquiries.—J. Blake and Co., Official Dealers, Liverpool and Manchester. 16588

Dates, Liverpool and Manchester. [6558]

Brollfish oh.v. Flat Twin, 3-speed, counterslant, Clutch, late model, fine order: first offer over dest; hargaio.—Box 5,505, c/o The Motor Cycle. [7539]

Brough 33-hp. 1916 Flat Twin, overhaulted, hamps, new belt, tyres good, very fast and sporting; £87/10.—Turvill, North, and Co., Peterborough.

Brown.

BROWN and Sidecar; 252; 10.—Hall (next to Green Man Hotel), Whettone, London.

BROWN 3'lahp., 2 speeds, K.S., coach combination, ride away.—Jones, 113, High St., Chesham, Backs.

BROWN 31th.p. clutch, dropped frame, Bosch, R. and B., just overhauled, re-enamelled, sporty; £25.—Taber House, Burford, Oxon. [7557]

31h.p. Brown, sidecar, 2-speed, clutch, Bosch, gool 2 tyres and condition; £40, or near offer.—Mardon, Windhill, Bishop's Stortford.

B.S.A.-The Walsall Garage, Walsall, Booking orders for all models; rotation deliveries. [7216] 19¹¹ B.S.A., single-speed, new Dunlops, overhauled; 34 gns.—Brayshaw, Kirkby Stephen. [7075

19 19 B.S.A. and B.S.A. Sidecar, fully equipped: £135.-626, Lea Bridge Rd., Leyton. [6913]

B.S.A. 44 h.p., 3-speed. K.S., torpedo, sidecars, ride away, any trial; £90.—4, The Square, Carshalton. 1913 315h.p. B.S.A., 2-speed and sidecar, sylendri condition; £60.—Harper, Beulah, Market Dray-ton. [6461

B.S.A., 1915, sports model, stored through war, access somes, fine condition; 260.—Wyatt, Fordscrut, Crewkerne.

B.S.A. 44h.p. Combination, 3-speed, completely fitted, little used; £110.-212, Ewell Rd., Sur-

19 15 B.S.A. 41(h.p., 3-speed countershaft, lan speedcometer, horn, new tyres.—Bland, Red Hor Schant.

B.S.A., 1915, Millford sidecar, all-chuin drive, lam; s, speedometer, spares; £110.—14, Brombam R.L., Bedford.

B.S.A. 1916 41(h.p., 5-speed, kick start, alled drive, excellent condition; £85.—Hosking, Lava Okehampton.

B.S.A. Combination, just delivered, complete lighting set, horn, and Eastings; £170.-25, High St. Maidenhead. Phone: 262.

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S.A. 4thp., Model. H, beautiful running offers.

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B.S.A. Combination, ship, late model, all chain.

Isomore St., Islington, N.I.

19 17-18 4thp., B.S.A. Countershaft Combination, fully equipped, very nice condition; £120.—101.

Total 4thp., B.S.A. Countershaft Combination, St. 101, work Court, Holborn.

S.A. 1914 3thp., fixed engior, mechanically sound, Dunleys nearly new; £55. effers.—II. Wilson, 99. Park R.I., Peterbrough.

MOTOR CYCLES FOR SALE.

B.S.A.

19 20 B.S.A. 44h.p., Model H, Watsonian R34 sidecar, delightful combination, unsoiled; £155.

-29, Montford Place, Kennington, S.E.11. [7125] 1920 B.S.A. Combination.—Several in stock, as new.—Clifford Wilson Mfg. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Kens. 7113. [7450

B.S.A. 3½h.p., 3-speed hub gear and clutch, speedometer. wicker sidecar and spares; best offer.—Dawson, 61, Avignon Rd., Brockley, S.E.4. [6473]

19 B.S.A. 41/h.p., Millford sidecar, chain-belt, 3-speed countershaft, new condition; £140; North Midlands.—Box 584, c/o The Motor Cycle. [X9799]

B.S.A. 4½h.p., 1915, tyres new, fully equipped and in perfect condition throughout; \$55:—G. Bodington, Beale Laads, High Halden, Ashford, Kent. [6211

B.S.A. Combination, 1914, 3-speed, chain drive, kirk start, clutch, 444h.p., beautiful condition: £88.—57, Kenbury St., Coldharbour Lane, Camberwell. [6682]

B.S.A., 1911, 3½h.p., 2-speed, band controlled clutch, Bosch mag., Senspray carburetter, excellent order; £50.—Holloway, Engineer, Horaton. [6757 B.S.A. 3½h.p., 1914, little used, in excellent condition, pedul start, Bosch ung., 2 speeds, lumps, horn, and tools: £55.—Boxer, Swingfield, Dover. [6201

horn, and tools; \$55.—100xer, Swingmen, 100x. [72]

B.S.A. 1917 4½h.p. Coachbuilt Combination, 3speed, kick starter, excellent condition; 110 gns.
–Kington, 2, King Edward Parade, Norbury, S.W.
[722]

19²⁰ B.S.A., chain-cum-belt, not yet unerated, with or without magnificent couch sidecar; highest offer secures; Flintshire.—Box 580, clo The Motor Cycle. (X973)

19²⁰ 4¹(h.p. B.S.A., Model H. brand new, and Crindlay S.C., wind screen, luggage grid, netrol carrier; best offer over £155.—Box 591, c/o The Motor Cycle.

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B.S.A. for Sale, 1919, 4½h.p., combination, chaincum-belt, coachbuilt sidecar, very little used;
offers wanted.—Write. L.C., c/o Streets, 30, Combilit.

1019 B.S.A. Combination, 41/4h.p., Watford speedometer, Klaxon, tools, hoin, spare belt, valve, good tyres, perfect; £135.—Colley, 374, Brinchiffe Edge Rd., Sheffield,

B.S.A. Combination, complete with Lucas lamps, horn, sucedometer, wind serven, all complete as new; price £135; free trial, Redditch.—Box 3,445, c/o The Motor Cycle.

Motor Cycle.

B.S.A. 3/2h:p. 1912 Combination, belt drive, Millford sidecar, Capac. carburetter, Bosch mag., 2 speeds, pedal start; £68.—Mandes', 100, Gt. Portland [7342]

19 15-16 41/h.p. T.T. B.S.A., hand control, Philipson, lamp, horn, pump, fast, good condition; £58, offers; week-ends.—Richardson, Station Rd., West Byoffers; week-

B.S.A. 4/h.p., military models, W.D., renovated, carefully selected and tuned up, chain-cum-helt drive; price £78; seen any time.—Watson, 181, Clapham Rd., S.W.

10 20 B.S.A. 4'h.p. Combination, Model K, lamps, Cowey speedometer, Stewart horn, many spares, wind screen, etc., done 500 miles, as new; £170.-13, Lyon Rd., Harrow. wind screen, etc., of Lyon Rd., Harrow.

17510

19 B.S.A. Combination, 3-speed, all chain, spare chains, valves, tyre, etc., as new, £150, offers.—355, King St., Hammersmith. [7602]

B.S.A. Combination, 414h.p., all-chain, 3-speed counterslaft. No 1 sidecar, wind screen, carrier, new tyres, accessories, spares; grand condition; £100.—18, Queenswood Rd., Moseley, Birmingham. [X9803]

B.S.A. 1919 4'4h.D. Combination, chain drive, countersharff 3-speed, full equipment, delivered Sept., stored all winter; £140.—Bond, 75, Wharfedale Gardens, Thounton Heath, Surrey. 9500 Gerrard. [675]

B.S.A.—Splendid 1915 3½hp. B.S.A., Jaidine 4-speed, clutch, kick start, unused through war, practically like new, fully entipped; ±80, or exchange liabtweight and cush.—Hoy, 73, Swaton Bl., Bow, London, 16367

10 16 B.S.A. Combination, 44(h.p., 3-speed C.S., K.S., chain dire, lighting set C.B. sidecar, Easting wind streen, apton, good condition, fast, recently overhauled; £105.—R. Bomford, Stoulton, Worcester,

Blures: Steped Conclination, 4½h.p., 5-speed countershaft, W.D. machine ex-military stores, in early new condition, age sideon; any trial or examination; £115.—Stevens, 184, Peutonville Rd, Kings (7216)

Cross.

15 (hite) 41(h.p. B.S.A., alb-chain drive, 5-speed,
kick start, Cannelet subcar, head, tatl, sidecar
humps, apron, special series, spares, outfit newly enamelled, overhauled; pire £120.—Lovekin, Montgonery, elled, over N. Wales,

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1917 TRIUMPH and Sidecar, electric lighting set, Klaxon ... \$120
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1916 Calthorpe 21/th.p., 2-speed, like new;

CALTHORPE-J.A.P. 23/h.p., 2-speed; £50, offer.—Boorman, Harbour, Headcorn, Keut. CALTHORPE, 1915, 2-stroke, 2-speed, good order; £45,-Turner, 141, Beckett Rd., D

CALTHORPE 2-stroke 2-speed, late model new: £60,-171, Underhill Rd., Dulwich,

19 15 Calthorpe-Jap, 25th.p., 2-speed, good tion, lamps, horn, tyres excellent.—Box c/o The Motor Cycle.

CALTHORPE 1920 J.A.P.-Enfield. 2-speed, new, just arrived.—Wilkins, Simpson, colympia, London.

CALTHORPE-J.A.P. 1920 25th.p., 2-speed, horn, etc.; £68/10; week evenings except days.—Corner House, Godstone, Surrey.

days.—Curnet House, doubtone, button, 2 speed, 2 model; immediate deliver; 268/5.—Chal Co, Queen St., Loith. 'Phone: 64.

10 16 Calthorpe-Jap 2 4, hp. 2-speed, good congine inst overhauled by makers, tyres £47.—W. J. Randall, Andover.

19¹⁹ Calthorpe-Jap, Enfield 2-speed, mileage 1,000, complete with lamps, etc.; £60, mond, Normandy, near Guildford.

CALTHORPE Motor Cycles.—2½h.p. J.A.P., model, 71 gns.; lady's model, well dressy 68 gns.; 2-stroke, 2-speed model, 68 gns.—P. J. 83-91, John Bright St., Birmingham.

1920 Colthorpe-Jap, Enfield 2-speed, tyres w tured, complete Lucas lamps, horn; £63 leigh, Parkfield Av., Amersham, Bucks.

CALTHORPE 33/h.p. 2-speed, Jones s X'L-ell saddle and smart underslung sidecar; £35.—Pannett, High St., Lewes.

CALTHORPE 2%h.p., 2-speed, perfect Torder, nearly new condition; £45; any Stevens, 184, Pentonville Rd., King's Cross. CALTHORPE Junior 4-stroke, 1914, stored 3 2-speed, free, overhauled last month ex-condition throughout; £30,—Lane, Carltou Villa tenham.

CALTHORPE 414h.p. 2-speed Countershaft starter, 1914 model, with luxurious coachbut car, only been slightly used and as new; £75.—Jeweller, Whithorn.

POR Sale, Calthorpe-Precision 2/2h.p. 2-sp stroke, everhauled, rebushed, new rings, cu-etc.; £35. or exchange higher power. 45, His Pentwynmawr, Newbridge, Mon.

Campion.

CAMPION-VILLIERS 2-stroke, recently over enamel, running condition good; £35,-4 44, Bath St., Ilkeston.

C AMPION JA.P. 6h.p. 3-speed Countersial chain drive, K.S., C.B. sidecar, F.R.S. speedometer, accessories, etc.; £105.—C.S., 14, Rd., Bow, E.S.

ATEST 3h.p. Campion-Jap Combination, chain and a speed Sturmey countershort, all-black are finish, absolutely new condition throughout, on 600 miles, magnificent combination; sacrifice Else, Dimple, Mattock

Else, Dimple, Matlock.

CAMPHON-JA-P. Combination, late 1919, no S00 miles, file, twin, B. and B., Bosch, St. S00 miles, file, twin, B. and B., Bosch, St. Gries, large county sideor, updostored pipes, large roomy sideor, updostored recomplete lighting installation with large Luck and towing combination, guaranteed speed with particularly construction, guaranteed speed with particular complex places of mp.h. absolutely as new price 2190, as time; place 56 after 5 p.m.-A. G. Rose, Hi (unablorough).

Cedos

CEDOS.—The finest 2-stroke ever produced; la gentlemen's; order now for spring delive Blake and Co., Lancashire's leading motor dealers, Liverpool and Mauchester.

Centaur.

31h.p. Centaur, chain drive, requires overhaul; offer to £15.—David Pollock, Plains, by

Chater-Lea.

19 20 Chater-Lea 215h.p., 2-speed, 2-stroke, in Frank Whitworth, Ltd., 139, New St

CHATER-LEA Enquired Invited by J. Blat Co., leading motor cycle experts. Liverpo

CHATER-LEA 8-10h.p. C.B. Combination, over repainted, lamps, etc., beautiful order; £95 St. Leonard's Rd., Mortlake.

CHATER-LEA 2-stroke, 2-speed, fully equipped integer, exceptional mechanical condition peurance; £60; after 6, or week-end.—3, Hass Cricklewood.

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Douglas 25th.p., £55; also 1914, £50; both ound condition; any trial.—76, Hetongate Rd., id Park. [7363] GLAS 4h.p. 3-speed Swan Combination, splen-do order, tyres nearly new; £95.—Ware, Manna Brighton Rd., Purley. [4891]

Business Rd., Penery.

(JAAS 25/Hp., 2-speed, very smart; ride 50 miles; 1770, or exchange insher power twin.—Duaren, 18648 & Douglas, believed 1913, good appearance, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1870, 1

Douglasse, 2%in.p. 2-speed, overhauled, reno-ted, unders' colours, splendid condition; 62 gas, 17429

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Case over the Perceiver, and seekers; 99 gas, 235 controls. Perceiver, and seekers; 99 gas, 235 controls. Perceiver the perceive

W. Phone: 1012 Wimbledon. [5663]
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GLAS 4h.p. 1918 Combination, fully equipped, cellect condition; £135, or near offer; seen by meat.—E. Y., 316, Thorold Rd., Hford. [654-

; 1919 4h.p. Douglas Combination, accessories, m-Sad, insurance, all in new condition; 127 gas. arnett, 11, Ernest St., Stepney, E.1. [6257

3LAS Combination, 4h.p. (not W.D.), in splend condition, and fully equipped, private £120.-1, Rectory Lane, Tooting. [6995]

SLAS, late 1919, 2⁵th.p., 2-speed, in perfect udition, absolutely as new: £85, or near offer; ers.—S. Morley, Electra Palace, Swindon. [7060

1916 25th.p. Douglas Céachbuilt Combination, upeed, lamps, etc., splendid turnout; trial given; uying solo, Write 54, Cardington St., N.W.1.

GLAS 1913-1914, as new, renovated throughout makers at cost £44; lamps, horn, etc.; £64; only.—Dr. Graves, 35, Weymouth St., W.1. LAS, 25th.p., buffer fork models, littlessed res and helt, 500 miles, engine perfect; £62; if only—Kenilworth, Burston Rd., Putney.

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26×21	Skew Extra Heavy	45 /-
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.,	Elite Rubber Studded	30/-
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"	Hutchinson T.T.	39/6
	Hutchinson Passenger	48 /-
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	Special Line of Government	
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28 × 3 ·	Dunlop Ex. Heavy Rub. Stud.	27 /6
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	Avoa Three-ribbed	72/6
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700 × 80	Skew Heavy Non-skid	85 /-
	Hutchinson Three-ribbed	70/-



MOTOR CYCLES FOR SALE.

Douglas.

DOUGLAS 1916 W.D., re-enamelled, buffer torky, rebuilt, with nearly new 1914 engine, Bosch mag. lamps, spares; 60 gns.—22, Campbell Rd., Bedford. [7758]

4 h.p. Douglas, T.T., 1917, 3-speed, discs, F.R.S. electric lighting set, sporty machine, not W.D.; £85; accept 2%h.p. and cash.-Buckle, Victoria St., Dunctable.

48.—1914 25/h.p. Douglas, recently overhauled, new crankshalt, excellent condition, ride 20 nurles to purchaser.— Beaulieu, Avenue Rd., St., Albans.

DoffGLAS 1920 Gh.p. Combination, F.R.S. electric set, Klaxon horo, Easting wind screen, indis-tinguishable from new.—Parker's, Bradshawgate, Bul-ton.

DOUGLAS 24h.p., uncrated 1919, stove coacelling, plating, tyres, and everything indistinguisation from new; £63.-30, Crystal Palace, Park Rd., Sydnam. (7336

DOUGLAS, 1914-15, good running order, just over-hauled, appearance good; price £55.—Apply, in writing, to Oakley, 23, Nevill Rd., Rottingdean.

1916 Douglas 23th.p., makers' colours, buffer ferks, new tyres, splendid condition, mechanically perfect; a real bargala, £59.—59, Aytone Rd., Brixton, S.W.

19 254h.p. Douglas, 2-speed, lamps, horn, pillion scat, insurance, little used, appearance as new; 85 grs.—Low, Bennachic, Southborough Rd., Surbiton, Sparrow

DOUGLAS 25/h.p., new, 72 gns.; also second-hand 1915 model, £55.—Garage, 5, Eglon Mews, Berkley Rd., Primrose Hill (near Chalk Farm Tube), N.W.1. [7292]

DOUGLAS, W.D., only ridden 500 miles, lathorn, pump, and all accessories, very good dition: 80 goe.—Apply, Chaufeur, 27, The Ave Beckeoham.

19 20 4h.p. Douglas Combination, complete with Lucas lamps, horn, Easting wind screen, spare helt, perfect; £155.—Taylor, 3, Parkwood Rd. Jongwood, Huddersfield.

DOUGLAS 1915 2-speed 23/h.p., in splendid condi-tion throughout, £52; also acother fitted with clutch and kick-starter, £55.—Egbert Spearman, Bishop's Stortford. [7433

DOUGLASES 23.h.p. always in stock at competitive pinces, open till 7 p.m. week days, 5 p.m. Saturdays.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station).

WAUCHOPE'S, 9, Shoe Lane, Fleet St., London.—
2%h.p. Douglas M.C., war models, 2-speed gear,
semi-T.T. bare, £65 and £75 each; also second-hand
2%h.p. Douglas, £59/10.

23(h.p. Bouglas, £59/10. [6850]

D OUGLAS 22(h.p., military models, W.D., renovated, carefully selected and tuned up, always tholic of several; price £60; seen any time.—Watson, 181, Clapham Rd., S.W. [3235]

1916 25(h.p. 2-speed Douglas, T.T. bars, lamps, Long Klaxon, knee grips, long exhaust, etc., perfect and powerful; £60.—McCallman, 192, Earlsdon Ar., Coventy.

10 16 2½hp. Douglas, 2-speed, T.B. mag. Amac carburetter, Dunlops, and footboards, machino in spleadid running order; what offers 4-45. Temple Rd., Cricklewood, N.W.2.

Rd., CIRCIENTONO, N.N.2.
19 4b.p. Douglas Combination, stored since November, recently overhauled by makers not ridden since, theroughly recommended; £135.—Redsfin, 19. St. Nicholus St., Covettr.
12 50.
DOUGLAS, 1916, 224b.p., W.D. model, buffers,

St. Nicholas St. Coventry.

Doluglas, 1916, 27th.p., W.D. model, baffers, and standard translations, born, and variable jet, just overhauled, last mange, born, and variable jet, just overhauled, last mange, born, and variable jet, just overhauled, last mange, born, and standard february, expellent condition, lamps, horn, knee grips, copper change, pred, disc, united §, 275, Riddey, Danum House, Counsught Rd., Gainsborough.

1918 everthaugh like new, mechanically serfect, disc wheels, fully equipped, sparse; my trial; genuine burgain, 2110.—178, Gipsy Rd. West Norwood, S.E. [7155]

[7152]

1 9 4h.p. Douglas Combination, Watford speedometer, electric lighting, Klaxon hora, perfect condition, as new, £158 another 1520 4h.p. combination, £159—Rhosha Meter Co., Mawneys Rd., Romlord.

T Appears Ridiculous to Advertise when you have no stock, but we are giving deliveries to the early birds. Place your order at once if you want to liver. - Eh Clark, Douglas Agent, 196, Cheltenham Ri., Bristol.

DOUGLAS 25/h.p. Colonial Model, 3-speed, kne grips, Klaxon, legs-hields, long exhaust, good tyrery last and sporting, heing overhauled, ready no night; £65.—Write Cheesman, Jua., 147. Croxted Re. 632.

1916 Douglas 4h.p. Coachbuilt Combination, chitch, kick start, 3-speed, fully equipped, makers' colours, mechanically perfect, and condition as new; genuine bargain, £110.-59, Ayban Rit., [6831]

MOTOR CYCLES FOR SALE. Douglas.

23h.p. Donglas, 1916, 2-speed, in excellent condition, the guaranteed mechanically perfect, and specially tuned np; 263.—Seen any time before 8 pm, at Langford's, 37, Cricklewood Broadway, N.W.2. Tel.: Hompstead 8616. 7119

1 920 (March) Douglas Combination, aluminium discs and leg-shields, P.H. and Lucas lamps, Cower tip speedometer, tools, complete; view week-ends: £175 cosh; another machine arriving—Hill, 67, South 81. Reading.

DOUCLAS (1919 October) 4h.p. Combination, spendid condition, fully equipped, lamps, horn, specdonator, etc.; accept £155 quick sale; owner changing to car.—H., 27, Woodberry Crescent, Mnswell Hill.

1919 Late Douglas 4h.p. Combination, condition as new, any trial or expert examination, very little and carefully used; price £150, or late model 2%h.p. Douglas taken in part payment.—Sear, 73, Southfield Rd., Oxford.

DOUGLAS 3½h.p., 2-speed, leg guards, lamps, speedometer, spare chain, belt, tube, valve, etc., new Brooks saddle, in evcellent condition inside aud out, very carefully used, fine comfortable machine: £75.—1, New St., Warwick. DOUGLAS

DOUGLAS 4h.p., 1918 Combination, C.B. sidecar, saxe, blue, fully equipped, mechanically perfect, also Douglas 234.p., 1916, fully equipped, necrated recently; what offers?—6a, Wellington Mews, Ledburg Rd, Bayswater, W.

DOUGLAS 2¼h.p., 1913, clutch, 2-speed, just been completely overhanded, new engine parts and fitments, splendid condition; owner forced to sell; reasonable offer; seen by appointment.—Sugden, 51, Broomield Rd., Heaton Moor, Stockport.

A h.p. Douglas Combination, 1916, 5-speed, clutch, kick start, condition practically equal to new, guaranteed mechanically perfect, lamps, horn; £115.—Seen any time before 8 p.m. at Langford's. 37, Cricklewood Broadway, N.W.2. Tel.: Hampstead 8616. [7118

DOUGLAS and Watsonian Sidecar Combination, 35/2 bp. speedometer, lamps, born, etc. new block tyre bp. speedometer, lamps, born, etc. new block throughout; can be seen by appointment; 100 gns.; owner buying car.—Stapylton, Wonningworth, Newton Heath, Mandbester.

23 h.p. Natious 1913-14, 2-speed, Bosch mar, 1933-24, 2-speed, Bosch mar, St. Riscon, fortboards, knee spriss, Pedley grips, new best, spare chain, plug, valve, etc., pump and accessories, recently overhanded and examelled, very first; 55 gps., no offers.—Shepherd, Marsheld, Eastwood Rd., South Woodford.

Dottel assessment and some wood of the state of the stat

1930 (March) Douglas 4h.p. Combination, electric lighting (E.F.S.), extra large accumulator. Cower speeds
jet, this machine is in lovely condition, not a south on
the trial run given and Europe and State districts
from the given and Europe and State of the Combination of the State
Country Farm, Ablugdon, Berke, Legis and Country Farm, Ablugdon, Berke, Legis and

1 Q 20 4hp. Douglas, B/20 Model, just delivered, Cower trip speedometer and mechanical horn, rear lamp, Clayrite mirror, waterproof handle-har muits, 2 spare Lodge plugs, 1 spare exhaut valve, new spare tube (26x28), Vulco repair outit, owner forbidden to ride, oost 2150/4/1; what offers 1—80x 3.485, c/o The Motor Open 1.

J. A. Douglas Combination, 1917 engine, frame, 4 wheels everything else new 1920, 5-speed, K. S., clutch, all perfect condition, speedometer, aluminium wind sereen, Klaxon, sidecar specially built, sporty, low, most comfortable on road, yellow and back; £145 first cheque secures.—Taylor, 8, Market St., Gaisaboro'.

DOUGLAS.—If you want a Dug get a Dug, not a machines that have been completely rebuilt, all worm claims that have been completely rebuilt, all worm claims and the property of the complete of

Duzmo

DUZMO 3½h.p. Single and 8h.p. Twin. Orders in strict rotation. Deliveries commence July.—All Lancashire and Cheshire enquiries to Leach and Seed, 16, John Dulton St., Mauchester. [6272 Orders in

Edmund.

23h.p. Edmund, spring frame, 3 models.—Lists free from Gourlay's, Fallowfield. [2951

23h.p. Edmund, spring frame, 3 models.—Lists free from Gourlay's, Fallowfield. [8991

nom Gourlay's, Fallowfield. Some learning frame, 2-speci, detect condition, Lucas lamps; 255.—Walker, Abbey Cottage, Malvern. Day Cot-[X9801] tage, Malvern.



Machines quoted below are for immediate delivery. Our stock has run rather low after Easter, but we are continually having machines coming in every day. So don't waste time, give us a call, and we are sure you will be satisfied.

Combinations.

1920 A.J.S. Combination, spare wheel, as

MATCHLESS Combination, magdyno lighting, new.

1920 MATCHLESS Combination. model, electric lamps, speedometer. 1920 HENDERSON Combination, fitted with

Henderson Elite Sidecar, dynamo lighting, brand new.

1920 B.S.A. Combinations, 2 in stock, all-chain drive, also chain-cum-belt model. Both new,

1920 3 h.p. SUNBEAM Combination, Sunbeam de luxe Sidecar, brand new.

1920 6 h.p. ENFIELD Combination, magdyno lighting, hood, windscreen, very small mileage.

1919 6 h.p. ENFIELD Combination, hood, screen, speedometer, indistinguishable from new.

1919 5-6 h.p. **JAMES**, Canoelet sporting Side-car, very fast outfit. AMERICAN EXCELSIOR,

lighting, Henderson Elite sidecar.

Solo Machines.

1920 N.U.T., magdyno lighting, in stock. 1920 32 h.p. SCOTT, T.T. bars, exceptionally

1920 4 h.p. BLACKBURNE, T.T. bars, toot-

1920 I.O.M. RUDGE-MULTI.

Henderson Elite Sidecars in Stock for immediate delivery.

We are Agents for the famous Dinky Sidecars, all models in stock.

We are London Agents for Castle Three-wheelers. Deliveries commence sooo.

First-class Combinations wanted for spot ash. High prices paid for good machines.

J. SMITH & CO., 16, HAMPSTEAD RD., LONDON, N.W.1.

'Phone No.: Museum 3419.

MOTOR CYCLES FOR SALE.

Edmund.

19 15 Edmund, spring frame, 4h.p. M.A.G. built sideor, all nocessories; 85 gus.—Matther Little Ealing Lane, Ealing. Elswick.

19 15 Elswick-Precision 21/h.p., good condition or offers.—Rex, Uley, Gloucestershire. ELSWICK 25th.p., 2-stroke (helieved 1916), condition, long copper exhaust, spare belt, horn; best offer over £52; stored during war, lvydene, Alexaudra Rd., Heston, Houuslow.

NEW Royal Enfield 2-stroke; list price.-Cra Potters Bar. 'Phone: 40.

2 1 h.p. Twin Enfield, perfect order; £30.-B

ROYAL ENFIELD 1920 2-stroke, 2 E NFIELD 1920 2-stroke, brand new, just Wilkins, Simpson, opposite Olympia,

NEW 1920 Enfield 6b.p. Combination, lighting; offers.—626, Lea Bridge Rd., L

3h.p. Twin Enfield, just been overhauled; exchange lathe.—Brown, Haven Brough, E

ENFIELD Combination, 1914, bood, screen, new condition; £115.-77, Eyesham St., R.

19¹⁹ Eofield 21/h.p., fully equipped, muscoffers.—55, Ballspond Rd., Islington, N

ENFIELD Combination, 6h.p.; a bargain Wilkins, Simpson, opposite Olympia, 1916 Enfield Combination, 8h.p., fully eq £150.-374, Grove Green Rd., Leyb

19²⁰ Enfield 2½h.p., brand new, 2-speed, horn; £68.—89, Oak Lane ('Phone 2190)

ENFIELD 3h.p., 1916, accessories; £70; e. late B.S.A., Triumph. -139, Wallwoo Leytonstone.

ENFIELD 25/lb.p., 2-stroke, just overhauled, condition, new lamps, good tyres; £58, a-Tippeu, Marden, Kent.

1920 Enfield 8h.p. Combination, mag-dynem and screen, not done 50 miles; £225.—M49, Sidwell St., Exeter.

ENFIELD Combination, 6h.p., 1916, first-charten fation, lamps, luggage grid; £150; after Sutton Rd., Muswell Hill.

WAUCHOPE'S, 9, Slice Lane, London, 6h.p. Royal Enfield and sidecar, 1914, also 1913 combination, £105.

ENFIELD 6h.p., apecial sidecar, electric lightin screen, spares; £165; evenings.—10, Avond Squire's Lane, East Finchley.

ROYAL ENFIELD 2-stroke, 2-speed, perfegs.; any examination, evenings or week Kemp, Haddenham, Bucks.

E NFIELD Combination 6h.p., excellent control all accessories; £125, or best offer.—Writcher St., Lower Edmonton, N.9.

ENFIELD 24h.p., 2-speed, just overhauled, etc.; £45.—Cooper, Hampton Court Rd., ton Court. 'Phone: Kingston 680.

NEW 1920 Royal Enfield Combination, 61 ceptional engine; £185.—Seen at Costins 237, London Rd., Westeliffe-on-Sec.

GENTLEMAN has 1916 3h.p. Enfield comb complete, perfect; 78 gns.—Allen Wor Chislehurst, Kent (near Station).

Enfleto (Dec., 1919) 21/h.p., 2-stroke, rus 900 miles, electric lamps, toole, etc.; 2 Croven Park Rd., Harlesden, N.W.10.

Enflield 2%h.p. Twin, 2-speed, F.E., lam chanical horn, etc., good running order; Davis, Lavendon, near Olney, Bucks.

Enfile Combination, 6h.p., 1916, Luces screen, apron, enamel and plating as new; 36, St. Thomas Rd., Hackney, London.

ENFIELD 1920 6h.p. Carrier Combination, 8 2185.—Clifford Wilson Mig. Co., 70, Roy pital Rd., Chelsea, S.W.3. Kens. 7113.

1 Q14 6.1, Enfield, with new C.B. sideca hanled, new tyres; £155.—The North Motor Exchange, Wresham. Phone: 285.

3 hp. Enfield, low, E.I.C., B. and B. see March 1 and 1 and

ENFIELD Sh.p. Combination, Dec., 1919, name lighting, Klaxon hern; any trial condition; £205.—'Phone: London Well 8186.

ENFIELDS.—Place your name on our list delay, rotational delivery strictly adhered premiums.—Bedford Garage, Walsall. Phone:

MOTOR CYCLES FOR SALE.

Indian.

Indian.

3 (Octoby) Powerplus Indian Combination, Henderson Elite cautilever sidecar to match, of sighting, speedometer, spares, heavy 28×3 ids, perfect resultion, mileage 500, owner in-6-51, Caims Rd. Sheffield.

1913; Jahan, 1913, clutch, discs, nickel-phired examits, Lacus born, hump, spares, T.T. burs, concoverhanded, resonancied, lovely condition, experis 270; exchange big single—Smittl, Green, Staaptord Rd., Bowden, Cheshite.

1810. Rose, Occa more analysis of small.

FRIO. Boys. Once more another good supply of N.E.20 Indian combinations coming in; best and satisfaction money can buy; fully equipped t delivery; every turnout tested before turning o customer.—Horswill, 42, Bridge St., Chester, 1943.

9 (new Desember) Powerplus Indian Combination, electrically equipped, including side-or, mileage 1,000, nearly new Goodwert yue on back, space complete tools and accessories, submidi rumming £180; seen Chatham district,—Box 3,447, c/o fotor Cycle.

O 7-9h., Indian Powerphis Combination, complete, electric light, aluminium discs all round, 6 800, perfect condition, better than new, purimanedartely before advance in price; require for cur; first £215 secures; private owner.—S., Comtord Mils, Cromford, Marlack. [A9785].

(AN,—Warning, The Hendee Manufacturing Co, to intending purchasers of Indians not to pay ite prices to speculators. A list of Indian who can supply promptly at list prices; plus ortation charges, will be sent on application to e. 366-368, Euston Rd., London, N.W.1. (X923)

5 Invicta 2-stroke, lamp, horn, low mileage: £42.—Rhosha Motor Co., Mawneys Rd., Rom-[5802

(CTA Lightweight, fitted with the fanous Villiers 1/3-D, 2-stroke enrine, a thoroughly reliable mount, each, or each payments 42 extra. Many other 20s in stock; latest hets and particulars of Harstein of each payments 427 payments sent on application.—P. Motor Showroom, 115-118, Brompton Rd. de Main Bailding, London, S.W.1. (640)

lvy
-The Walsall Garage, Walsall, can supply at 17218

Tyr 2-stroke, 2-speed, as new; £60.—Reyre and Williams, Hitchin. Phone: 165. [6490 2-stroke, Alboo 2-speed, open frame, sunt halv; 245.—H. 6, Royal Terrare, Southpott. [X5792 2-speed 2-stroke, Orders booked for early devery.—Rothwell and Milbourne, Cowleigh Garage.

very.-- notuwell and Milbourne, Cowleigh Garage, 1914 2;h.p. 2-stroke, perfect order, just thor-gable verhauled, lamp, generator, borr, 239.— 6, Market Rasen, Lincolnshire. 2007 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197, 2008 197,

N Sidecarette. late 1919, as new, perfect oughout; £75, or nearest.—137, Magdalen Rd., th. [5212]

Walsall Carage, Walsall, for good deliveries all James models. [72 tock, 1920 James 2-stroke, 2-speed, 2½h.p.; £70. James Garages, Church Stretton. [6665

ES Combination, new, ready to drive away.— 'hffords' Garage, Sidcup. 'Phone: 4. [6670 ES.—Blackhurn and Sons, Station Garage, Spaldag, for any James model; rotation delivery.

[4960]

ES 44th. De Line Combination, 1916; har-ain, £110.—Bacon, St. Peter's, Canterbury.

0 5-5h. James, P. and H., lamps, not done 50 miles; orders over £140.—J. Spencer, Church Rd., agford, Nuncaton.

Twin James Acroscia all

Juneaton. Juneaton. J. Spener, Chitch Rd., 186rd, Nuneaton. Speed, all chain, kick start; Cost, immediate delivery.—Maudes' Motor Mart. Good. St., Exeter. (696. S. 1916, 44h.p. Cancelet Combination. 3-speed, S. lamp, Klaxon; any trial; £90.—C.S., 14, 174. Bow, £90.—C.S., 18, 184. Bow, £90.—C.S., 184. Sov. 184. Bow. 1840.—S. 1

ES Combination, 1920, brand new, delivery from tock: list price. — Brixton Motor Works, Ltd., brixton Rd., S.W. [X9898]

ALLEN-BENNETT MOTOR Cº

Our stock at present is rather low, but we are expecting several first-class machines in during the roots of this week. If you do not see a machine in this fist to meet your requirements, let us know, as we are sere to have a machine in stock that would meet with your approval, 1930 ENFILED 8 hp. Combination, Luras Magdyno lighting, luggage carrier, etc., run under 50 miles, absolutely unsertached, and indistinguishable from new in every respect.

new in every respect £225 0
1914 ENFIELO 6 h.p. Combination, lamps,

1911 ENFIELO 6 h.p. Combination, Lumps, horn, speedometer, exceptionally fine condition, having been stored 4 years, looks like 1920 ... £132 10 1910 ROVER, 3½ h.p., and Swan sporting Sidecar, absolutely unseratched, and indistinguishable from new in every respert, Lucas samps, horn, speedometer: one of the smartest outlis on the road ... £155 0

awever: one or tine Smartest outfits on the road ... £155 0 1019 ROYER 3½ h.p. Combination, Lumps, born, very fine condition ... £145 0 1016 ROYER 3½ h.p. Combination, lamps, born, speedometer, just heen over horn, speedometer just heen over 1015 0 1018 HARLEY-DAVIDSON Combination. £105 0 1018 HARLEY-DAVIDSON Combination.

1918 HARLEY-DAVIDSON Combination, all lamps and boro, fost been thoroughly overhanded 1919 NEW HUSSON 3½ h.p. Combination, lamps and boro, very small mileage, 1910 to 1929 NEW HUSSON, 5:0 h.p., twin, 3:910 to 1929 NEW HUSSON, 5:0 h.p., twin, 1929 to 1929 NEW HUSSON, 5:0 h.p. twin, 1929 to 1929 NEW HUSSON, 1929 NE

..£165 0

wheels, long exhaust; very sporty outfit:

TRIUMPHS. A tow specially selected countershafted modes 1913, for fin mediate delivery all been thoroughly overhauded, and are in splendid condition throughout.

Selection of the special selection of the

Allen-Bennett Motor Co.,

9, 10, 11, Royal Parade, London Rd., WEST CROYDON. 'Phone: Croydon, 2450.

"Track, Croydon."

MOTOR CYCLES FOR SALE.

James.

B RAND New James 5-6h.p. Combination de Luxe, Magdyno lighting set, just delivered; offers. - 58, 8t. Thomas Rd., Erdington. 17177

1914 James Combination, 41(h.p., 3-speed counter-shalt, all enclosed chain, new Dunlops, lamps, etc.; £80.-Box 593, c/o The Motor Cycle. [X9868]

19¹⁸ 4! h.p. James Combination, 3-speed conster-shart combination enclosed chain cash drive, very smart outfit; £115.-72, Longridge Rd., Emil's Court. [5964]

J AMES Combination, 1916-17, 4\(\text{th.p.}\), electrically equipped, Watford speedometer, excellent condition, ride away; £110.—25 and 27, The Borroughs, Hendon.

19 18 James T.T. 41th.p., sporting single, adjustable pulley, Lucas lamps, tools, hot stuff; without speedbuncter £70.—Wirte, Newbery, 49, Harvist Rd., N.W.6.

FOR Sale, 1914 41/h.p. Jumes, 3-speed countershaft, hinns, horn, etc., good tyres, in splendid running order; £65, or nearest offer.—A. J. Glasgow, 44, Broad St., Chesham. [6450

19 19 4 Un. James Combination, in perfect condi-tion, lamps, horn, spare cover, screen, apron, and back carrier; £135.—Reyre and Williams, Hitchin. 'Phone: 165. (6487

JAMES, 1919 (June) d'fh.p., 3-speed countersuft, kick start, laups, with new concibalit siderer, spring back and seat, little used; £130.—Sayle, l'ost Office, Whittlesser Peterborough.

1920 5-6h.p. James Combination, James de Luxe side-electric horn, legshields, mileage 500, lovely onthi; £180.—102, Westwood Rd., Eurlsdon, Coventry. [X9845 £180.—102, Westwood Rd., Eurisaon, Covenay, Laco-1 40, 15 4/hp., James Coachbuilt Combination, 3-speed, countershaft, 5 lmnn sets, hood, wind screen, etc., excellent running order; £88, or lightweight part ex-change.—436, Whitehorse Rd., Thornton Heath, S.E.

Change.—436, Whitehore Rd., Horinton meatt, [750].

JAMES Big Single Combination, 4(hp. 1915).

Jerfert running order, engine recently overhanded, covery speedometer, 2 spare Dunloys, 1 new complete equipment; £110.—Griffiths, Kingswood, Englefield Green, Egham, Surrey.

1920. 5-6h.p. Trin James Model de Luxe Combinator of the Combina

J.A.P.

J.A.P., 254h.p., all accessories, ride away; bargain £36, nearest offer; after 6 p.m.—126, Ivy Rd., Cricklewood. (6825)

Cricklewood.

J. A.P. Sh.p. Sporting Model. Stred with all accessories, aluminiam diese. Enots and pump, new Binks, engine overhulded and in excellent condition; 255: seen any time.—Solomon, St. Aon's Rd., Faver-1895.

JUST Delivered, latest 1920 J.E.S.; what offers?— Hayes, Waterloo St., Hull. [7362

TWO J.E.S. Machines, complete; £20 and £27.— Chandler, Shepherdswell, Kent. [7249]

J.E.S., complete, 1 new tyre, in good running order; 223.—Lancaster, 66, Devizes Rd., Swindon. [7231

J.E.S. Motorcyclette, better than a scooter, economical, reliable.—Enquiries invited by J. Blake and Co., Liverpool and Manchester.

J.H. Villiers, 1919, 2²4h.p., hmps, tools, hora, ex-ellent condition; any trial; £46.—29, Nelson Rd., Chelnsford, Essex.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 7-9h.p. J.H. Combination, 1915, counterslairt, Sturmey-Archer grar, all chain drive; £125. [6361]

Juno.

JUNO-VILLIERS 21:h.p., splendid condition, lamps, horn; £38; after 6.-20, Dryburgh Rd., Putney, London. [6904]

JUNO Combination. 1916, 6-8h.p. J.A.P. engine Sturmey countershaft gear, excellent condition best offer.—Box 3.484. c/o The Meter Cycle. [751]

Kerry,

KERRY 25th.p., complete overhant, Bosch, splendid
tyres, low and modern, spring tacks, periert; ride
away; \$22210, nearest.-H. Talbot, 8. Darlington 151.
West Norwood

MOTOR CYCLES FOR SALE. Lea-Francis. ..

LEA-FRANCIS, 4h., J.A.P., delivered November and stored, new; £110.-35, Kendrick Rd., Reading. [X9863]
LEA-FRANCIS, recently delivered, as new, lamps,

LEA-FRANCIS, recently delivered, as new, lamps, etc.: price £110.-R. Hill, 88, Foxbollies Rd., Acock's Green. [X9740]

1920 Brand New Lea-Francis, M.A.G. engine, in stock; at makers' price, £125.—Rhosha Motor Co., Mawneys Rd. Romford.

L EA-FRANCIS Combination, No. A 843, 1914, £98 lowest; perfect condition, expert examination; appointment.—Woo.ley, Harrietsham, Kent. [6702] L EA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Portland St., W.1.

L EA-FRANCIS, twin J.A.P., 2 speeds, kick start, H. and F. clutch, lamp sets, speedometer, perfect throughout; £75.—Rogers, 85, Wykeham Rd., Ports-mouth. [7323]

EA-FRANCIS, A691, 2-speed, with 1919 Montgomery sidecar, electric lighting, speedometer, good tyres, any trial; best over £100; fix appointment—57, Oval Rd., Gravelly Hill, Birmingham

10 l⁴.15 Leo Francis, 3½hp., twin J.A.P., 2-speed. kick start hand and foot-controlled citute. Inners, speedometer, new Hinks, new Palmer cord and Dunlop, all-chain drive with oil boths, fast and silent, excellent mount; eeen any time; £80, or near offer.—H. G. waters, Wheetsheaft, Woking.

19 Levis Popular Model, no accessories; £52.—Mav (X9856

LEVIS 21/4h.p., single speed, good condition, all on: £42.—Hurst, Newbury St., Wantage. [7173

CYRIL WILLIAMS for early delivery of Levis.-Chapel Ash Depot, Wolverhampton. [X8626

L EVIS Popular 21/4h.p., in new condition, very little used; £48, lowest.-13, Magnolia Rd., Chiswick.

1920 Levis, lamps, generator, horn, mudshields;
6336
2500.—Rice-Oxley, Forton, Mountford, Salop,
6707
1020 Levis Popular, just received from makers, 19²⁰ Levis Popular, just received from makers, never been ridden; £55.—Lithgow, 96, Felbrigge Rd., Goodmayes.

LEVIS 2-speed 2-stroke; £35; ride away.—George Smith, 268, Lavender Hill (op. Arding and Hobbs), Clapham Junction, S.W. [7513

LEVIS 1915, disc wheels, wide bars, long exhaust, new tyres, accessories, excellent condition; £45.

-Caifax Motor, Ltd., Cobham, Surrey. [7214] 19¹⁶ Levis Popular, excellent condition, recently overhauled, mechanical horn, Pedley grips; £40.

-Alleu, Yew Tree House, Leatherhead, Surrey. [6321]

LEVIS.--We strongly recommend, and can supply early, this famous 2-stroke.-District agents, The Walsall Garage, Wolverhampton St., Walsall. 'Phone:

LEVIS, wheels 24×2 Duulop, heavies, tubes, bars, saddle, tank, drip feed, footrests; first £11 secures; guaranteed new.-#89, Congleton Rd. Biddulph. [7489]

[748]
LEVIS 2½h.p. 1920 Popular Model. - Vivia Models of the Hardie and Lane, Ltd., authorised agents, 24 Woodstock St. /off Oxford St.), Bond St., W.1. 'Phone Mayfair 655.9.

L EVIS Populars convertible into 2-speed models with the addition of the Roc countershaft gear—Apply, Roc Gear Dept. A. W. Wall, Ltd., Hay Mills, Birmingham.

PRE-WAR Levis, new Amac, armature (Simms), belt and flywheel, engine rebushed and overhauled, perfect condition, getting car; offers.—P. Colefax, 17, Embankment, Chelsea. [6788

L EVIS 1919½ 2½h.p., Popular engine 4834, E.I.C., Amac, speedometer, knee grips, lamp, horn, and tools, excellent condition guarantee; £55; appointment.—34, McLeed Rd., Abbey Wood, S.E.2. [6893

Lincoln-Elk.

LINCOLN-ELK 2%h.n., Bosch, B. and B. carbur-etter, new tyre on back, running order; £24; must sell.-J.S., 47, Minnosa St., Fulham. [6741

LINCOLN-ELK, 3½h.p., about 1914, cane sidecar, 2-speed, all lamps, good running order.—Royal Berks Motor Co., King's Rd., Reading. [7383

L INCOLN ELK 4h.p. 1914, Bosch, B. and E., single gear, good tyres, engine in fine condition; £25.—W. H. Bewers, c/o Mr. Pitt, Larkhill, Salisbury, Wilts.

T.T. Lincoln-Elk 3½h.p., Philipson pulley, B. and t. B., Bosch enclosed, 2 lamps, 2 generators, Druids, toolbags, footrests, practically new machine; £48.—63, Solon Rd., Brixton, London. [6957]

L.M.C.

L.M.C. 315h p., Bosen, in running order; £28.—Forrest 92, Tennyson St., Battersea. [6945

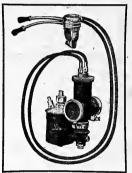
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Lugton.

LUGTON 1914 31/2h.p., semi-T.T. bars, Bose, and B., fast; £38.-77, Mornington Rd., La

Martin.

MARTIN-J.A.P. 4h.p., o.h.v., very fast ma overhauled and ennuelled, as new, discs; new lamp set and horn; £65.—Payne, 65, Malden Rd., Malden. Martinsyde.

MARTINSYDE-NEWMAN Combination, the tion of Olympia—Book your order now for tototion delivery with J. Blake and Co., the motor experts, 110-112, Bolt St., Liverpool, Britan's protor cycle saloon; also at Blockfriars St., Mand

Matchless.

3½h.p. Matchless, 2-speed and clutch, Bosch £55.-112, High St., Plumstead.

CROW Bros., Guildford, West Surrey agent this first-class outfit. Matchless in name

MATCHLESS Combination, 2-speed, kick star turnont; £90.-57, Kenbury St., Coldharbour Camberwell. NEW 1920 Model H Matchless Combination, lamps, bood, screen; offers.—626, Lea Bridg

Leyton. COLLIER-J.A.P. 8h.p. Combination; £90.— Weeden, 26, Queen's Av., or Muswell Hill age, N.10.

MATCHLESS 4h.p., Grado, kick start, in running order; snip, £48;—Hudson, 14, CRd., Plumstead.

WAUCHOPE'S, 9, Shoe Lane, London, E 8h.p. Matchless combination, 1919, complet accessories; £185.

1914 Sh.p. Matchless Combination, 2 speeds start, clutch, in fine condition; £108.—E ton, Alderley Edge.

MATCHLESS 6h.p. Jap, clutch, kick-starter, lent condition, take sidecar; £70.-4, .1 Gardens, Carleton Rd., N.7.

MATCHLESS-J.A.P. 2½h.p., Armstrong 3 pedal starter, clutch does not work; Rushton, Clarence St., Colne.

19 20 Matchless Model H., dynamo lighting driven speedometer, M.A.G. engine; \$2 Nightingale Rd., Lower Clapton.

MATCHLESS Combination, Model 8B. 3 langs, horn, excellent condition; £145.—
10, Park Av., Barrow-la-Furness.

10, Park Av., Barrow-n-ruraess.

10; 8 Matchless Combination, 7-9h.p. M.A.G.
3-speed, countershaft, fine condition; 8
4, Wallord Rd., Stoke Newington, London.

MATCHLESS 1919 Victory Model, spare
discs, lamps, hood, screen, horn, conditio
feet.—G. K. Cooper, Calius College, Cambridge.

MATCHLESS-J.A.P. 5-6h.p. Combination, 3 H gears, clutch, lamps, horn, etc.: £80, or Goldhawk, 88, Vestry Rd., Camberwell, S.E.5. 19²⁰ Spring Frame Matchless Combination, screen, lamps, complete, 500 miles; best—A. C. Osman, Lower Mortlake Rd., Richwond

19 14 Matchless 6h.p., 3-speed, tyres and tube lamps, tools, and spares, splendid contrial; £75.—Heath, Chisholme, Maybury Hill, W

19²⁰ Model H Matchless Combination, frame, electric lights, wind screen, and £240.-137, Chatsworth Rd., Lower Clapton,

19¹⁴ Matchless 8h.p., lamp, horn, long bring haust pipe, very fast; any trial; £ offers.—41, Dagnall Park, Sonth Norwood, 8.5

10 19 Matchless Victory Model, Auster ecreen, and 3 good tyres, 2 new tubes, spare when the spare with the spar

MATCHLESS Combination, June, 1919, war 8-10h.p. J.A.P., spare wheel and tyre, seat, 3 lamps, 2 generators; £165:-172, Whip Rd., Wotford.

MATCHLESS 3%h.p., Philipson pulley, Binl buretter, enamelled Indian red, very sport-new, Lucas lamps, horn, etc.; £120.—Eadi Alderley Edge.

10 20 Model H Matchless Combination, Mi wind screen, hood, speedometer, Klaxon Sad, recently delivered; 237 gns.—Nevill, 98, Mi St., Peckhom.

1920 Matchless, H, with hood; makers' state of the livery early May; £5 deposit paid; the for reasonable offer.—Lovell, Crane Superint Avonmonth Docks.

1920 Matchless Combination, Lucas horn and lone set, Cameo screen, leg shields, de Jan.: first reasonable offer secures.—Heywood, serighouse, Yorkshire.

MATCHLESS Sh.p. Coachbuilt Combination speed, splendid condition throughout; accept half down; closed Sundays.—Bunting's Exchauge, Wealdstone, Harrow.

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Matchless.

feli, p. Matchiess-Jap Combination, Bosch mag., variable gear, lamps, horn, specifometer, mirror, pare inbo and belt, perfect running order; £85, alrose Rd., Merton Park, S.W. [7403

18h.p. Victory Matchless Combination, detachable wheels, tyres good, acetylene and electric thood and screen; any trial; £165.—Royal Motor Co., King's Rd., Reading.

CHLESS 6h.p. Coachbuilt Combination, *2. speed, clutch, K.S., wind screen, full *et of and tools, winner of many competitions; £90, 6-22, Buller Rd., Thernton Heath. [6759]

1 5-5h.p. Matchless-Jap, complete with lamps, horn, pump, and spare tubes, latest Zenith ster, Bosch mag., Best's intrication, sound and appearance, fast; cheap at £55.—Homestead, giton. [6730]

1 8h.p. Matchless, Model H, beautiful ouffit, scarcely riddon, 3 Lucas lamps and horn, hood and screen with side screen, spare wheel, etc.; 150 gns.—Apply. Head, 85, Fleet St., London, City 6761.

CHLESS Model H Combination, dynamo lights, fully equipped. Book now for early delivery orised Loodon agents, Vivina Hardie oud Lune, 4, Woodstock St. (off Oxford St.), Bond St., W.I. Morfain 6559.

CHLESS-M.A.G. 1915-16 Combination, just werbauled, Lucas and Miller lautps, Low gene-Qamee, Cower, univor, tools, pump, tyres mid-lag in good co.dition; owner bought car; sacri-162.—Box 3,401, //o The Motor Cyte. [6780

CHLESS 1915 8b.p. Combination, coachbuilt, sod, wind screen, grid, 3-speed countershalt, all nd accessories, speedometer, spring pillion seat, dyoamo lighting, nearly new tyres, perfect run-rder, smart turnout, trial arranged; £142.—1, Bexley Heath, Kent. [X9683]

Matchless-Jap 4-speed Coachbuilt Combination, 113-14, 2 tyres, chain and belt new, spares, octer, lamps, luggage, petrol carriers, ride away; sh over £95; consider exchange medium power th adjustment.—Writs for appointment, Waters, cesent Rd., Breatwood, Essex. [6637]

CHLESS: Osmbiation—Book your orders with Ross, 86, High Road, Lee, S.E., for 1920 spriog 8h.D. Matchles combination. A model always we at above address lleliveries guaranteed as per order received. Retail price as ruling at I dolivery. A large assortiment of second-hand yeldes of all makes always in stock. [5242

Metro

RO, 1916, semi-T.T., 214h.p. 2-stroke, perfect condition, new appearance, complete; £36.— 200, Woodside Green, Hatfield. [7238]

l Sportiog Metro, 2-speed, long exhaust, small mileage, recently overhauled by makers; £55.— St. Bernard's House, Torquay. (D) [X9739

RO-TYLER.—Enquiries from Liverpool and strict invited by J. Blake and Co., 110-112. L. Britain's premier motor cycle saloon. [6581 RO-TYLER 2-speed 2-stroke, new models devered from stock; £74; extended terms if decity agents, Elce and Co., 15-16, Bishopsgate amomile St. E.C.3.

RO-TYLER 1919 214h.p., 2-speed, disc wheels, minimum footboards, long exhaust, mechanical amps, insurance, new condition, fast; 67 grs.—5, 13, Uxbridge Rd., Surbiton. [5566]

Metro-Tyler, 2-speed, long exhaust, Miller's ghting set, horn, and tools, done about, 200 cost complete £78, guaranteed sound; nifers .-Address, 23, Haven St., Grimsby. [7095]

—Address, 25, Haven 5t, vrimssy. [100] Metro 23[h.p., Albion 2-speed, disc, Lucae light-ig, large horn, aluntinium foot plates, original stage horn, aluntinium foot plates, original better little mount (trial), easy starter, illness elling; largain, £56.—40, Washington St., -Kid-ster. [16855]

Twin Minerva, single-speed, low, fast machine: 28.—Fowler, Arlesey, Beds. [7188 p. Minerva, mag., 2 brakes, all accessories; ride away; £24.-1, Burrard Rd., W. Hampstead.

h. Minerva Motor Cycle, in good running order \$20, or exchange lathe.—Brown, Haven Brough

Micerva Twin, mag., B.B., good condition; £30, exchange lightweight 2-stroke.—254, Earlsfield andsworth. [7355]

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O.K. JUNIOR, 2-speed ... VERUS, 2-speed clutch and

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31 h.p. BRADBURY.

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Full Specification of any of these machines sent on request.

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M.M.C. 4h.m., single, perfect order; £38.-Hubbard, [X985]

Monarch.

MONARCH 25(h.p. Villiers 2-stroke, Albion 2-speech gears, not done 100 miles; £65.—Roberts, Blen cathra Garage, Keswick.

Motosacoche.

M OTOSACOCHE 1"th.p., good order, new belt, new type on rear; £15.—Parsons' Garage, Winehelsea [6354]

21h.p. Motosacoche, compression, tyres, enamel, per tect; £16; carriage paid.—Bromley, Hollycrott Hinckley.

MOTOSACOCHE, good coadition, ride away, spring forks, mag., lamps; £22; week-end.-67, Clarence Rd., Teddington.

MOTOSACOCHE, re-enamelled, excellent running order, lamps, new Dunlop belt; £30.—Heather, 83, Londou Rd., Bromley, Kent. [6997]

MOTOSACOCHE Lightweight, perfect running order, mag., Claudel carburetter; bargain, £25,-35, Replingham Rd., Sonthfields, S.W. (Arter 6.). [6286

New Hudson.

NEW HUDSON C.B. Combination, kick starter;

19 20 New Hudson 21(h.p., 2 speeds, fully equipped.— Pulleyn, Poplar Grove, Heworth, Yorks, [6345

NEW HUDSON 4h.p., 1914, 3-speed, clutch, excel-lent condition; £70.—63, Arlingtord Rd., Brixton [7163]

NEW HUDSON 214h.p., 1917, 2-speed, splendid condition; £50, offers.—87, Truro Rd., Wood Green.
[5063]

19 20 New Hudson Lightweight, lamps, horn, owner Abert Rd., Sheffield.

NEW HUDSON 1919 Combination, splendid condition.—Apply, 109a, St. James' Rd., Croydon Phone: 1087.

NEW HUDSON 1915 314h.p., 3-speed, Dunlop, Grave engine, ride away: £60.-Wm. Boyer, 1, Curzon St., Ibstock

NEW HUDSON 214h.p., fast and powerful, new condition, cheap; £42, or nearest.—R. Adrian, 370, Newhampton Rd., Wolverhampton. [X9888]

New Hudson 2-stroke models at Blackburn and Sons, Station Garage, Spalding.

LULIRIOUS New Hudson Combination, Captillary Combination, Captillary Combination, Captillary Combination, Captillary Capt

19 20 New Hudson, 2-speed, 2-stroke, delivered March, tested few miles: £70, or part exchange good conbination.—Coulson, Welwyn, Herts. [6198]

NEW HUDSON, 27th.p., J.A.P., 3-speed, clutch, overhanded, lamps, £50; also Calthorpe Junior 2-speed, £35; arter 5 - 54, Magdala Rd., Upper Holloway, 7071

NEW HEDSON 1913-14 4h.p., Rennoc 1919 C.B. sidecar, 3-speed, clutch, K.S., lamps, insurance, just overhauled; 280, or near.—May, 2, North Parade. Prome.

NEW HUDSON 4h.p. Combination, 3-speed, chain-cum-helt, C.B. sidecar, lamp, horn, etc., perfect condition; exchange for solo or £75.—619, Garrett Lane, Earlsfield. (7180

19 20 New Hudson 2.stroke, 2-speed sporting model, in excellent condition, Lucas lamps and hom, take 2 anywhere, fast and reliable; £80.—Purden, Widney, Khowle, Warwickshure.

N EW HUDSON 3'4h.p., late 1913, unused 4 years, 5-speed, clutch, pedal starter, lamps, horn, tools, new tubes, back cover, belt, engine and gears overhauled; 60 gns.—Write, Shattock, 39, Kiusamead Rd., S.W.2.

3919 4hp. New Hudson Combination (Millford Corverte sidecar), 3-speed countershart, clutch, kick storter, 3 lamps, horn, spre valve, plug, etc., ontil new August, condition perfect; 2118—Taylor, 5, Parkevan Rd., Longwood, Huddersheld.

B. Dogwood, Anderson Coachbuilt Combination, 3-speeds and clutch, wind seven, storm apron, large grid, complete with lamps, tools, and horn, completely overhanded, and new gears fitted; 2120.—C0728 mon. Central Garage, Küderminsten.

ERYA 6hp., m.o.i.v., detachable heads. Rosch, ioks, Grado gear new belt and Dunlon; £55. or Hindoo The Fenns, Southend Av., Durlington.

Thomas: "Admittedly."

292, High Holborn, W.C.1.

Well Rd., Northwood.

Yew HUDSON 1915.16 2'4h.p., 2-stroke, 2-speed, 187. or Hudson The Fenns, Southend Av., Durlington.

Thomas: "Admittedly."

Grams: "Admittedly."

Thomas: "Admittedly."

Grams: "Admittedly."

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MOTOR CYCLES FOR SALE, New imperial.

CROW Bros., High St., Guildford, have contracted largely for 1920 New Imperials. [X 7946] NEW IMPERIAL 254h.p., condition as new: good trial; £58.—190, Kentish Town Rd., N.W.5. [7317 NEW IMPERIAL 6h.p. and special Corrette sidecar; £168; in stock.—Dominy and Co., Winchester. [7426]

GENTLEMAN has 23/h.p. 2-speed New Imperial, just overhauled.-54, Palace Rd., Streatham Hill, S.W. [6597

NEW Imperial Lightweight, as new, discs, Klaxon horo, lighting set; £70.—Peace, Whittimere St., Walsall. [6240] New IMPERIAL, 1916, 25th.p., 2-speed, fine condition, complete; £48.—Hogg, 88, Haddon St., [7026]

h.p. New Imperial-Jap Combination, new Oct., 1919, mileage 500, lamps; £130.—Edinborough

19 New Imperial, 6-8h.p. J.A.P., 3 speeds, brand new combination; offers.—Rawson, 61, Linaker St., Southport. [X9233

8t, Southport.

NEW IMPERIAL-J.A.P. 1914 25th.p., 2-speed countershaft, tully equipped; 42 gns.-12, Stauley Gardens, Hampstead.

NEW IMPERIAL-J.A.P., 2-speed, new tyres, good condition; 42t2.—Bennett, Wykeham House Cottages, Gordon Av., Stammer. (7252

tages, Gordon Av., Statumore. [7262 $\mathbf{1}\mathbf{9}^{20}$ New Imperial-Jap, 2-speed, hand controlled Chitch, kick starter; 79 gns.; immediate delivery. -Kemp's Garage, Louth, Lines. [X9790]

1915 New Imperial-Jap, been stored, 2-speed, done 1,000 miles, guaranteed perfect; 250.—Lancaster, 66, Devizes Rd., Swindon. [7230

19²⁰ 2³/₄h.p. New Imperial-Jap, 2-speed, clutch, kick starter, never ridden; 79 gns.—5, St. Edmund's Terrace, Regent's Park, N.W.8. [7098

Edmund's Terrace, Regents Fark, Annual 19 (16 Imperial-Jap, 2-speed, Lucas horn, lighting set, good tyres and belt, new bearings, periest condition; £50.-2, Blenneim Gardens, Wallington, Surrey, 6648 NEW IMPERIAL Sh.p. Combination, 1920, new man chine: £160; would consider exchange for 2-seater light car of good make.—Newton, Fairfield, Stockton-on-[6736]

10 20 New Imperlai Combination, 8h.p., actual model exhibited at Exhibition, mlleage about 1.000, kamps, Klaxon, speedometer; £170.—118, Upper Talse Hill, S.W.

NEW IMPERIAL J.A.P., 1917, T.T., 2-speed, clutch, kick starter, 2 lamp sets, Stewart speedometer, Gloriaphone, tip-top condition; £60.—Broad, Rawlingwell Lane, Marlborough, Wilts.

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19:16 24-hp. New Imperial, accessories, new piston, valve, valve guide, front brake, controls, etc.; 52; after 5.—Eric, 36, Stockwell Park Rd., S.W.S. 6 nimites Stockwell Tube Station, C. and S.L.R. 6640

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17.T. Scott and acash, a miles only; exchange 1920

3.493, c/o The Motor Cycle. North Wales district.

5,495, c/o The Motor Cycle. North Wales district.

NEW IMPERIAL 8h.p. Combination, delivered October, 1919, 1920 Henderson Elite sideon, completely equipped, mileage under 1,000; can be inspected and tried at Southampton from May 5th.—Apply, T. Cresbie, c/o Messrs. G. H. Cox and Cc., London Rd., Southampton.

NEW IMPERIAL J.A.P. 1916 2-speed, condition makers fornight ago (receipt shown), re-enamelled, plated throughout, extra heavy Dunlops, ready for any tour, lamps, Klaxon, pump, tools, any toriz, lamps, Karon, pump, tools, any toriz, lamps, Karon, pump, tools, any toriz, expert examination; £55.—1, West Park, Elbam, S.E.9.

Norton.

NORTON 31/4h.p., T.T., perfect condition, very fast; 67 gns.—Dowell, Byfleet, Surrey. [7369

B^{1G} Four Norton, 1919, condition excellent; best offer.—Scholes, Bradley, Huddersfield. [7170

19²⁰ Norton, enclosed chain drive, with bulbons back sidecar; £190; brand new.-2, Nightingale Rd., Lower Clapton. [6676

NORTON 4h.p., in innning order, appearance rotten; #32/10.—Major Wrate, c/o Stevens, 184, Pentonville Rd., King's Cross. [7217

19²⁰ Big Fonr Norton, T.T. bars, Montgomery No.
2 sidecar combination, brand new; accept £174.—
Box 3,511, c/o The Motor Cycle. [7547

FIRST Cheque £15 scenres £5 deposit receipt paid

May, 1919, Big 4 Norton and de luxe sidecar.—

Box 3,449, c/o The Motor Cycle. [6588]

NORTON Big Four, 1920, electric light, just de-livered and only ridden a few miles; £150.—F., 22, Cambrian Rd., Richmond, Surrey. [6580]

NORTON 1920 Big Four Combination, lamps, horn, tools, Bluemel's wind screen, not done 500 miles; £165.—White Bear, Mancot, Hawarden, Chester. [X9778

19²⁰ Big 4 Notton, T.T. bars, all-chain, ridden 3 times; £140; as new. Wanted, Morgan of G.N. -Wilcox, 118, Hamstead Rd., Handsworth, Binningham. (X9846



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Norton.

19 16 (Oct.) 31/h.p. B.R.S. Norton, Philip pulley, Iamps, and accessories, stored wears, splendid condition; £85, or exchange.—Da

1916 Big Four Norton de Luxe Combination, in class order, new Watford, Lucas lamps, Stewhorn, Cameo wind screen; £135,—164, Workson Handsworth, Sheffield.

BIG Four Norton, Sept., 1919, 3-speed, alled drive, Powell and Hammer lamps. Watford speeter, hootor, etc., fully insured, hittle used, condition; £130.—Vectis, Woodlea Rd., Worthing

1919-20 Big Four Norton Combination de Luces head, side, and tail lamps, Cower-ometer, horn, small milegge; best offer over-secures; mid-Warwic'tshire.—Box 575, clo The Cycle.

N.S.U. Lightweight, 2-speed, free, in splendid c tion: £33, or near offer.-11, Lanercost Rd., Hill, S.W.2.

6 h.p. Twin N.S.U. Coachbuilt Combination, 2 s kick starter, lamps, all accessories, nice tur £54.—9, Isle Rd., Plumstead.

The state of the s

h.p. Twin Coachbuilt Combination, N.S.U. 2 sp. kick start, Bosch mag, child's pillion seat, spares, etc., in splendid condition; horgain, 290, or offer; atter 6.—73, Ardgowan Rd.; Catford, S.E.6. i

M OTOR Cycle, 23(h.p. N.S.U. engine, ore valves, Bosch mag. B. and B. carburetter, a lamps, etc., in splendid condition: £28, or a after.—R.J.N., 5, Revenue Terrace, Newquay, Corr

N.U.T.

19 20 N.U.T., April, inst delivered, Lucas Mag electrical equipment; best offer over £150.583, c/o The Motor Cycle.

N.U.T. 1920 3½h.p. Twin, hrand new, Lucas dy lighting; lowest price £160; seen any time Grove Rd., Sparkhill, Birminghum.

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livery.—Write or 'Phone for particulars. Tel.:
114.

N.U.T. 1920 Model 3½b.p., Lucas dynamo lig dectric horn; 140 gns., complete.—Authorised do agests, Vivian Hardis and Lore, Ltd., 24, stock St. loff Oxford St.), Bond St., W.I. Phones feir 6555. Book now for early delivery.

O.K. 35(h.p., 1914 model, in perfect running of guaranteed; 35 gas.—32, Albert Sq., Cla Rd., S.W.

O.K.—New 2-speed 2-stroke, Villiers, in st Chaodler, Reyre, and Williams, Hitchin, Phone: 165 Hitchin.

19¹⁷ O.K., 2%h.p. J.A.P., C.S., free: examinar all on; cash: ride away; £43:-300, Port Rd., Kensington, W.10. O.K. Junior 2½h.p., 2-speed, new Danlops, long sexhaust, good condition; £45, offers.—25, Ro., Balbam, S.W.17.

3½ hap. O.K.-J.A.P.. 2-speed countershaft, just hauled, T.T. hars, tast and sporting, lamp £42.—Walker, Abbey Cottage, Malvern.

O.K. Junior 2-stroke, good condition, ride awa gns.—George Smith's Motor Cycle Depot Arding and Hobbs), Clapham Junction, S.W.

O.K. Junior, 25th.p. Precision, 2 speeds, F.E., b. pump, Klaxon, toolbag, etc., condition enperance excellent; 50.—Everett, 138, West Green S. Tottenhum, London, N.15.

F.O.C.H. have a 1919 O.K. Junior, Mark V. Fellent order, Fair Offer Car House, 5 F. Hampstead (Ir. Hampstead Tube Star Phone: Hampstead 3752. Hours 9-7, indisaturdays.

Omega

19 20 Omega-Jap, 2-speed. Lucas horn, pump, bargain, £59.—131, Broomfield Rd., Cor

19 16 Omega 2%h.p., 2-speed, good tyres, tools, horn; £45.—The Forge, Hatfield, P.

OMEGA-J.A.P., 2-speed, and medel de fuxe, and 74 gas, respectively.—Stocked by Lloy-Son, 29, Station St., Lewes.

O MEGA 25th.p. (J.A.P.), 2-speed, excellent tion new Aug., 1919, lamps, hore, knew all accessories.—J. D. Umplety, Gateland Lang. well, Leeds.

OTOR CYCLES FOR SALE. P. and M.

1 M., late 1919, 1,000; offers ?-198, Victor Charlton, S.E. [738 P. and M., take sidecar anywhere; 45 gus.-1, St. John's Rd., Putney. [6339 d M.-Blackburn and Sons, Station Garage, alding, for P. and M.'s. [4958]

P. and M., perfect order, accessories; bargain, 18.—St. Anbyn, 18, Emperors Gate, S.W.7. [6442

L WILLIAMS for early delivery of P. and a.-Chapel Ash Depot, Wolverhampton. [X8624] I. M., R.A.F., modern, and coachbuilt sidecar; 10; appointment.—87, De Beauvoir Rd., N.1. [7237 10; appointment.—o., 1237 M. 31/sh.p., 2-speed, lamps, hora, etc., running, rder; £45.—Lient. Lacy, While Island, Ports. [7101]

M., 2-speed, K.S., excellent condition, mechanity perfect; £60.-Roe, New Boro, Wimborne, [6350

l M. 1918 314h.p., new chains and tyre, good dition; £75.-603, Chorley New Rd., Horwich. [X9736

[X9736] M. Coachbuilt Combination, 1918, new sider, perfect, all accessories; £105.—Sheldon y, Oxon.

M., 1917 R.A.F. model, excellent condition oughout, horn, tools: £68, or near.—Morgan. [6189] P. and M., show model, mechanically perfect, speed, kick start; any trial; accessories.-16, see Av., Peterborough. [6344]

d M. New Combination, complete with all ups and horn; immediate delivery.—Priestley Rd., Bournemonth. [7158 M., 1920 model, with mechanical oil pump, ivered this week; offers wanted.—Woodward, Heswall, Cheshire. [7122

Heswall, Cheshire, [7122]
d M. Combinatiou, 3½h.p., 2 speeds, kick tter, splendid running order; £75.—103a., Wandsworth, S.W.18.

M. New Combination, early 1920, mileage 300, cas lamps, horn, and Eastings; £130.-25, High denhead. 'Phone: 262. [6223

M. 3/h.p. 2-speed Combination, in splendid dition throughout, including tyres; a bargain, poert Spearman, Bishop's Stortford. [7482

thert Spearman, Bishop's Scottona.

W.D. R.A.F. Model P. and M.'s, 1917 and 918, 2-speed, kick start; price £78; immediate —Maudes' Motor Mart, 100, Paris St., Exeter.

[6984] M. Concluit Combination, 2-speed, kick start, t. head laup, 1 new tyre, excellent condition, rnout; £75.—F. Field, 19, Forwater Rd., Chert.

M. R.A.F. model, as new, with all accessories, ud new conchbuilt sidecar, and electric lighting; Havelock St., Forest Hill, S.E.23, Syd.

M., 1914, Walbro' sidecar, in splendid con-on, Bosch mag., Amac carburetter, K.S., lamps, iter, etc.; £85, complete.—Umpleby, Bookstall, be (Midland).

P. and M., new February, new Lucas lamps, dmost as new; owner taking delivery 1920 £90; seen by appointment Clupham June. 15, c/o The Motor Cycle.

M. 1918 3½h.p., R.A.F. models, overhauled guaranteed, splendid value for money; demotock; £78.—Elce and Co., 15-16, Bishops, Camomlie St., E.C.3.

P. and M. R.F.C. Model, in perfect condition, th all lamps. Jones speedometer, horn, etc., has a few hundred miles: price 85 gns.—Apply, Garage, Ltd., Ludlow.

DN and Moore, ex-military stores, overhanded sent ou approval, £78; complete with B.S.A. legar, £115.—Mandes', 100, Gt. Portland St., also 100 Paris St., Exeter. [7341

Post-war P. and M. Combination, ratchet also mechanical lubrication, latest pattern C. Cowey, Lucas lamps, born, petrol carrier; offer.—193, Broomwood Rd., Clapham, S.W. [7240]

March) R.A.F. P. and M. Comhination, Lucas mps and horn, ridden Easter only, condition delivered; first cheque £140.—A. Finch, 40, d., Cricklewood, N.W.2., or 'phone: Willes-

P. and S.

"HOPE'S, 9, Shoe Lane, Fleet St., London.—
and S. 2-struke, 2-speed model, Villiers
669/15; kick start and clutch
10m stock. [6858]

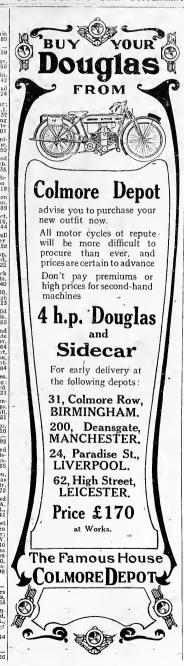
Irom stock.

L have a 1919 Pearson Sopwith, Dalm en, 2-speed, chutch, kick starter, fully equipped, order—Fair Offer Car House, 5, Heath St, dt for, Hampstead Tube Station, Phone: dt 0r. Hampstead Tube Station, 1906.

d 3752. Hours 9-7, including Saturdays.

Peugeot.

OT 3h.p., mag., good order, ride away; £23.— St. Leonard's Rd., Mortlake. [X9656



MOTOR CYCLES FOR SALE.

Pengeot.

PETGEOT 5-6h.p. and sidecar, Villiers F.E. hub; ride away; £35.—Radham, 221, High Rd., Williesdeq Green. [X9781

Mercal DEUGEOT Sh.p. Twin, B.B., Bosch, clutch, nemps, model, disc wheels, T.T. buts, new tyres and bed, lamps, horn, etc., good condition, very last; ±50,-37, Mayfair Av., Hard.

5 -61.p. Pengeot, fast and low, Bosch mag., Triumph carburetter, good tyres and tubes, in good running order; £27, or exchange 2-stroke.—94, Abb.y Terrace, Leck Rd., Hauley.

Terrace, Leck Rd., Hauley.

7 h.B. Pengech, 2-speed, Bosch, new Amae, new coachbuilt bulbous sidecar body, lamp sets, excellent condition, 258; 3 hp. Enfield, 2-speed, 242; 3½h.p. Triumph, almost new condition, 243; 35h.p. Triumph, 538; 35h.p. Falirir, on.i., new Clincher de luxe covers and tribes, (28; 3½h.p. Minerva, £26; new Radco, makers' price; Harley combination, special engine and large sidecar, £169—Western Motor Garage, 76, Western Rd., Southall, W. Phone; 58, [6778]

19 17 Pope 7-9h.p. C.B. Combination, countershaft gears, hand and foot clutch, all chain, speed-ometer, lamps, a splendid outfit, unscratched; £135—Cavanagh, 27, Palliser Rd., Barons Court. [6889]

Precision.

PRECISION-CALTHORPE 21/4h.p., 2-speed, Lucas lamp, good condition; bargain, £35.—Harper, Crayen Arms. [6931

clock, £5.-55, Kiug Edward St., Slough. 7139

PRECISION 44h.p. C.B. Combination, 3-speed gear loox, sparses, tubes, tyres, etc.; trial run, after 6: £90.-Authony, 44, Newburgh Bd., Acton, W. [6938]

T.T. Precision 34h.p. Philipson pulley, B. and B., Bosch, Druids, hoster, toolhags, footrests, excellent condition; £45.-63, Solon Rd., Brixton, 16958

SOUTH Laucashire, North and West Cheshire.—Precision enquiries invited by J. Blake and Co., the leading motor cycle experts Liverpool and Manuclester. [6582]

PRECISION-ENGINED Big Single, 3-speed clutch, comfortable Millford sidecar smart appearance, good mechanical order; £75; hest offer.—16, Wakehurst Rd., Clapham Junction.

1914 4(h.p. Precision, coachhuilt sidecar, speedo-meter, horn, mirror, lamps, coondrishaft, gen hox and kick starter; £100, or reasonable offer.—3, Priory Mews, Belsize Rd., Kilburu, N.W.6. 'Phone: Hampstead 8155.

Premier.

PREMIER 1913 31/h p., good condition; £35.—28, Grange Rd., Southall, Middlesex. [7481

4 h.p. Premier Combination; £70.—Apply after 6.30, 6, Birnam Rd, Tollington Park, N.4. [6407

33h.p. Premier, splendid condition, very fast; £36, 4. or offer.—Chappell, Sketchley, Hinckley. [X9378 PREMIER, 1915, 2h.p., fine condition, all accessories; £35.-14, Phoenix St., Euston, N.W.1.

Sories; £35.-14, Phonix St., Euston, N.W.1.

PREMIER Combination, 3½h.p., 3-speed, clutch, good condition; £60.-Miles, Bodicote, Banbury.

PREMIER 2½h.p. single-speed, Bosch, excellent condition, complete; £36.—Gray, Paddock Wood, Kent. [7016]

PREMIER Coachbuilt Combination, 1914, 31/h.p.,, 3-speed, clutch. Lucas lamp; 65 gus.—Measures, Glencoe, Measham. [7196

PREMIER Combination, engine No. 5923, 3-speed Armstrong hub, new gears; £45.—Hogger's Garage, Godalming, Surrey. [X9508

PREMIER 2/4h.p. 1914, mecha-ical condition, appearance, tyres excellent; £32.—Thorobill Rd. School, Barnsbury, N.1. [7004

PREMIER Lightweight, Bosch, B. and B., economical mount: 30 gns., including accessories; any trial.—Hull, Chaudos, Buckingham. [6745]

Hull, Chaudos, Buckingham.

2 h.n. Premier Combination. Bosch. B. and R. Druids, Milliantum 2-speed; any tital; 250.—Ambross, Station, Burnham-on-Crouch.

PREMIER 25th, let 1915, Bosch mag. B. and B. Carbutter, splendt condition throughout; 240.—Laughilla, 34, Topsped France, Crouch End. [6533]

4 h.p. Fremier 1915 3-speed countreshiptif Combination Coultries, lack start, Henderson sideour, lamps, machantal horn, perfect; £110.—47, Granville St., Barnselbart, 1915 3-speed Countreshiptif Combination (7176)

PREMIER 1916 4h.p., roomy sidecar, 3-speed, clutch. Bosch, excellent condition, fast: £90, or offers; apply after 6.-533, Lordship Lane, East Dulwich, S.E.

MOTOR CYCLES FOR SALE.

Premier.

1914 Premier 4h.p. and W. S.C., 3-speed, clutch, Mec. born, P. and H. lamp set, good condition, very powerful, take 4 anywhere; 260, no cards or dealers.—Elliagworth Studio, Oakham. [5261]

Emngworth Studio, Oakhom. [6261]
DREMHER 1915 7-9h.p. Combination, Canoclet
case carrier, electric and acetylene lighting, complete, in
excellent condition, all accessories, including speedmeter, spare tubes, tyres, etc., insurance; 125 gra, or
mear offer; seen after 7 p.m.—J. R. Dean, 135, Church
Rd, Brunes, S.W.13.

Quadrant.

QUADRANT 1920 Combination, new; £135.—Clifford Wilson Mig. Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Kens. 7113.

December 3, S.W.5. Kens. 7115.

92 Quadrant 4½hp., Solo; unable accept delivery, April 30th; £10 deposit; what offer?-Neeson.

WAUCHOPE'S, 9, Shoe Lane, London-New 4½hp., 3-speed, clutch and K.S. models, all-chain drive, 1920 medels; book now; deliveries in 10 deposit.

Raleigh.

RALEIGH, 1910 or 1911; new Dixle, B. and B., footboards, mudguards; ride away, £20; 3-speed Humber push bike, new tyres and tubes, £8.—W. Reid, Skeog, Whithorn, N.B.

Radco.

RADCO 2%h.p. 4-stroke, new, M.L. and B.B., perfect order; £35; after 6.—17, Miranda Rd., Highpare Rd. (1892)
RADCO 224h.p., in fine condition, new tyres; £27 for quick sale.—Brooks, Abbey Terrace, Leck Rd., Hanley.

Reading-Standard.

Reading Standard.

READING STANDARD, 10h.p., clutch model, scarcely used, as new; £100.—McEwan, Over Kinianns, [6776

1920 Reading-Standard, 10h.p., electrically equipped, not done 1.000 miles, new condition; £175 cash.—Willis, 28, Priory Rd., Edgbaston, Birmingham, [X9925]

19 20 Reading Standard 10b.p. Combination, Cancelet sideoar, hood, wind screen, electric lighting and horn, delivered only a routh ago, as new, own buying car; £245.—Shedden, Shalford, near Guildbuying car; ford, Surrey. [6762

COMBINATION, Reading-Standard, 8-10h.p., late medel, coachbuilt sidecar, 2-speed, clutch, K.S., new heavy Duulop rear, in good condition throughout; £110; appointment.—Harris, 150, Walm Lane, Crickle-wood, X.W.2.

Regal.

1914 4½h.p. Regal-Green Combination, water-cooled, 2-speed countershaft, chain drive, fully equipped, excellent condition; £75.—Walling, Ham House, Upten-on-Severn. [X9927]

Regent. SEND Postcard for particulars of Regent 5-7h.p. flat by twin to us. We can give earliest deliveries of these machines.—Elliott Bros. and Stevens, Cambuslang, Lanarkshire agents.

Revere.

19 20 21/h.p. Revere-Villiers, lamps, and accessories, only done 300 miles; £55.—Vernon, 54, Croxted Rd., Dulwich.

Rex.

REX 6h.p. Combination For Sale; £80.-106, Coningham Rd., W.12,

REX. 31/2h.p., 2-speed; £39, bargain.—Mosedale, 30, Canterbury Rd., Kilburn, N.W.6. [6818

1914 4h.p. Rex, condition excellent, lamps; £58.— 254, Hightown Rd., Lnton, Beds. [7067]

EX 31/h.p., absolutely perfect, overhauled; £35.—Lucas, High St. Honse, Bexley, Ke first

REX 5-6h.p., a.i.v., Simms mag., B. and B., in good condition; £22. — Ritchie, Bread St., Fleet, Hants. [6768]

Hants. [6768]
REX 5-6h.p. Combination, 2-speed gear, tyres, etc.
in excellent condition; £58.—Hudson, 14, Conway
Rd., Plumstead. [6388] etc..

19 13 6h.p. Rex Twin Combination, engine just over-hauled; £75.—Mangin, Cypress Cottage, Lynd-hurst, Hants.

REX Combination, 5-6h.p., 2 speeds, F.E., C.B. side-car, sound condition; any trial; £55.-53, Russell Rd., South Tottenham.

3½ h.p. Rex Combination, mag., perfect order, side-2 car new; £42, or offer.—Hanby, 32, Greenside Rd., Shepherds Bush. [7471

REX 3½h.p., new Bosch, Amac, tyres perfect, T.T. lamps, mechanical horn, ride away; £29.-135 Mornington Rd., Leyton-tone, E.11. [705] -135 [7051

CLUTCH Model Rex, 4h.p., 1914, E.I.C., B. and B., new Dmilops, and belt, tip-top throughout; £27/10.—4, Palace Rd., Hackney. [6846

REX 1913 6h.p. Twin, 2-speed, clutch, handle start, Dunlop tyres, T.T. bars, footboards, in most exceptional condition throughout fine sidecar machine; £55; exchanges.—R. D. Varty, Thunders, Esex.



MOTOR CYCLES FOR SALE

Roc.

APRIL 29TH, 192

21h.p. Roc-Jap, Simms mag., B. and B. carbu 22 a.o.i.v.; £22/10.—Emery, 36, Lowlands Harrow.

4 h.p. Roc, countershaft variable gear, very overhauled, stored 5 years; £37.—Lancaste vizes Rd., Swindon.

R OO Motor Cycle, 4h.p., carriags built sided speed, in good condition; price £55; call a p.m.—Rollerts, 268, Earlsfield Rd., Earlsfield.

Rover.

NEW Rover 5-6h.p., just arrived; 2155; latest-Feavieur, Harleston.

31 h.p. Boyer, late 1916, hardly used till 1919 class condition.—Rose's Gorage, Uxbridge ROVER Brand New 1920 5-6h.p. Solo er C

ROVER Combination, 31/h.p., 3-speed, Gloria's £90.—Simmonds, Delaunay Studio, Farms

ROVER 31/2h.p., good running order, perfect; Reeves, 15, Hazelwick Rd., Three Bridges, 19 14 Rever, clutch, lamps, born, fast; 250, change.—Williams, 38, Thrale Rd., Stre

5.6h.p. Rover and luxurious sidecar, in splead dition; £145, or offers.—B., 67, High St., Walden.

6 h.p. Rover, 3-speed, reverse, tyres and spare lamps, running order; 250.—Nason, San Broadway, Wores.

3½ b.p. Rover, 1915, Besch mag., B.B. carbi 3½ 3 speeds, clutch, and sidecer; £65.-6, 6 Rd., Harlesden.

19 16 Rover Combination, 31/2h.p., elected, Leytonstone, E.11.

ROVER 3½h.p., 1915, with ceachbuilt speed countershaft, excellent order; £ 32, Ferrers Rd., Oswestry.

6 h.p. Rever, good order, 2-secter, smart apper exchange for strong combination.—Burk Broughten Rd., Edinburgh.

19¹⁴ 5½h.p. T.T. Rover, in perfect running clutch, and gears; £60, or near offer Ordnance Rd., Enfield Lock, N.

ROVER, 31/2h.p., 3-speed, clutch, wicker perfect running order; what offers?—Church Lane, Barford, Warwick.

ROVER 3/h.p. 1920 Combination, new; off part exchange modern lightweight; Scot Box 3,506, c/o The Motor Cycle.

R OVER 4h.p., 3-speed, clutch, original Dunlo Lucas lamps, horn, as new: £75.—Eaves, 5, field Rd., Shepherd's Bush, W.12.

SUPER-SPORTING Rever, 1916, Philipson, dis exhaust, very snappy; £87/10, no offers; appointment.—Brett, Alderclose, Egham. ROVER Combination, 31/2b.p., all accessories ing set, excellent condition; 95 gus.—H. Evans, 70, Warwick St., Learnington.

3½ h.p. Rever, 1913, Bosch, B. and B., Ar 2 speed, lamp, good condition, splendi order; £55.—Willmer, Shillington, Hitchio.

3½h.p. Rever, believed 1914, Sturmey-Archer hub gear, good sound order with communication with remarker sidecar; £70.—Bridge House, Boxford,

ROVER 31/2h.p. 1914 Ceachbuilt Combina speeds, good running order; £62, near Stored at Hill's Garage, Woodford Wells, Wo

R OVER 1914 31/h.p., 3-speed, Bosch, just over by makers, with Watsonian sidecar; \$76. Crittenden, 15. Eccles Rd., Lavender Hill, S.W.

1914 T.T. Rover, clutch and Philipson, since 1914, original tyres and tubes stured; £55; call any time.—51, Gleugarry Dulwich, S.E.

R OVER Combination, late 1914, 3½h.p., combination, sidecar, 3-speed clutch, accessories, just bauled, excellent condition; £98, or offers.—Jo Abbeville Rd., Clapham.

A ROVER 31/h.p., 1914, 3-speed and clutch, fect condition, a good reliable and fost i for any distance; for quick sale, a bargoin, 4 Matthews, 166, High St., Sheerness.

R OVER Combination, 3½h.p., countershalt, chain, belt, excellent condition and tyree nearly new, quite a perfect outfit, 1915—356, Lordship Lane, S.E. Phone: 363 Sys

19 19 Rover 3½h.p., 3-speed countershaft, kick starter, new Watford trip, speed Klaxen horn, toels, delivered last December, seen in Manchester.—Box 588, cle The Motor of

R OVER, Oct., 1919, T.T. model, not done 80 Philipson pulley, dynamo electric lightin plete with set of accumulators, tools, and ketec, will do 100 miles to a galloo, Dunlop new; first offer over £98 secures.—Apply, and Puttick, North St., Romford, Essex.

OTOR CYCLES FOR SALE.

Rover.

R. 31/h.p., 1914, underslung metal sidecar, and grey, 3-speed, clutch, engine recently ed, robushed, gears recewed, perfect running, front forks, seni-7.T. burs, hungs, horn, houd, ppearance excellent, privately owned; £80.—tree's Garnge, South St., Romiord. [6605]

Royal Ruby.

Royal Ruby New 3h.p., spring frame model, in xk.—Clarke and Co., Queen St., Louth. [7161 Royal Ruby 2-stocke, perfect running order; ghest over £30,-Pahy, Ballinrobe, Mayo, Ire-[6669

I. RUBY, 1919, 235h.p. 2-stroke, perfect con-ion; £46; after 6.—1. Seymoni Terrace, Anci-[6655]

PON'S, Northgate, Ipswich, can give early de-ry of Royal Ruby if ordered now. 'Phone:

I, RUBY Combination, 1916-17, 2 speeds, uplete, lamp, tools; £70.-2a, Barry Rd., E. 17235 Royal Ruby 21/h.p., 2-stroke, lamps, tools, etc., good condition.—Apply, Reliance Motor Works,

Royal Ruby Combination, 8h.p. J.A.P., hood, een Klaxen, splendld condition; £145,-101, t., islington, N.I. [6828

t. Islington, N.I. (6898)
Combination June 1919, 8h.p. J.A.P., electing, some properties of the control of the

9 Royal Ruby 8h.p. Coachbuilt Combination, speed, kick starter, smart turnout, almost as 65.—Kington, 2, King Edward Parade, North. (7224

LRUBY, 1919 (November), 8h.p. J.A.P., 3-3ed S.A., countershaft, combination, fully in benutiful condition; £175.—79, Castebuch, Riverview Gardens, Barnes.

Rudge

Bros., High St., Guildford, Rudge agents, ply at list prices. (X7948 Ed.—Early delivery of all models.—Bedford age, Walsall. 'Phone: 270, [5309]

tudgo Multi, I.O.M., new; £110.-301, Gold-wk Rd., Shepherd's Bush, W. [6714

tudge Multi 31/h.p. War Model; £50.—Spark, '8, Pentonville Rd., King's Cross, London. [6549 tudge Multi Combination; immediate delivery; 62/15.—Priestley, Seamoor Rd., Bournemouth, Multi, I.O.M., T.T.—Delivery this month, ten Motors, Rudge Specialists, Dorking, 16813

tadge Multi Combination, re-enamelled; £80. 574, Grove Green Rd., Leytonstone, E.11.

374, Grove Green Rd., Leytonstone, E.11.
 7438
 1ate 1919 Rudge Multi, 3¹4n.p., mileage 500;
 93, Oak Lane (Phone: 2190), Bundrout.
 5 Multi 3¹5h.p. 1916. lamp, horn; £71;
 5 Adency, John's College, Cambridge. (10)
 Rudge I.O.M. Multi, re-gnamelled.

Rudge I.O.M. Multi, re-enamelled, as new; 10-374, Grove Green Rd., Leytonstone, 17437 Multi, 1918 I.O.M., all accessories, tyre, very fast; £85.-45, Duke St., Henley

Multi, 1917, 31/h.p., lamps, horn, splendid lition; £68.—36, St. Thomas Rd., Hackney. [7582

Rudge, clutch, lamp, horn, good tyres, belt, r. bars, fast; best over £40.-4, Broadmend stone. [7072

dodel Rudge Multi, foot oil pnmp, new lamps, fost and powerful; bargain, £70.—171, Gulson atry. [X9904] i.—We are Rudge specialists, and can offer delivery.—Blackburn and Sons, Station palding. [4959

M.p. Rudge Multi Combination, lamps, in-ance; £118.—Deller, 16, Camden Gardens, Bush. [7475]

! Combination, kick start, clutch, powerful; away: £58,-57, Kenbury St., Coldharbonr nberwell.

Multi 1916 31/h.p., hand clutch, kick starter, tyres, as new; nearest £70,—Lawson, 391, Lane, Dulwich. [7300] HOPE'S, 9, Shoe Lane, London, E.C.4.— h.p. I.O.M. Rudge, 1919, £115; also 5.6h.p. dti and sidecar, £99/10. [6865]

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26 X 21	Skew	Heavy	Non-skid	.51/8	64/4
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			ib	70 /-	85/-
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26 × 21 New Endless	8/6	10
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BELTS. 1″ 2/9 3.3 per foot.

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MOTOR CYCLES FOR SALE.

Rudge.

1920 Rudge Multi, 3½h.p., 1.O.M., brand ner complete, with accessories; £125.—Heath Hous Cuddington, Malpas, Cheshire.

Cuddington, Malpas, Cheshire.

19 19 (Dec.) 3½hp. 1.0.M. Rudge Multi, CA.V.

10 Randers, Marford, Wreckham.

10 19 4 3½hp., Rudge, Phillipson, new tyres and beld, and Blake, Church St., Bligzleswade.

19 4 3½hp., Rudge, Phillipson, new tyres and beld, and Blake, Church St., Bigzleswade.

17446

19 20 1.0.M. Rudge Multi, brand new; £117; will ride to purchaser if necessary. St. Ives, Burden, W. C. B. S. Brand, W. C. B. Brand, W. C. B. Brand, W. B. Brand, S. Brand, W. B. Brand, W. Br

R UDGE Combination, new Nov., 1919, 5-6h.p., done 500 miles unscratched; £140; exchange considered.—Brisbourne, Draper, Uttoxeter. [7511

1916 3'thp. Rudes Multi sentis T.T., 1920 robottle. School selected conditions of the selected selecte

19 S Rudge Multi 3!-h.p. and sidecar, in perfect running order, C.A.V. mag., lamps, and horn; £65.—Ellis, 17, Finsbury Rd., Wood Green, N. [6875]

19¹⁵ Rudge Multi, 3½h.p., lamps, Klaxou, speedameter, knee grips, new tyres and belt; £65. offers.—2, Hillside, Stonebridge Park, Harlesden. [6631 19¹⁸ 3½h.p. Rudge Multi, recently overhauled, lamps, Klaxon, 100 miles per gallon, condition perfect; £85.—Culleo, Mendow Rd., Beeston, Notts,

perrect; 285.—Culleu, Mendow Rd., Beeston, Notte. (6263 R UDGE Multi Combination, 3½b.p., coachbuilt side-car, good coudition; eeen Williamson, Cycle Agent, Cupar, Fife; £85.—Streeten, Brompton Barracks, Ohnt-ham.

RUDGE Multi Combination, 5-6h.p., 1916, over-hanled by Rudge, in splendid condition, Parsons new sidecar; £115.—Turnill and North, Peter-borough. [7418]

RUDGE Multi 3½h.p. Combination, fully equipment small mileage, perfect condition, as new, 120 gns.—Stankey, 15, Trinity Mews, Bessborough Gardens, Westminster

Westminster. [7532]

19 16 Rudge, I.O.M., 1919 engine and clutch, just been completely everhauled, fully equipped and insured; any trial by appointment; £80.—15, Whitley Rd., Tottenham. [7064]

R UNCE Multi 3½h.p. Coachbuilt Combination. Rullication of the complete of the condition full equipment; £8 gns.—Kington, 2, King Edward Parade, Norbury, S.W.

10 16 3½hp. Rudge Multi and Coachbuilt Sidecar, all lamps. Klaxon, and accessories, overhauled, and perfect; £95: any trial; letters.—Grubb, 218. Windmill Rd., Chatham. [5560]

91h.p. Rudge Malti Coachbuilt Combination, 1915.
2 just thoroughly overhauled, re-enamelled, looks almost new, electric lighting, spares: £90.—Apply after 6, 42, Freegrove Rd. Hollowny, N.7.

I.O.M. Rudge Multi 3/40.p., clutch, believed 1917, in good condition, lamps, Klaxon, Cower speedometer, new tyres, tools, spare-belt; 75 gns.—E. Shenstone, Grange Rd., Leyton, E.10

R UDGE Multi 31/h.p., and Milford C.B. Sidecar, sprung wheel, carefully overhauled, new belt. Dunlops (1 new), lamps, mechanical born, ready for our; 295.—Lythaby, 97, Bowes Rd., N.13. [7494]

19 1.0.M. Rudge Multi, special coms. Lucas lamp, mechanical horn, spares, belt, etc., very fast, perfect condition; price £97.—Reid, 5, Charles St., Knightsbridge. Tel.: Kensington 4039. [6897]

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9-7, including saturdays. [654]

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T. Rudge Multi and C.B. sidecar, 3½5.p., Multi speed, C.A.V. nug., Sensprus enrouretter, Stewart speed, C.A.V. nug., Sensprus enrouretter, Stewart thes, sidecar repainted, in perfect condition; £100, or sepande, £85, and sidecar £15.—Gilliat, Burton Lati-ner, Kettering.

BUDGE Must 335,pp. late 1915, T.T. barr per Budge Budge 1915, and the barres, took, P. and H. bed-light, Lincas horn, and rear light, Stewart speedometra, knee grips, over 100 mp.g., last, stored 1917 and 1918; 70 gps.; seen by appointment at Streatham— Wite Box 3,482, for The Motor Cycle [6879

19 20 Rudes Mutt, T.T., mileage 700, P. and H. head changed and the state of the st

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TMMEDIATE delivery of Saltley-Villiers 2-stroke, single-speed £56, 2-speed £66.—London concessionaires, Lancaster Motor Co., West Norwood. A few agencies available. [4242

Scale.

19 20 New Scale, 31/3h.p. Precision engine, 2-stroke, 2-speed, clutch, kick start; £85; immediate deliveries.—Rochester Auto Supply Co., Rochester. [6405

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SCOTTS.-Place your order now with the Bedford Garage, Walsall. Phone: 270. [5308] SCOTT Combination, new condition; £120.—C/o Rolo Garage, Streutham Place, Brixton Hill. [6220

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 3%h.p. Scott and sidecur, 1913; £69/10. (6672 21h.p. Scott, splendid condition; £65; ride away.—
Witton, Walton-on-Hill, Tadworth, Surrey.

[6485]

COTT Combination, 1915, excellent condition C.A.V.
mag., B. and B. cardaretter; £90.-6, Logdey
Rd., Elmers End, Beckenham.
COTT 1920, speedoweter, mechanical hora, 500 miles,
periect; offers; Birmingham; appoiatment arranged.
-Box 3,467, clo The Motor Cycle.

19²⁰ Scott Combination, excellent condition, fully, insured, done 400 miles only: £160; seen by appointment.—Alley Studio, Clay Hill, Bushey, Herts. [5340]

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SCOTT and Sidecar (Aug., 1919), F.R.S. Major lamp, Lucas horn, spare tube in case, handle-bar muffs, complete set of chains and spares; £155; Coventry.— Box 573, c/o The Motor Cycle. [X3679

S COTT 354h.p. Canceleb Sporting Sidecar, completely overhauled by makers at a cost of £55/10 January this year, not run since, whole outfit like new; £115.

-H. Rhodes, 595, Halliwell Rd., Bolton. [6478]

SCOTT Sporting, 1920, Swan sporting sidecar, manye, Lucus head lamp and horn, electric sidecar and tail lamps, spare generator, luggage grid, streamline wind sereen, spares, tuned by Scott expert, perfect 160 gus.—237, Claphom Rd., Stockwell, S.W. (7457

Singer.

3h.p. Singer Motor Cycle, in running order: £31, or 4 near offer.—Matthews, 49, Sidwell St., Exeter. [5951 SINGER 1914 2½h.p., single-speed, fast, reliable; £29.-20, Treen Av., Hoggers Corner, Barnes, S.W.

4 1h.p. Singer, 2 speeds, conatershaft, Millford coach-huilt sidecar; £75.-68, Burton Rd., Brixton, 8.W.9. [7100]

SINGER Combination, 4½h.p., countershaft gears, K.S., all accessories; £70.-C.S., 14, Swaton Rd., Bow, E.3.

21h.p. Singer, 2-speed, clutch and kick start, in per-iert condition throughout; £37/10.—Selman, 27, Belsize Cresceut, N.W.3. [7181

SINGER 214h.p., in perfect running order, Bosch, B. and B., Druids, new belt and tyres; £26.—
Bowers, 27, Fox St., Scunthorpe. [7278]

SINGER 1914 3½hp. Combination, perfect running order, N.S.U. 2-speed gear, lamps, hora, etc.; £60.—Hodges, New St., Sidmonth. [6330

SINGER Lightweight, Bosch mag., Druid spring lorks, good tyres and belt, perfect order: £18, barkain.—Box 596, c/o The Motor Cycle. [X9907]

19 14 Singer-Jan 4h.p., original enamel as new, new tank, Palmer cord and belt, Bosch mag, B. and B., adjustable pulley, drip feed, both engine and machine in excellent condition, fast, sporty, and really a snip; 537/10.—Homestead, Birchington. [6729]

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19 20 Sparkbrook, new, 2-speed, 2-stroke, Smrth's, 86, Chalk Farm Rd., opposite Farm Tube Station.

SPARKBROOK 2½h.p., 2-speed, lamps and hor used, splendid condition; £50; after 7-2 burgh Rd., West Side, Clapham Common.

19 19 Sudbrook-Villiers 2-stroke, 2-speed, e condition, unpunctured; £60.—Wakelin, side, Cheltenham Rd., Gloucester.

IN Stock, 1920 Suz-Vitesse; £61/10.—James Church Stretton.

21h.p. Sun-Vitesse, 2-speed, 2-str £58.—The Gratwicke Garage, 2-stroke, near SUN-VILLIERS 2-stroke, 2-speed, 5434; £40 evenings.—Sams, 48, Ingleow Rd., Batt

19¹⁶ Sna-Vitesse 2-stroke, 2-speed, ac good condition; £38; after 6.—Milton, ford Rd., Paddington.

SUN-VILLIERS 2-stroke, 2-speed, in fi order; \$50.—Bridge House, Boxford, Sp

SUN-VITESSE 234h.p., 2-stroke, 2-speed, 19 away; £38.-36, St. Thomas Rd., Hackn don

SUN-PRECISION 3½h.p., coachbuilt sidect screen, 3-speed, clutch, kick start, accessori new; £75.—36, David Lane, Shadwell, E. SUN-VILLIERS 23/h.p., 2-stroke, 2-speed sories, comprehensive insurance, splend tion; £55; -appointment.—Gardner, 204, Be Rd., Catord.

Sunbeam.

31 h.p. Sunbeam Combination, early May-offers.—Box 3,491, c/o The Motor Cyc 23h.p. Sunheam, 2-speed, kick start, spee Klaxon, perfect; £72/10.—Harper,

SUNBEAM 1919 4h.p., Gloria de luxe sidea wind screen, Klaxon; offers over £165.— Mansions, Balham.

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SUNBEAM, 254h.p., 2-speeds, kick starte drive, Bosch splendid lightweight; £68-103, Lee Bank Rd., Birmingham.

SUNBEAM-MILLFORD, 1916, 31/2h.p., appearance as new, new tyres; hargain, Thorne, Fish Shop, Lambourn, Berks.

31h.p. Sunbeam Combination, countershaft, p 2 C.B. sidecar, lamps, horn, first-class c £150.—34, Osgathorpe Rd., Sheffield.

FOR Sale, 31/h.p. Sunbeam motor cycle of Fulford sidecar, also several spores; pri-T. Roddis, Ltd., Roade, Northants.

SUNBEAM Combination, 3%h.p., 3 speeds, k enclosed chain drive, Bosch, good ec £110.-8, Gleagarry Rd., E. Dulwich.

SUNBEAM Combination, 31/3h.p., 3 speed clutch, kick start, everything in perfection; £98.—12, Station Parade, Muswell Hill.

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EAM and B.S.A. Sidecar, black, tyres good, sently overhauled, new chain, 6h.p. J.A.F., 3-Bosch, lamps; near £150.—Mallinson, Spring ledlington. [7607]

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EMBER, 1919, Sunbeam and sidecar, 3½,5,p., cas, necessories, perfect condition, scarcely used, thei; £190.—Duncrort, Dunchurch Rd., High-Paddex, Rugby.

EAM 3/kl.p., 1919, done 500, special finisles, lined black, polished chain case, discs, Lacus xon, mirror, kuce grips, tyres and caused as 142.—Box 5,462, c/a The Motor Cycle. [6781

EAM Combination, 313h.p., 1916, engine No. 5/403IG.S., black and gold, 3 lamps, 2 ns, horn, Cowey speedometer, excellent con-£138 lowest; 'after 6 p.m.-71, Manor Park.

Ortober, 31th.p. Sunbeam, just overhauled, nevrlinder, piston, valves, solo and sideer sprocest, it C.B. sideer, lamps, etc.; solo £115, or wit. £140; Coventry district.—Bax 590, c/o The \$100.000 and \$100.0000 and \$100.000 and \$100.000 and \$100.000 and \$100.000 and \$100.000 and

EAM.—We are Wolverhampton agents; spart ts in stock; repairs, overhauls, re-enamellin, ting under the supervision of Mr. T. C. de la the Sunbeanland)—The Molineux Garage Co. Yolverhampton. Tel.: 1160. Volverhampton.

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T.D.C.

. 4h.p. Combination 1914, 2-speed; £45.-31, trensbourne Rd., Catiord. [7572

T.D.C. 2-speed 2-stroke, fully equipped; £45. -42, Perran Rd., Tulse Hill, S.W. [7048 T.D.C. de Luxe 2-stroke, 2½h.p., 2-speed, good condition, tyres good; £45; what offers.—W. lall, Audorer. [7508

de Luxe, 2-stroke, 2-speed, Amac, new saddlé d back tyre, lamps, horn, etc., ride away; p.m.—115, Dulwich Village, S.E.21. [6894

p.m.—115, Dillwich village, S.L.2.1 (1992).

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19 16 Triumph C.B. Outfit, £40 sidecar, n tip-top let: £120.—Motlands Garage, Motlade. (X9723 TRIUMPH 4h.p., 1918-19, countershaft 3-speed, as new; £90.-Hatton, 3, Hallsule Cottages, Fact Unchley.

1 Thickley.

2 1h.p. Triumph Combination, 3-speed, lamps,
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[6282]

TRIUMPH, 1913, ctutch, mechanically perfect, good appearance; £45.-141, Merton Rd., Wimbledon.

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W.9.

TRIUMPH Junior, brand new, just delivered; first offer £80 secures.—S. Day, Brock House, Marden, Kent.

TRIUMPH, 31/2h.p., overhauled, enclosed mag., all ccessories; £39. — Hodges, 222, Southmead, Bristol.

TRIUMPH 3-speed, practically as new, fully equipped, only wants seeing; £100.—28, Hamilton Rd., Twickenham. [6349

TRIUMPH, countershalt, in new condition, set, only wants seeing; 90 gns.-12, Thrale Streatham.

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TRIUMPH, 1914, 3-speed and clutch, fast reliable, fine machine; 60 gns.-141, Merton Wimbledon.

3½ h.p. Triumph, clutch model, with decompressor, tip-top condition; £57/10.—Riddelsdell, Boxford, Suffolk.

ford, Suffolk. (7209

2 1.p. Trimmph, free engine, good condition: 445,
2 or nearest offer. -26, Spenser St., Buckingham
Gate, S.W.1. (728s

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Ashwell, Herts. [6357]
TRIUMPH 1915, 5-speed, James cancelet sideous all accessories; bargain, £78.—365, King St., Hammersmith.
Tricontly overhauted; £38.—126, Munster Rd., Fulham, S.W.6.
1914 Triumph 4h.p., 3-speed, clutch and sidecar, mac, Slo gh. [7197]

man, Slo gh. [719a7]

1 1h.p. Triumph, 1911, fixed, in fine order, overham Devizes Cost £17; take £40.—Lancaster, 66, Devizes Rd., Swindon. [7229]

TRIUMPH 31/4h.p., 2-speed, clutch, Bosch, B. and B., overbauled, periect condition; £38.—Bostock, Byron St., Ilkeston. Byron St., Ilkeston. [N968]

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Bosch, la.nps, Amac, etc.; £40.-5, O-born Rd.
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TRIUMPH Junior late 1919, new condition, speedometer: £66; seen by appointment any time.— Dunham, Hall Place, St. Albans. [7195

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1914 Triumph Combination, ceachbuilt, 4h.p., 3-speed, clutch, accessories; £78.-2, Couthurst Rd., Charlton Rd., Blackheath, S.E. [6895

TRIUMPH 4h.p. 3-speed hand clutch, lamps, mechanical horn, nice machine (or exchange); \$85.—136, Larenham Rd., Southfields. TRIUMPH, countershaft, engine No. 46901, type decompressor, in new condition; £92, Searle, 3, Burnard Rd., Wallington.

[7257 TRIUMPH Junior, 1916, lamps, horn, handle-bar mirror, perfect running order; 255.—Tallie, The Cottage, Middleton, King's Lynn. [6320]

10 17 3-speed Countershaft Triumph, 4h.p., born, lamps, tools, excellent condition; 85 gns.; atter 6.—9, Faucenberg Rd., Chiswick.

TRIUMPH 4h.p. 3-speed, clutch, overhanded and renovated, as new, engine in first-class order; £63.

-262, Blackhorse Lane, Waltbamstew. [4038]

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-Williams, 14, Highland Rd., Bromley, Kent. [6798] 19 17 Triumph. counter hait, all accessories, feet condition; 78 ans.; bargain; or exch good lightweight.—20, Derby Rd., Croydon.

TRIUMPH Combination, 3½h.p., B. and B., Bosch, F.E., perfect condition, all accessories: £58; after 6 o'clock.-6, Westwood House, Wood Lace, W.12. [6378 TRIUMPH 1914 3½h.p. Combination, S.A. 3-speed hub, foot clutch, recently overhauled by makers, lamps, tools, etc.; £75.—Clegg, King St., Stalybridge.

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WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—4b.p. Triumph combination, 1918, offers; also 31/2h.p. Triumph, 1912, free engine, 2-speed N.S.U. gear, £65.

TRIUMPH 3½h.p., clutch model, in splendid condi-tion, thoroughly reliable, good lamps, tyres and accessories; seen any time; £40.—Morrish, Berton, Nid-lurst. [X985]

T.T. Triumph, clectric lamps, D.R. bars, speedo-calthorpe-Jap, or similar; or sell £46.-49, Weil St., Hackney.

TRIUMPH, clutch, lamps, horn, good tyres, ow going abroad; trial.—13. Whymark Av., Wood Gr. 22.

TRIUMPH 31/h.p., recently overhauled, good running older, policy; ride away; 250; Grado Multi gear, practicully new; what offers.—5, Harold Rd., Upper Norwood.

1914-15 Triumph 4h.p. Combination, 3-speed clutch, S.A. Jiub, louin, horn, kit of tools, in first-class order; £80; sole £70.—Clark, Milton Cottage, Methren, Pertishire.

JONES' CARACE.

1. Broadway. MUSWELL HILL-

'Phone-Hornsey 2562. 'Bus from Higheate or Finsbury Park.

OUR STOCK includes

Combination £200 0
1920 4 h.p. TRIUMPH Com., equipped. £165 0
1920 34 h.p. ARIEL Combination £147 10
1919 8 h.p. NEW IMPERIAL Combination, Impused 1910 43 h.p. unused ... £165 0 1920 43 h.p. JAMES Combination. List Price 1920 22 h.p. HOSART-VILLIERS ... £22 10 1920 22 h.p. O.K. Junior, Villiers 2-speed £95 0 All above are Brand New.

All the following guaranteed, majority as new.

MOTOR CYCLISTS' EQUIPMENT. A serviceable interlined coat that will protect you from wind, rain, and dust.

This TRENCH COAT is interlined, body and sleeves, with waterproof material. It solves waterproof material. It solves the problem of what to wear and yet look smart. Strong and hygienic. Made in a neat shade fawn, interlined hygienic waterproof material, final check lining. Style as per illustration. Wonderful illustration. Wondertus value. 75/-; pest free. Please state chest measurement over jacket and give height.

We guarantee you a HAVERSACK. 'A real maversack. 'A real boon to the motor cyclist. Specially made in three compartments, 14in. X 12in. A splendid and most useful article that will last a lifetime. Half leather. £1 15., post free.

tree.

MOTOR SUITS. Made
of the very best beavy
twill material. Will
stand up to the roughest
wear and worst weather.
Stylishly made; double
breasted, with belt
75/- per suit.

Please state cliest and inside leg measurements. OILSKIN SUITS. Designed for the motor cyclist. The best possible value obtainable. All double silk finished. 50/- the suit, post free. In black or

All goods sent on approval against cash M. SHEKMAN CO. 15, HUDSON STREET, TYNE DOCK.

MOTOR CYCLES FOR "SALE.

Triumph.

TRIUMPH, 3½h.p., clutch, 2-speed, engine hauled, rebushed, re-cnamelled, cane sideca door, good condition; -£58, or nearest.—52, (Rd., Rughy.

19 19 Triumph Combination, 4h.p., Millford P. and H. lamps, horn and accessories helt, tyres in good condition; 2130.—1, Rainclif Filey, Yorks.

1918 Triumph Countershaft Combination, and coachhuit sidecar, outfit practically mosen tyres uncut, lamps; any trial; 110 gus.—10, Bonn Rd., Kingston-on-Thames. 19 14 4h.p. Triumph, 3-speed and clutch, W.D. excellent condition, recently overhauled, horn, tools, spares, etc. £75.—Evans, Seven Coleham Head, Shrewsbury.

TRIUMPH, believed 1917 or 1918, countersta tyres, enamelling, plating, perfect, £76 1913 clutch model, just overhauled, re-enamelle £45.—Phillips, East St., Ryc.

19¹³ Triumph Combination, C.B. sidecar, hub, smart appearance, new tyre, helt, hor drive away; seen any time nt Finsbury Park N.4. Phone: N. 4555. £35.

TRIUMPH Countershaft Combination, as ne wheels all round, long nickel-plated exhans fast and sporty: £115; seen any time.—Paim Commercial Rd., Waterloo, S.E.

TRIUMPH, 1913, 3-speed gear and clutch, corners sidecar, perfect, engine overhauled recently any hill with passenger; good trial allowed; £6 129, Chatham St., Reading.

TRIUMPH 4h.p. Combination, Grade gear at Tan-Sad, lamps, other necessories, coaching cr. screen, 4-point attachment; £98.—Emery, lands, Beech, Alton, Hants.

19 13 3-speed Triumph, spare belt, lamps, ho plete tools, gears just renewed by makere in splendid order; hist offer £54 secures; seen C-Box 3,448, c/o The Motor Cycle.

TRIUMPH, 1918, absolutely as new, Miller Lucas horn, handle-bar watch, knee grips, speedometer, T.T. bars; a lovely machine; £ Bennett, 18, Tilia Rd., Clapton, E.5.

19 19 (late) Triumph 4h.p. Countershaft, 3-spectrumph Gloria sidecar; also 1919 with Grindlay £145; both fitted with lamps etc., and in new co-Apply, 40, Hertford Place, Coventry.

1920 (February) Triumph, 4h.p., 3 speeds, eon C.B. sidecar, disc, apron, lampe delightful combination, brand new condition; 29, Montford Place, Kennington, S.E.11.

31h.p. Triumph, 1913, clutch model, semi-T. 2 fast, guaranteed O.K.: hargain, 248.—8 time before 8 p.m. at Langford's, 37, Ch. Broadway, N.W.2.. Tel.: Hampstead 8616. TRIUMPH 1919 (new August) Combinat speed countershaft, magnificent bulhous hood, lamps, Klaxon horn; 2149/10; seen au ing.—Bore, 6, Park Rd., East Twickenham.

TRIUMPH, 1912, 31/h.p., clutch, Bosch, ne back cover and tube, new lin. helt, albelt, 2 lamps, horn, pump, tools, thoroughly £42.—322, Lordship Lane, East Dulwich.

1920 4h.p. T.T. Triumph, practically tyres unpunctured, very fast, owner tilivery of combination, with mechanical he atter 6.30.—Rudd, 2, Schubert Rd., Putney, 19 14 4h.p. Triumph, 3-speed hub, clutch, pt new Duulops, extra heavy back, new Du lamps, tank recently painted by Triumphs; ri \$72.-18, Westmoreland Rd., Bromley, Kent.

TRIUMPH 1914, as new, 3 speeds, new Pelm
1 new spare tube, new Millford sideon,
carrier, electric light and horn; seen by appoin
Apply, De Lapalud, 106, Charing Cross Rd.

TRIUMPH 4h.p., W.D., 1918, counters sporting cane sidecar, fully equipped horn, etc., 2 new tyres, mechanically perfect ling fair; £90.—Burns, 595, Halliwell Rd.,

TRIUMPH 4h.p., late 1919, 3-speed, clutch, starter, complete with Cowey speedometer Klaxon, disc wheels, T.T. bars; as new, ridden 1 only; £110.—Arnold, 133, Sloane St., Loadon

19 19 (Oct.) 4h.p. Triumph Combination, sories, leg shields, in perfect running order Hythe district.—Harlow, M.M.G. Garage, S. Kent.

TRIUMPH, 1918, 3-speed countershaft, Man-Montgomery sideon, P. and H. lighting se new belt, tube, valve, took, plags, etc., tyres condition perfect; £155.—G. Thorogood, 505, Rd., London, S.E.4.

B40 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

OTOR CYCLES FOR SALE.

Triumph.

4h.p. Triumph, 3-speed, countershaft, haad atch, kick start, with Sandum de luxe side-d, wind screen, lamp, in perfect condition; ofders,—I, Melrosv Rd., Merton Park, S.W. 1012 Wimbledon.

(PH 4h.p., sideoar and opton, 3-speed clutch A, lub, Bosch, Cowey speedometer, Klaxon, coessaties, recently, overhauled, robushed, new ml, liner and outer back; 295, or offer-mackingham Rd, Aylesbury. (71-3-cakingham Rd, Aylesbury.

1/159 Halp, countershaft, late model, semi T.T., hand clutch, counter, plating absolutely uniform the 1/2 - Will lighting set, complete with Tan-Sud, P.H. lighting set, orther 294.—Wile, making appointment, Gill, arch Rd., Teddington, Muidlesex. [6434]

turk Rd., Teddington, Middlesex.
Triumpb, clutch model, pedal start, compete with electric lamps back and front, new ack, completely overhauled and renovated by Co. at cost of £16, smart bus, ready to do unos; £60, no offers.—150, Ebury St., Yic. (6883)

Trimph, late 1913, condition splendid, per-trunning order, Miller lanns, Stewart ter, horn, mirror, Dunlop tyres and belt, ew, tools complete, new spare valve, joining 9; despatched first cash received.—Warwick, 9, Barrow.

Triumph, 1913-1914, stored during war, extional condition internully and externally, new bars, Pedley grips, hungs, mechanical horn, way speedometer, aluminium footboards, tyres sellent running order; £60.—Moxon, lyanhoe Ashby-de-la-Zouch.

hadnyaevaronch.

b.p. Triumph, 5-speed countershaft gear, Canoe-Minor sideour with wind screen, electric head, and inspection lamps, speedometer, tool kir, belt, vaives, chain, etc., insurunce policy till 921, all as new: £160.—Tanqueray, The Cotriogton, Peterborough.

Countershaft 4h.p. Trindiph, semi-T.T., just-thauled, guaranteed by Triumphs, exceptional piper exhaust, appearance as new, fited 1920 celet sporting sidecor, special aluminium discs full equip ment, speedy, sporty, really artistic 5 gns.—44, Oakhill Ed., Putney, London. [6200 riumph, latest gear change, aluminum discs. T. bare, rubber grips, knee grips, Khxon, ter, big head lrmp, 2 generators, special coket, new spares, valve butt-ended tube, sprocket, all tools; 120 (hundred and twenty) rson, Highgate Av., Fnlwood, Preston. (6772

4h.p. Trimph, re-enamelled, plated, new resung coachbuilt sidecar, 4-point connectual apron, new Miller lamp set, born, new ter, new heavy Dunlop tyre on rear wheel, ally perfect, trial any time; £140. or offer; owned.—C/o Barker's Motors, 194, Balham Loudon, S.W.12.

Velocette.

WILLIAMS, for early delivery of Velocette, apel Ash Depot, Wolverhampton. [X8623]

Verus

'erus In Stock, 21/2h.p., 2-speed, K.S. model: 5.—Sheldon, Wheatley, Oxon. [4220

, all 1920 modela.—Agents for Somerset, upon, Regent St., Clifton, Bristols [7350] 23:4.p. 1920 Model, 2-speed gear box, th, kick-start, not done 30 miles, lighting orn; £65.—Orton, 131, Noble St., Leicester.

ERY from stock, 2½h,p. 2-speed K.S. Verus lines. A scrious touring mount. Sead us dries for other models.—Elliott Bros. and 2mbuslung, Glasgow.

Villiers.

RS.2-stroke 23(h.p., perfect, new tyres, lamps, 238.—109, St. Leonard's Rd., Mortlake (X.9653).
K. Villiers, 2-speed countershaft, in stock; 5.—Frank Whitworth, Ltd., 139, New St., IX.

Vindec.

J, 4h.p., free engine, running order; £24 Purcell Crescent, Fulham. [68 [6847

V.S.

V.S. v.bination, 5-6h.p., N.S.U. 2-speed, F.E., exat running order.—126, Munster Rd., Ful-

for Cycle Agency.—Supplying, spares, exchang-ned overhauding; V.S. 2-speed gears, which tied to Motchless machines, etc.; Peugect pis-is, rings, etc., in stock; overhauds to machine. 4, Mausfield Rd, Gospel Oak, London, N.W.3.

White and Poppe. London, [7000

JONES' CARACE.

THE MOTOR CYCLE.—SUPPLEMENT.

WOODSIDE PARADE, NORTH FINCHLEY. Thone: Finchley 2334.

A.B.C. SHOW MODEL

1919 7-9 h.p. HARLEY-DAVIDSON electric model Combination, double bulbons by the combination 9.7-9 h.p. HARLEY-DAVIDSON electric model Combination, double bulbous back Sidecar, inspection lamp fitted inside dashboard of sidecar, watch fitted on dash, windscreea, Tan-Sad, mud cowis attached to footboards, large hand lever brakes, also foot brake, full kit of tools, disc wheels £210 0 1920 4 h.p. DOUGLAS Combination, electric ighting, Cameo screen, speedometer, all tools, ctc.

ng, Cameo sereen, speedoneter, alt tools, ctc., as new on \$160 0
1920 B.S.A. Combination, all Lucas possible accessories 1160 0
1920 3 h.p. ARIEL Com., Brand New. \$147 10
1917 NORTON, 3-speed and clotch, Watsonian bulbous back Sidecar, all accessories, includ 1919 (late) 4 h.p. DOUGLAS Com., disc wheels, all

ing specdometer 2742 10

1919 (late) 4 hp. DOUGLAS Corr., disc wheels, all
accessories, ready to ride away 2155 0

200 countershaft TRIUMPH Combination, bead
lamp, sidecar lamp, rear lamp, horn, absolately as new 2160 0 lamp, sidecar lamp, reat lamp, . £160 0
1920 4 b.p. TRIUMPH Combination, Brand New,
screen, hood, magnificent turnout . £165 0
1920 RADCO, all lamps, Klaxon, and speedo£60 0 rgeo SPARKBROOK, 2-speed, all lamos, horn, £67 10

SPECIAL OFFER FOR ONE MONTH ONLY.

Roc 2-speed Gear Boxes, suitable for Levis or any lightweight motor cycles, at £7, carriage free to anywhere in the British Isles.

The Marvellous Wooler Motor Cycle on view at

MOTOR CYCLES FOR SALE.

William

Wilkin Enquirles for early rotational delivery invited by J. Blake and Co., the leading motor cycle experts, Livergool and Manchéster, [6533

williamson.

WILLIAMSON Combination, 8-10h.p., splendid condition, ready for road; nearest offer, £140 — Padd. 2423.—89, Abbey Rd., N.W.8. [7496]

WILLIAMSON Combination, 8h.p., water-cooled, dynamo lighting, disc wheels, sporting outfit; £120.-Turnill, North, and Co., Peterborough. [7417

WILLIAMSON 1914 Sh.p. w.c. Sporting Combina-tion, red, complete with lamps, horn, etc.; 2100. -Fryer, Sherwood, Eastwich, Gt. Bookham, Suries,

Williamson 8h.p. Combination, late 1915, W.C., hood, screen, speedometer, lamps, acetylene, electric, lot spares, landsome, perfect, \$155, or best offer, -32, 8t. Martin's Av., East Ham. Upton Park Station District.

Wolf.

WOLF 21/d.p., 1914; ride away; 30 gns.-116, Wiet-hum Rd., Gravesend, [7361

23h.p. Woll, splendid condition, tyres new: £35.-97, Barcombe Av., Streatham Hill, S.W. [6620 497, Barcombe Av., Streatham Hill, S.W. (6620)
Wolke 24,hn., 2-stroke, 2-speed, eitherh, kirk start, David Lane, Shadwell, E. (753-6)
196 Wolk Jan, Ah.p., 3-speed countershaft, H.C. clutch, kirk starter, allerlain drive, good tyres; 263, or neatest.—J. D. Willard, Rugby. (X9934)

WOLE-JAP 1914 4b.p., T.T., speedometer, lamp, horn, tools, etc., splendid order, fast; \$40.—Parker, Mill House, Mildenhall. [6457

WOLE-VILLIERS (Feb. 1930), 2 speeds, hand clutch, kick start, lamps, horn, tools, as new, 275; with Henderson featherweight coachbuilt seder, E97. — Smith, The Bungalow, Stoneterry, Ed., Sutton, Hull.

TAVING Been Appointed Sole Concessionnaires for Counties, we are open to appoint subsequents. Brilly deliveries of all models. Tel.: 6826 Museum.—Authority blue Service Co., 60, Morthimer St. W. 17467

Wooler.

10 20 Wooler, ridden 250 miles only, fitted with Cowey horn, Cowey speedometer, P. and H. lamp set, all as new; £98/10.—J.C.J., 124, Holdenhurst Rd., Bonraemeuth. [7601

Zenith. ZENITH, 31/h.p., only needs seeing; £50, or offer. -119a. Church St., Croydon. [6990

6 h.p. Zenith-Gradua Combination: £85.-501, Gold-hawk Rd., Shepherd's Bush, W.12. [7246] ZENITH Motor Cycle, Gradua gear, 1913, new car; £80.-Nicholas, Garage, Yerbeston.

ZENITH 8h.p. Countershaft Models.—Delivery from stock; list price.—Meeten Motors, Dorking. [6814 WAUCHOPE'S, 9. Shoe Lane, London, E.C.4.For new Zeniths, book now. 4h.p. Zenith, 1912.

£67/10 ZENITH-GRADUA 8h.p., 1915, sporting Cancelet sidecar; £100.-301, Goldhawk Rd., Shepherd's Bush, W.

ZENITH-GRADUA 4h.p. Combination, just over-hamled, new tyres; £60.—Hudson, 14, Conway Rd.. Plumstead.

5-6h.p. Standard Zenith, 1914, fully equipped, new Kempshalls; £55.—Woodbastwick, Green Walk. Chingford, E.4. [7144

ZENITH-GRADUA-J.A.P. 5h.p., Phæinx C.B. sideen, all in excellent condition; £85.—26, Point Hill, Greenwich, S.E.10.

6 h.p. Zeuith, countershaft, clutch, kick start, 1915, perfect condition; bargain, £95.—207, Blackshaw, Rd., Tooting, S.W.17.

ZENITH-GRADUA 31/h.p., just overhauled, trial by appointment; £55.—Browning, Dormy House, Sarisbury, Southampton. [67]

19 16 Zenith 4-5h.p. Twio, countersbait, clutch, kick start, a sporty bus; £85.—374, Grove Green Rd., Leytonstone, E.11.

Rd., Leytonstone, E.11. [7436]
ZENITH - GRADUA 33/h.p., 1915, speedometr,
Kinson, excellent condition; £65—Seen at Wells
Garage, Salway Hill, Woodford. [6742]

6 h.p. Zenith-Gradua, 1915-16, lamps, horn, tools, score belt, case, etc., perfect order; any triul: \$85.—13, The Triangle, Barking, E.

ZENITH 314h.p., 1914, lamps, horn, new covers enamelled, good condition; price £60.—Dec Chester Rd., Peyntoo, Stockport.

19 15 8h.p. Zenith C.B. Combination, lamps, lower power.—14, Phænix St., Euston, N.W.1.

ZENITH, 1916, 5.6h.p., countershaft and kick starter, disc wheels, Cancelet sidecar, 3 lamps; £138.—Maudes', 100, Gt. Portland St., London. (7543)

DELIVERY FROM STOCK

ENFIELD

or at an early date.

DOUGLAS

CLYNO (2-stroke) INDIAN MATCHLESS B.S.A. BAT LEVIS BRADBURY HENDERSON (4-cylinder). ZENITH NEW IMPERIAL **SPARKBROOK** DIAMOND COULSON B. OMEGA **EDMUND COVENTRYEAGLE VELOCETTE METRO-TYLER** INVICTA REX

ALEXANDER & CO.,

113-115, Lothian Rd., Edinburgh, 272-274. Gt. Western Rd , Glasgow

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B41

MOTOR CYCLES FOR SALE.

Zenith.

4 h.p. Zenith, J.A.P. engine, Bosch mag, perlect condition, complete with lamps; what offers?— Chalke, Wheat Sheai, Middle Drove, Norfolk. [7385] [7385

19 16-17 6b.p. Zenith Twin, Grad. genr, lamps, horn, mirror, first-class condition, just overhauled, very fast, real sportsman's 'bus; £95.—641, Rochdale Rd., Manchester. ZENITH and Sidecar, 3½h.p., 1912, delivered 1913, jnst heen thoroughly overhauled, 2 new tyres, etc.; examination and trial; £50.—Flower, Yew Close,

TRIUMPH 31/h.p., 2-speed, clutch, mechanical horn, lighting sat, spares, Tan-sad, very powerful engine No. 12470; £65, or close offer.—Bilby, Hill Top, Cwmhran, Mon.

Z ENITH Combination 6h.p. Coachbuilt, J.A.P. engine, wind screen, pillion seat, all accessories, smart turnout, very fast; £110.—Apply, Scott, 40, Cumming St., Pentonville, N.1. 5 6h.p. Zenith-Gradua Combination, speedometer, Losch, 3 lamps, horn, tyres nearly pew, spare new over and accessories; £66.—3, Bloomfield Rd., Bromley, Kent.

1919 (December) 8-10h.p. Zenith, sports model, Watford speedometer, Klaxon horn, magnifi-cent machine, as new; \$126.—Rhosha Motor Co., Mawneys Rd., Romford. [580]

ZENITH Combination, 6h.p., Gradua gear, excellent condition, P.H. lamps, take 4 anywhere; reason for selling, taking delivery new one; offer over £90.—87, Quick's Rd., Wimbledon. [7183]

6 b.p. Zenith, in good condition, will do 5 to 60 m.p.h. and 80 m.p.g., complete with lamps, new tyres and belt, engine overhauled by makers; £85.—Gummer, The Cot, St. Andrew's Sq., Surbitoo. [6204

ZENITH 1916 4b.p., Gradua gears, as new, lamps, horn, etc., £77/10; coachbuilt sidecar, perfect, £8; combination complete, £82; must sell.—626, Seven Sisters Rd.. South Tottenbam. [7200

19 16 5b.p. Conntershaft Zenith and Sidecar, good mechanical condition, appearance fair, lamps, horn, tools, etc.: £100. or neur offer.—B.P. Garage, 40, Murray Mews, Murray St., Camden Town. [7349

Sh.p. Zenith, clutch, lnxnrious sidecar, hood, soreen, speedometer, all lamps, 3 spare tubes, pillion, as new, done 800 miles; best offer over £185.—L.B.S., 104, Curtain Rd., E.C.2. "Phone: L.W. 3046. [7488]

ZENITH-GRADUA (late 1918) T.T. 3½h.p., tyres, tubes, paint unscratched, engine per very fast, lamps, horo, tools, small mileage; 4 gennine bargain.—Jess Bolton, Middleton, Bicester

19 20 (March) Zenith 5h.p. Sporting Model, 18975 200, complete electric lighting by accumulator, horn, all tools, as new; £120; bought car-62, St. George's Rd., Gelders Green, N.W. Phone: Finchley 804, (D)

6830

6 h.p. Zenith, believed 1917, semi-T.T., Swan sporting sideour and wind screen, thoroughly overhauled, commelled, as new, good tyres and new belt, £160, or near offer—5. Priory Mews. Belsize Rd., Kilburn, N.W. 5. Phone: Hampstead 8155.

P.O.C.H. have an 8h.p. Zenith, countershalt, clutch, torpedo coach sidecar, electrically equipped, excellent order.—Fair Ofter Car House, 5, Heath St., Hampstead (nr. Hampstead Table Station). Phone: Hampstead 3752. Hours 9-7, including Saurdays.

ROB. Sala, Zentth 1920, Marchl) T.T. Schn. (16643 oc., Schn. 1931, 1940, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941, 1941,

5. Commercial S., Swapot, axon.

ZENITH.—A chance for speed merchants. A lovely
define, counterhalt Zentth, K.S., with engine
brooklands racers (name given). Completely renovated, re-enamelled, long plated exhaust pipes, T.T.
bars, new belt, nearly new tyres; first £110 secures.

—Hubert Tunner and Co., 4-5, Crawford Passage, Ray
K., Ferringdou Rd., E.C.

Ladies' Motor Cycles

19 14 Lady's Douglas, kick start. clutch, all accessories; £55.—Driver, Haresfield, Glos. [X9684 LADY'S Douglas, 2%h.p., 1914, kick start, excellent condition: £55, or near.—Hermitage, Higher Heath, Whitchurch, Salop. [X9943

LADY'S Douglas, Inte 1914, 2-speed, clutch, kick stater, overlanded, enamelled, accessories: £47/10, -Bladder, Sidbury, Worcester. [X9859]

19¹⁵ Lady's Levis, 2-speed, clutch, chain drive, aluminium rius, little used, perfect order; £48, bargain.—S. Green, 1, Albert Place, Belle Grove, Welling, Keut.

Miscellaneous. POYAL RUBIES, ail models.

1 0 16 7.9h.p. Indian Combination; £110.

16 3h.p. Horizontal Twin Bradbury; £70

THE H.C. Motor Co., 347, Finchley Rd., N.W.3 Phone: Hampstead 4631. Open afternoons and 50ndays.

COVENTRY MOTOR MART

LTD.,

LONDON ROAD, COVENTRY. Telegrams: "Selection, Coventry."

HAVE IN STOCK

A CHOICE SELECTION OF NEW MODELS (SOLO OR COMBINATION) INCLUDING THE FOLLOWING: COVENTRY OVENTRY ACME - J.A.P. Comb., detachable and spare

wheel \$\frac{\text{the N}}{\text{the N}}\$ wheel \$\frac{\text{the S}}{\text{the N}}\$ \$\frac{\text{the S}}{\text{the N}}\$ \$\frac{\text{the S}}{\text{the N}}\$ \$\frac{\text{the S}}{\text{the N}}\$ \$\frac{\text{the N}}{\text{the N}}\$ \$\frac{\text{the N £194 15 0 £200 0 0 £172 10 0

HAZLEWOOD - J.A.P. 6 b.p.
Comb

NEW IMPERIAL 8 h.p. Comb. £178 10

NBEW IMPERIAL 8 h.p. Comb. £172 10

HOBART 2-stroke, 2-speed, & £69 10

HOBART 2-stroke, single speed . £57 10

EXCELSIOR-J.A.P. 2-speed, k/s £83 0

CHINO 2-stroke, 2-speed, k/s £83 0

LINO 2-stroke, 2-speed, k/s £85 0

IVY All Purpose, 2-speed, k/s £75 0

IVY All Purpose, 2-speed, k/s £85 0

CALTHORE 2-stroke, 2-speed, k/s £85 0

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Motor Cycle Legislation.

HE more one examines the various reports pertaining to the proposed legislation concerning motor vehicles, the more one realises how unfairly motor cyclists have been treated. We refer first to the fact we have often mentioned that motor cyclists were not directly represented on the Departmental Committee on Taxation appointed by the Ministry of Transport. It will be recalled that, although the figures given in the report show that motor cyclists considerably outnumber all other sections of the motoring public, they were ignored when the Committee was formed.

Private car owners had two votes, commercial vehicle users one, manufacturers one, and omnibus owners one. True, both the A.C.U. and the Motor Cycle Manufacturers' Union were ably represented on the Motor Legislation Committee, which acted in an advisory capacity, and by some this may be considered sufficient. We will show

that such was not the case. Failing, for the time being, to get favourable consideration of a tax on fuel, the motor cyclists' representatives suggested the schedules which were discussed last week, and in which it was proposed that sidecars be taxed \pounds_1 , which would mean that a lightweight machine taxed \pounds_1 ros. and fitted with a sidecar would be subject to a total tax of \pounds_2 ros. In the hands of the Parliamentary Committee, however, this was changed so that owners of all sidecar outfits are

required to pay £4.

Probably the motoring element on the Committee, as distinct from the Government representatives (who incidentally outnumbered them) not being motor cyclists, allowed the matter to go through without vigorous opposition. This is one result of the Government's injustice to motor cyclists in not giving them a representative on the Committee.

The second injustice is a repetition of the first. Motor cyclists were not represented on the Ministry of Transport Departmental Com-

mittee on Lights on Vehicles, with the result that motor cycling interests are again overlooked. The constitution of this Committee included representatives of the R.A.C., Commercial Motor Users, A.A. and M.U., Society of Motor Manufacturers and Traders, Cyclists' Touring Club, and the London and Provincial Omnibus Owners' Association. The A.C.U. and the Motor Cycle Manufacturers' Union were again ignored. Could anything be more unfair to the motor cycling public?

Suggested Lighting Regulations.

It is suggested in the report that (1) motor cars shall not be permitted to use more than two head lights; (2) the diameter of the clear glass aperture shall not exceed 7in.; and (3) electric lamps shall not be more than 24 c.p. each, or, in the case of gas lamps, the burners shall not consume more than 21 litres per hour.

In the case of motor cycles, the diameter of the clear glass aperture of *head lamp* must not exceed 5in.; electric bulbs must not exceed 12 c.p.; burners 14 litres per hour.

It is perhaps obvious that not one of the Parliamentary Committee can satisfactorily explain why a motor cycle should not be permitted to have more than one-quarter the light regarded as necessary for a car.

The many anomalies possible with the proposed taxation and lighting, together with the present definitions of motor car and motor cycle, would be extremely humorous if the matter were not so serious. If nothing is done to amend present and proposed legislation, we may see the owner of a 2 or 3 cwt. four-wheeled motor cycle compensated for his £10 tax by having the privilege of using two 7in. 24 c.p. head lamps.

All motor cycle matters appertaining to legislation require amending, and motor cyclists should demand that purely motor cycle organisations are allowed to be directly represented on the Committee appointed to amend them.



Speed Wobble.

THE correspondence on this controversy which I initiated so long ago drags on without any very authoritative utterances. The extreme example which prompted my own diatribe has been fully cleared up, and was of duplex origin. For one thing the frame was out of truth. For another thing the ball races in the steering head were faulty. The consequence was that the machine could not run straight, and that the friction in the head exaggerated my instinctive corrections, and accentuated the serpentine path. When the frame was trued up and new ball races had been fitted, the machine was a joy to ride. some technical expert conducts a special research into the question, my own impression will be that the average motor cycle can be steered quite decently at all the speeds of which it is capable. But that if such machine takes a bad toss, or if the owner neglects his steering head bearings, or both, the machine will become more or less dangerous at speed. I am at present trying to secure a bad wobble from a new machine carefully handled on a perfect surface, and so far I have met no success whatever.

Dry and Clean.

ECENTLY I had an engagement to a very swagger function—consider swagger function—considering my humble rank in the community. The venue was five miles off, and the day was wet, with roads swimming in liquid filth. It was necessary to arrive (1) clean, for social reasons, and (2) dry, for hygienic reasons. as the function would occupy some seven hours. So far as cleanliness went, I could trust my Scott : its footboards and front splashers divert the entire mud bombardment. But the rain would plainly soak my legs from the knees downwards, even if I wore a long rainproof coat. So I was compelled to wear leggings in order to keep dry. Now a careful man (such as I am not) may cleanse the outside of his leggings after each run; but it would baffle Beau Brummel to emerge from a well-used pair of legging overalls with tidy trousers, because the leggings pass over the boots every time they are worn, and the boot soils the inside of the leggings, which are so made that they cannot be rolled inside out and brushed. So I wore a long coat and leggings: arrived at a garage near my destination, pulled off the leggings, thereby soiling my trousers from top to bottom: brushed my trou-trous: washed my hands: and walked the last mile. I shall not do it again. I have now ordered a pair of spring side gaiters, which will, on any future occasion, protect that part of the trousers which projects beneath the long coat. Even then I suppose the aforesaid springsided gaiters will crumple the base of my trousers, and destroy the two neat vertical creases which my valet (no swank-Mrs. Ixion is indicated) will have

been at such pains to create. I think I must fit Scott with a rainscreen. Not a vertical affair, such was recently pictured in our columns, but a horizon knee screen, projecting backwards from the steer head, with an ample V where my waist would cor Then I fancy the long coat might unaided meet Nobody has yet marketed a rainshield. this particular purpose; but it should be easy to dev one which would not look unsightly, and would far towards keeping our nether limbs dry.

Starting a Warm Engine.

URING recent weeks I have had a few requ for aid from readers who experience trouble starting a warm engine. It is never safe generalise about starting tips, for the idiosyncrasies engines are most pronounced in this respect, and w suits a four-stroke may give a two-stroke a bad tun ache. Several years have elapsed since I owned ergine which was amenable when cold, and sulky w hot. But at one stage in the motor cycle era nuisance was not uncommon, and was always due very weak compression. When an engine is hot, magneto can easily be run fast, the valves can ha stick, and the engine temperature must help the pe to vaporise. The usual snag in such cases was a worn valves and piston rings created compression le ages, except when a film of cold oil sealed the cl ances to some extent. When the oil had been thin down by heat, it became difficult to get a depres in the spraying chamber, and the obvious tip wa: put a hand over the carburetter air intake, and so centrate the suction upon the jet. In these days, h ever, valves and rings maintain their fit very well

Carburetter Gauzes.

SEE one of the "out patients" under treats in our technical query department was not q clear in his mind as to whether the carbure gauze mattered or not. It may interest him to-k that two of the most horrible night rides I have had owed their misery to carburetter gauzes. In first incident, which occurred many years ago, I out to ride from London to Durham by night in bad weather, and I had barely cleared the subus before the machine commenced to misbehave. I not so well versed in the caprices of motor cycle so I am now, and as no inspection light was availab the night was half gone before I spotted that carburetter air intake was half sealed by a blotol mud thrown up by some passing wheel. That of course, is an extreme instance. But one night dul this last winter I was a very puzzled man for ten nes or so. Having to start up a half-frozen enginin the dark, I unscrewed the gauze screen from the buretter air intake, and pushed in a rag soakeding tional Comments .--

ol. After starting the engine I screwed back the without noticing that the gauze had dropped out t. The machine started well and ran regularly igh, but had dropped about 50% of its power. simple fact is that some of the caps, whether ze or baffles, now fitted to air intakes, throttle the to the extent of 50% or so, and if they are removed, entire adjustment is ruined. In some cases, r.g., B. and B. two-stroke model, a variety of air caps provided, and utilised in tuning up the setting.

Tipping.

I ipping.

VITH all deference to "Yorkshireman," I fancy there may be something in "I fancy there may be something in the explanation which "B." propounds as to the unpopularity motor cyclists as a class at hotels of the more ensive variety. I say nothing about the morality the tipping system, the only respect in which a ion of the "workers" now fail to display indedence. But I think it is a fact that many motor lists do not tip at all, and that others-to coin a de-"undertip." The standard tip in the "hupper des" of Thackeray's "Jeames" is 10% of the Many motor cyclists consider that threepence reasonable tip for the head waiter when settling a lunch, or sixpence when defraying the cost of ner, bed, and breakfast. I defend neither the ter nor the tipper, but merely state what I have erved: the faces of several waiters, noticed from adjoining table, live in my memory. On the top this we bring a good deal of dirt into the hotel, when we get excited, e.g., towards the end of a Days Trial, we are apt to be noisy. Once more, itly or wrongly, the kind of people on whom firsts hotels principally depend for their existence ard us as vulgar, and the staff are always afraid are an offence to their regular clientèle.

If fate had condemned me to be a waiter I should join a union, demand a living wage, and welcome the "no gratuity" system in preference to haunting departing guests with an itching palm camouflaged under a napkin. Human independence being what it is, I presume that the knights of the salver make such an uncommon good thing out of their tips that they prefer to conceal their intrinsic manhood under a guise of servility.

An Appeal to the M.T.A.

AM told that the M.T:A, is unselfishly preventing eager agents from profiteering in new machines. All honour to it, for a thing is worth what it will fetch, and an agent's business in war time cannot have proved very fat. But one trick of the trade has landed several enthusiasts in asylums. Picture to yourself, gentle reader, an enthusiast of the first water taking the road on his 1914 Dudbus, saddened by the umpteenth letter from the factory reporting that, owing to the moulders' strike, delivery of his 1920 Whirlwind cannot be expected till August. Outside a country agent's he sees squatting on the pavement a brand new A.B.C. or Morgan, or whatever line of goods grips his special interest. It is obviously just down from the factory, for its numberplates are plain black, like my Sunday hat. He flings the Dudbus into the gutter, and nose-dives into the showroom, tugging at his cheque book. "Sold, sir!" Death from heart failure would not be unnatural under such circumstances. I think the M.T.A. should prohibit the exhibition of any 1920 machine without a huge red placard "Sold" or "Unsold." Moi, qui vous parle, had almost fouled my last page in The Motor Cycle, for it was the day after my 1920 A.B.C. arrived, and not the day before, that I saw a sister machine with blank number-plates outside the local garage.



A STRING OF SOLO ENTHUSIASTS NEAR BRITISH CAMP, MALVERN.

he recent Victory Trial course lay through this picturesque country, but it was by way of the Old Wyche that the 165 competitors came into the district. This hill of 1 in 5-steeper for a few yards at the top-was, however, climbed easily by the majority.

Road Tests of New Models

The 23 h.p. Blackburne-engined Verus tested by our Scottish Correspondent.

SALIENT FEATURES OF THE VERUS.

ENGINE: 24 h.p. Blackburne, 71 × 88 mm., 350 c.c. LUBRICATION: Mechanical pump pressure feed. GEAR: Burman two-speed countershaft. TANK CAPACITY: 13 gallons.
TRANSMISSION: Chain and belt.
WEIGHT: 200 b. PRICE: £99 15s.

THE little machine was supplied to me by Mr.
Harry Macrae, of Edinburgh, whose name has
so long figured in the Scottish competition
world. It was a stock machine, whose manufacturers had no idea that it was ultimately to
fall into the hands of the press. It was purchased
in midwinter, its general layour rather taking my

eye as a handy mount for the exceedingly trying conditions that prevail in the North. The merits of the Blackburne engine were, of course, well known, and well in accordance with the hard "slogging " requirements of winter, while other points that took my fancy were businesslike riding position, the large tank - one needs it in Scotland -and the delightfully light hand clutch control.



The usual garb for the last month or so has been waders, but in spite of rain the Verus has been put through some strenuous tests

Riding the machine home on that first jaunt fro Edinburgh, a matter of twenty-six miles, I very so learnt that the engine was exceedingly "new." charge of oil was given about every three miles, y the piston insisted on drying up every time the thrott was opened. This state of affairs continued for about 550 miles, while up to the 200 mile mark a long bility.

or a freak always resulted drying up.

The fault, ho ever, was a goo one, and the caref handling exercise during this ear stage of the p ceedings has prove worth while. Who the engine thoroughly run i piston and cylind were carefull gauged, but no si of distortion cou be found-owing, course, to the exce lent design of cyli der head. Unfo tunately, it is rat

d Tests of New Models .-

a single-cylinder to retain its truth in this wayfact, I can only recall one other instance in which light divergence from the truth was not perceptible

er the first 500 miles.

Since then my experience with the little Blackburne one has proved all that might be desired. Even on sty mornings it starts on top gear with a tick over subdued that one can walk alongside the machine. traffic it is delightful, and, combined with the excelt hand clutch, one can thread in and out of the st difficult corners without a suggestion of labouring

The virtues of the unit, however, are not limited to w running and easy starting, as it possesses a most prising "kick" for so small a machine, and will p on kicking even though one imagines it to be at

last gasp. In this pect, its persistency quite amusing, but nappily the machine oo low geared to make of its power on the el. The top gear is to 1 (bottom gear out 11 to 1), which, course, is too low. th a 5 to 1 top, or m higher, the little ount would hold its n against a good many avier machines.

On the way to Edinrgh, which journey I ke regularly, I have measured stretch of renteen and a half les, very "give and ce," with one small wn cn route. Riding · Verus at its natural ed, this distance is vered at the rate of

[There is a legal limit of 20 m.p.h.-ED.]-which not bad considering the gear. On a 31/2 h.p., ared 51/4 to r, I accomplish the journey at a speed

ly 20% better.

It will be seen, therefore, that the Blackburne engine by no means a sluggard, and up to about 33 m.p.h. balance is excellent. Above that speed the large pacity tank begins to rumble, or at least it did till cured the nuisance by packing it with stiff bits of ther above and below. Petrol consumption, so far, s worked out at 104 m.p.g.

Gear Box and Transmission.

As already noted, the handle-bar clutch is one of e lightest with which I have had to deal, the merest essure of one finger being all that is necessary to gulate the drive. The design of the gear box and itch seems excellent in every respect, the external itch adjustment being very simple, while the ck starter is a good solid affair on approved lines. deed the Verus with its docile, hard pulling engine id light handle-bar clutch, would seem to me a ount eminently suited to the requirements of the ir sex.



There is a point I would criticise adversely. The mudguarding on the Verus is no better than it should be, but, alas, this is equally true of practically every lightweight I have tried. In my case this defect rather off-set the various advantages with which I have dealt, for it is of little use possessing an efficient engine and an excellent clutch when the rear mudguard is so designed as to concentrate a stream of mud and water on to the belt, so that the drive becomes inoperative when most necessary.

Wider Mudguards Wanted.

It is really difficult to understand why a detail error of this sort, so totally unnecessary, occurs in these days of enlightenment. The Verus company has turned out a thoroughly practical little 'bus, and it is a pity that a "ha'porth of tar" should be lacking in the

eleventh hour. I also 1150 another machine through the winter, and belt slip seldom, if ever, occurs under the vilest of conditions, so that it is useless to pretend that the defect is inseparable from the system. would, in all good spirit, recommend the Verus people to employ wider and more efficient mudguards both fore and aft, as this would bring about a most desirable improvement in their otherwise highly desirable little machine.

The brakes, etc., are good; in fact, there is no other point than the mndguarding I could criticise, unless it be the silencing. With a Brook-

lands Norton, or anything of that stamp, one does not mind a hefty bark, but on a lightweight, which, at the outset, has other duties in life rather than speed, a free exhaust is out

In conclusion, I may mention that the Verus came through the Glasgow club's Palmer Cup Trophy with a clean sheet with the writer in the saddle, and that in the Edinburgh Club's opening trial recently, when it was ridden by Claude Duncan, it carried off a special award. This is really a fine performance for a 234 h.p. machine fitted only with a twospeed gear. H. MORTIMER BATTEN.



The Verus is a decidedly attractive mount, the outside flywheel of the Blackburne engine contributing to its steady running.

ARE NEW MACHINES WELL FINISHED?

Complaints concerning the detail finish of new machines occasionally reach us. In these days the high cost of motor cycles should at least warrant only the best in material and workmanship. Are we to conclude that the mechanics who assemble presentday models are not living up to the old-time British reputation for thoroughness in detail?

A Miniature Magneto for Twins.

Unconventional Magneto Design, embodying Several Mechanical Innovations.

THE Runbaken magneto has taken a front rank position among ignition apparatus, and is now to be found on a large number of lightweight engines, upon which it is giving general satisfaction. About six months ago (July 3rd, 1919) we fully described this instrument, which has several features of a novel nature

We are now able to give particulars of the new twin-cylinder model, which embodies several features of more than

ordinary interest.

As will be seen from the illustration, the magneto is extremely small, and, like the single-cylinder model, the high-tension terminals are on the extreme end of the instrument, on the side opposite to the driving sprocket. At first sight, the make and break apparatus is conspicuous by its absence. A closer examination, however, reveals that this important device is behind the terminals, and is of the face cam type. This is and is of the face cam type. Inis is partially exposed by removing the end plate, which is held in position by a diagonally disposed bolt and a knurled nut. Adjustment of the platinum points is extremely simple, as there is plenty of room for the adjusting spanner. Instead of using the conventional slip ring, the carbon collector brush beds up against a brass plug, connected, of course, to the secondary winding and lying inside an insulated extension of the armature

The face cam is formed of nonmagnetic steel, and the ball races carrying



the armature are insulated from their housing, which is unusual. We understand this is due to experiments proving that the current returning through greasy bearings has an electrolytic effect, which causes unnecessary wear.

Timing Facilities.

Constructed as a unit with the carcase and the driving end plate are the pole shoes, the armature being withdrawable from the opposite end. This latter unit, in addition to the windings, comprises a condenser, spark gap, earth brush, contact breaker, and high-tension collector. A feature of this model is the variable spark timing, operated by a lever, which passes through a slot at the side of the carcase, and is clearly shown in the photograph, which also illustrates innovation where motor cycle magnet are concerned, i.e., a device in the for of a plunger by which the armature me be fixed at its "maximum position This is a point which will be appreciated." by those who effect their own adjustment

The weight of the new Runbaken tw magneto is $3\frac{1}{4}$ lb., and its external dime sions are $4\frac{1}{2}$ in. long \times $2\frac{3}{4}$ in. wide \times $4\frac{1}{4}$ i high. The works of Messrs. Runbak Magneto Co., Ltd., are at Cheetwo Lane, Derby Street, Manchester.

A Test of Puncture-proof Tubes.

An Inner Tube that is Claimed to eliminate Tyre Troubles.

NE of the latest devices rendering an inner tube puncture-proof has been brought out by Puncture Proofed Tubes, Ltd., Avenue Chambers, Vernon Place, Southampton Row, London, W.C.1. In the history of motoring there have been numerous attempts to render an inner tube incapable of being punctured. While some of these have been effective when new, trouble has often resulted,

On two occasions the motor cycle was driven over a board through which French nails protruded. At the moment the photograph was taken, four nails had penetrated right through the cover into the tube

due to chemical action in the case of the tyre, which has rendered the device unsatisfactory.

The invention under consideration consists of rubber and other constituents, and it is not used in existing tubes, but in those which are specially prepared and manufactured for the company. When cold, both sides of the tube stick together, and before being inserted the tube is placed in water just under boiling point for the space of ten minutes, when it can be fitted just, like any ordinary inner tube. Part of the material is inner tube. somewhat thinner than the rest, and the rotation of the wheel causes this to circulate round the interior, and in the event of a puncture the tiny hole is immediately sealed up, and no air escapes.

Twenty-eight Punctures

For the purpose of illustration, a nailstudded board was pressed on to the tube, and it was found when in this position that four nails actually penetrated right through. No leakage of air was perceptible on any occasion, and when the test was complete no fewer than twentyeight holes were found in the cover. After the tube had been adequately tested by means of the board, five French nails were driven through tiny flint cuts in the cover, right through the canvas, and well into the tube, and a very drastic test

was then applied, namely, the driving a penkuife up to the hilt right throu the outer cover. When this was wil drawn there was no leakage of air pe-ceptible, but the material exuded for space of time, the exudation becoming to and less until the material coagulated. the material is removed by means of h water from the tube, there is nothing prevent a patch being placed over t water from the tube, there is nothing prevent a patch being placed over tout, while vulcanising is also possible.

We hope to report an extended to



Gross maltreatment of an inner tube. Five nails have been driven by means of a hammer through tiny flint cuts in the outer cover into the tube, while a penknife has been inserted in the centre. No leakage of air was perceptible.

A CHANCE FOR THE T.T. ASPIRANT.



REAL "CORKSCREW" ON PART OF THE NEW T.T. COURSE. is corner, or, one might say, "set of corners," will have to be taken carefully. The road comes down over the Governor's Bridge.

EVER has there been such a favourable opportunity for the private owner in a T.T. race. Several of the larger manufacturers have decided not to compete, and in consequence a large number of expert, amongst whom were many likely winners, are riding. This

riding. not mean that ace will be any nteresting, but ear the results t be foretold, the expert e owner, with a le and exceply fast machine, I have a better s of winning in any previous or any subseevent in which cream of the riders will be ting. In the event private may easily minate.

tough the enat ordinary fees last Monday, hink that the exittions Comtof the A.C.U. waive their sative to ask a brivate deciding to the A.C.U.'s ity to state but we think ot unreasonable expect sympa-

consideration

of any late entries from such riders. A private aspirant for T.T. honours or a club nominating a member would be well advised to approach the A.C.U. before concluding that entries at ordinary lees are closed.

Undoubtedly it will be a very sporting race

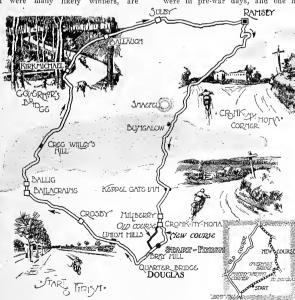
this year, and while the entries will not be of the somewhat unwieldly number of the events of 1913 and 1914, they will be representative of the sport, if not of the entire industry. Motor cycles are faster now than they were in pre-war days, and one may say that speeds are

say that speeds are greater than the speed maximum of the course. Therefore it becomes purely a race of skill, reliability, and endurance. By this is meant that the owner of an 80 m.p.h. machine has little better chance to win than the man who rides one which is ten miles slower.

Everything connected with the organisation of the race is going on satisfactorily, but the work of the A.C.U. does not end here.

Special garage facilities are being arranged with Messrs.
J. Blake and Co., 110, Bold Street. Liverpool, whereby A.C.U. members can leave their motor cycles and collect them on returning from the Island.

The Customs authorities have been approached, and the trouble of getting machines to and from the Island will be minimised.



COMFORT OR APPEARANCE.



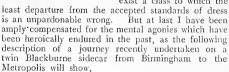
A Rambling Dissertation upon Clothing suitable for Motor Cycling in all Weathers, together with a Description of a Decidedly Wet Journey.

S an all-the-year-round motor cyclist, who, from necessity rather than choice, often undertakes long-distance rides in all weathers, I feel perfectly justified in endeavouring adequately to protect my humble self from the vagaries of our notoriously fickle climate. Arrayed, however, in the multitudinous collection of coats, waterproofs, and waders, which are necessary for warmth and comfort, I am compelled

to admit that my tout ensemble is forbidding and even calculated to strike the nonmotoring section of public and small children with something akin to terror.

Being domiciled in an ultra-respectable suburb, the residents of which appear to be slaves to hide-bound convention, the amount of interest which is created and the comments which passed when, all dressed up, I sally forth to my garage down the road may safely be left to the imagination. Let it suffice that there does actually exist a class to which the





". . the comments which are

passed when I sally forth.

An Unheeded Warning.

Before leaving the Midland city, I had noticed an obscure paragraph in the daily paper to the effect that floods were in evidence at Towcester. Having weightier matters to consider, this was soon forgotten, and the journey was commenced in, needless to state, a heavy downpour. A rude shock was experienced at Willoughby, for there the main road was flooded under the railway bridge to such an extent that a Ford van, abandoned and forlorn, was so far submerged that only the wheels and floorboards of the body were visible. Local inhabitants were much in evidence at this point, thoroughly enjoying the sport, but, finding that I did not pander to their perverted taste by attempting a spectacular dash through the water, they, somewhat reluctantly I thought, proffered the information that, by making a detour, I could avoid the obstacle and regain the main road further

on. This proved correct, but was of no avail, as road again proved to be under water.

The Sport of "Water-splashing."

Having no lamps or further leisure to diverge fi the route. I determined to risk matters, and, v much hissing and splashing, dashed into the flo greatly to the delight of numerous bucolic spectate who cheered wildly. As might be expected, the eng stopped, but my waders kept me dry shod during operation of pushing the 'bus to dry land. No trou was experienced in starting up, and haste was made Towcester, where the tit-bit of the day was experienc Here a veritable torrent was rushing down the hill . across the road, finally falling, in a regular casca over a bank on the north side of the road. Has now gained confidence in the waterproof qualities my machine, I plunged boldly into the stream u the level of the water actually reached up to bottom of the petrol tank, when the engine stopy

Waterproof-Machine and Man.

I dismounted, and my trusty waders were just l enough to prevent the water from pouring in over tops. After a struggle, I succeeded in pushing thro and contemplated my dripping machine full of app hension as to the result of this further and more I longed immersion. Visions of laborious hours st on similar occasions in the past baking the "interna of my magneto flashed through my mind, while possibility of continuing appeared most remote. Ju of my astonishment when, on applying the kick-sta in a very half-hearted manner, the engine burst i life, and, without trouble, ran all the way to town.

It is on occasions such as these that the adopt of unsightly attire is fully justified. To set out brilliant sunshine and return in a rainstorm is, in t

country, quite a common occurrence, hence my willing-, ness to put up with any amount of adverse criticism as to Hutchinson my appearance. waders are invaluable, and, used in conjunction with an oilskin coat worn over an old British warm, enable one to

keep perfectly dry in the most torrential downpour. To fairweather riders, I would add that the sport that is obtainable, even mid-winter, from the pas-



"As might be expected, the engine

time is well worth the jeers and gibes which are frey bestowed upon one by the people who have new experienced its joys.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Heritord Street, Coventry, and must be accompanied by the writer's name and address-

PETROL CONSUMPTION.

Sir,-The following record of petrol consumption may be of interest. I have just completed 1,146 miles on thirteen sallons of petrol with an 8 h.p. Zenith and Canoclet sidecar. The distance is by Bonniksen speedometer, and I have kept careful record of all petrol purchased. The only fittings ther than standard are a drip feed lubricator to the front ylinder and the W.S.R. jet adapter. This means some MODEL G. Barnes.

Sir,-We get the impression from the press that the Scott notor cycle and other two-stroke engines are more extravacant in petrol than four-stroke engines of apparently equal

tant in petrol than four-stroke engines of apparently equal. p. Now, might I suggest a short trial, which would expose the actual consumption of the various makes for central equal h.p.? I presume the basis for comparison would be the b.h.p. credited to the engine.

It should be an easy matter to secure two or more nachines of equal b.h.p., and of the different pattern ngines. Equalise weight, petrol supply, etc., and send on a tour of predetermined distance—the drivers to change nachines when half the distance is accomplished. I feel me the would the result to excite the secret in sure the manufacturers would be only too ready to assist in his matter, and the results would be most interesting.

F. G. MOORE.

IDECARS FOR ESTATE WORK.

Sir.—In your issue of April 15th, page 429, is a photograph showing a motor cycle and sidecar on estate work.

You may be interested to know that the writer used one m this particular estate during the latter half of 1916 for he collection of reuts and getting the wages from Coventry, tc. The outfit used was a 1914 Coventry Excelsion 4½ h.p. ungle, with a 1916 Bramble steel body sidecar (no outside hassis), and was very successful in use. No doubt Mr. Jarson, of Excelsior fame, remembers the saw shed, which s situated to the left of the photograph, as it was used everal times for repairs; I also garaged there. It was sally a fine old bicycle; and although a motor cyclist and eally a fine old Dicycle, and authough a motor cycles and eader of your paper for some years, I do not think I have enjoyed the delights of the road more than when that bus, was in my possession. The usual disclaimer if necessary.

E. HOWARD SMITH.

ONDON-EDINBURGH RUN-ACCOMMODATION.

Sir,-I am up in "Auld Reekie" for a short holiday, nd have made a few enquiries about hotels for the London-Edinburgh run boys.

As usual a number have already booked up to stay at dilne's Imperial Hotel, 145, Leith Street, and there will

e the usual re-union there on the Sunday.

There are still ten to twelve double rooms available, and nyone intending to stay there is advised to write and fix, ip at once. Those who have stayed there before will emember the jolly times spent on pre-war Loudon to dinburgh runs, but some may not have kept the address.

HAROLD KARSLAKE.

RONT BRAKES.

Sir,-It is incomprehensible to me, a motor cyclist of ome years experience, that manufacturers continue to fit he ridiculous and useless front rim brake. It is obviously relic of the pedal cycle, and yet is fitted by makers who ride themselves on their product being a motor cycle, not glorified pedal cycle. Even if it were efficient, its use would soon ruin the appearance of the machine, and, in any case, the front rim is not intended to be used as a brake surface.

It is surely time that this survival of antiquity disappeared, and I am convinced that you would have the gratitude of almost all motor cyclists it you were to use your efforts in this direction.

Some of the new and more progressive firms are now fitting sensible brakes, but many of us like to stick to one of the older makers, most of whom have hardly improved the hand brake since they produced their first machine.

Richmond.

SPEED WOBBLE.

Sir,-May I take up the gauntlet thrown down by "Limit"? I have attained the speed of 60 to 65 m.p.h. on several occasions lately on various stretches of the Portsmouth Road. My machine is a 7-9 h.p. Indian, single speed model. I have touched 70 m.p.h. on the track, timed by friends, although my speedometer reads quite correctly.

ny speciometer reads quite correctly.

Admitted it is foolish and dangerous to drive so fast; but, nevertheless, it is most exhibitrating! I have never yet had a speed wobble on this machine, but I experienced it once on a machine with a back rim out of truth at just over

45 m.p.h.

If you have room for this statement in your most excellent journal, I should like to bring to the notice of "Limit" that, to obtain these speeds, he must tinker his engine till it will give the necessary revolutions, and then try a few stretches on the road I mention, and if his luck is out he will NO-LIMIT. be heavily fined.

London, W.

Sir .- Regarding the vexed question of "speed wobble," a point which appears to deserve attention is the fact that a point which appears to deserve attention is the fact that few machines are constructed so rigidly, with regard to power-transmission to the rear wheel, as to eliminate bending effect due to tension of chain, or belt, as the case

may be, while running.

When the power transmitted reaches a certain value, When the power transmitted reaches a certain value, while the machine on the level touches the critical speed, a certain amount of "whip" in the rear fork, due to bending moment towards the driving side, is unavoidably present, however small. If this vibration is of sufficient amplitude, it follows that the path of travel will be affected thereby. It may be of interest to note that in some extreme cases of light frames built for racing events, the rear fork and wheel is set initially out of alignment in order to compensate for tension of drive entailed by power transmitted at high speeds.

It would be interesting to know whether any of your readers have traced the trouble down to the source indicated. GEO. DE M. DAVIS.

Sir,—I was interested to see "Limit's" letter in your issue of April 22nd with regard to speed.

I quite agree with him, and endorse all his remarks about wonderful speed of men who, so they tell us, do

65 and 70 m.p.h. on the road.

Like "Limit," I should like to know how a speed of nearly 70 m.p.h. off the track is done, and more than that, I should like to see it done.

It is a pity that speedometers do not always tell the truth, and it is more than a pity when this remark extends to the riders themselves. Malvern.

FINISH OF NEW MACHINES.

Sir,—Your correspondent, Mr. A. Brown, in *The Motor Cycle* of April 15th, raises a subject under the above heading which, I feel sure, motor cycle manufacturers would be well advised to consider.

About a formight ago I got delivery of a machine which is largely advertised, and it is only within the last day or two that I have got it into what I consider good running order. This is not what one expects after paying a pound or two under £100 for a 2\frac{3}{2} h.p. cycle. I have no fault to find with the engine (a Blackhurne) or the frame generally —the makers state in their catalogue that it is "the last word in motor cycle design," and so it should be at the price—but the way in which it is put together leaves much to be desired.

Had I been a novice. I should certainly have condemned the outfit as bad. As it happens, I have had considerable experience with the Capac carburetter, with which this machine is fitted, so I was able to adjust it immediately in order to start up the engine. Once adjusted, this carburetter, to my mind, is hard to beat. Both brakes are of the external contracting type on the rear wheel. Owing to faulty workmanship, these were hard on all the time, and had to be dismantled and corrected before the wheel could be turned.

After a run of five miles, the footboards were loose, the steering head had excessive play, and the rear mudguard polished inside, owing to the rear wheel, which is sprung fouling it on rough roads. Many other minor adjustment were necessary, and several nuts had to be tightened up.

Besides being dangerous to unskilled riders, a machine in such a condition does not give the makers of components such as engine, carburetter, etc., a fair chance, since many riders look upon an assembled cycle as a whole, and i received in bad condition the whole is condemned.

The above state of affairs is not usually found in machine manufactured throughout under one roof. It is more in the case of assembled machines, and I think engine makers am manufacturers of components would be justified in refusing to supply those makers who turn out badly-built machines.

It is only by the most careful inspection that cycle maker can be sure of their products being in good condition.

The plating of modern machines also leaves much to be desired. The machine to which I have referred has bee in one shower of rain, and all the plated parts show rust My Baby Triumph, which I have run daily throughout th winter, looks better to-day than this machine after a for night's running. What is possible with one make should be possible with another.

D.B. Milngayie



STARTING TIPS.

Sir.-In reply to "J.M.M.'s" query re starting a B.S.A'., there are several points to observe :

1. The clutch plates are probably stuck, and should be taken down, cleaned, and replaced. I removed one plate in

my machine, and found an improvement.

2. Thin water-cooled engine oil only must be used for

the gear box.

 When cold, the engine must be primed every time.
 Scrap the carburetter, and put on one which cannot be meddled with on the road. The adjusting needle on the CAP.-B.S.A. is a source of much anxiety.

5. Always use benzole, as the B.S.A. is a different

machine when this is employed.

6. It is presumed that "J.M.M." starts with the lever in low gear when kick starting. If he ever pushes off, middle gear should be used.

C.B.M.-B. Huntingdon.

LADIES AND COMPETITIONS.

Sir,—I heartily agree with, and share, Mrs. Manvell's feelings on the subject of ladies and competitions. I believe teenings on the subject of ladies and competitions. I believe I live in the same district as Mrs. Manvell, and suggest it might be a good plan to start a motor cycling club solely for ladies, and have our own trials, competitions, and hill-climbs—yes, and even speed tests! There must be ever so many lady motor cyclists living a few miles out of London who would be only too glad to join such a club. I myself am a 23 b.p. Douglas enthusiast, and am expecting delivery of my new machine this week. LADY RIDER.

Beckenham.

TAXATION.

Sir,-In the course of the debate in the House of Commons on the resolution imposing new duties, the hon, member for Tottenham, in discussing the position of the private motorist in regard to the upkeep of the roads, was surely at a loss for adjectives when he described the attitude of the Auto-mobile Association and Motor Union as "selfish."

First, the Taxation Committee were asked to deal with the taxation of road vehicles, and not merely motor vehicles, but the report of that Committee is confined to endeavouring to show how the whole amount can be obtained by taxing motor vehicles alone. Moreover, the obtained by taxing motor vehicles alone. Moreover, the private motorist is called upon to find the larger share of the total sum required. All the Association is asking, on behalf of the private motorist, is that he shall be entitled to the impartial consideration of his opinion as to the most equitable means of finding the money. Where is the selfishness in this? On the contrary, whilst the principle of taxing vehicles for road revenue has been maintained by the authorities, the Association has always indicated the willingness of the metarist to find a fair where of the apparent willingness of the motorist to find a fair share of the amount required. The method by which it is proposed to levy this mcreased taxation is entirely wrong in theory, and would be unjust in practice, as it is obvious that the amount of the individual tax should always vary in accordance with the extent to which the road is used.

I also notice that during this debate the Minister of Transport, in referring to the fact that the only objection to the tax had come from the Automobile Association, did not at the same time make it clear that this opposition is the voice of 115,000 owners of motor vehicles who are members of the A.A., and that the policy of the Association is supported by private motorists as a body throughout the

United Kingdom

The Automobile Association will continue to fight for the retention of taxation upon imported petrol as against the inequitable proposals for taxation per unit of horse-power, as motor spirit is the only fair basis which bears any direct relation to the extent of use.

STENSON COOKE, Secretary A.A. and M.U.

Sir, After reading your various comments in The Motor Cycle for April 22nd, I gather that the general opinion is that taxation should be in proportion to the use made of the roads by the cycles or cars in question. I agree that, from the view of the owners, the fuel tax is the fairest and the easiest in many cases, as it would be paid gradually.

The Government, however, refuse to continue this tax for reasons set forth in your article headed "Taxation," referred to above, wherein you also say there is no fair alternative.

Why not a tax on tyres, as I suggested before? This would

be fair, to all motorists at any rate, and would not have the objection of being hard to collect.

For the more a machine is used the more wear on tyres and the more reckless the driver the more wear on tyres and roads owing to skids and hard use of brakes. The week-end user would thus be fully provided for, and the continual user would pay his fair and larger share.

As regards collection, this could be done (1) at the makers, and (2) at the retreaders. The former would present no difficulty. The latter could be overcome by causing anyone who does retreading to be licensed at a nominal fee and to keep books as were required for petrol licences. A tax could be added by the retreader to his charges, similar to the enter-

tainment tax.

The exact figures or amounts of these taxes could only be reached by those having access to the necessary data; but, whatever the amounts finally settled on, they would still be proportionally correct from the standpoint of damage done to roads.

No one will deny, I think, that the larger and heavier the tyre the greater the damage done to the roads. In conclinion, I do not think any motorist minds paying towards the upkeep of the roads, as good roads save pounds in the repair bill and add very much to the comfort and cleanness of riding, but all object to paying more than their fair and just share. I would suggest doing away with all present taxes and having all in one. H. W. HILLS. present taxes and having all in one.

Sir,-I propose buying a machine at the end of the Sn; 1 propose buying a machine at the end of the season (as I am at present a hospital patient), and my first thoughts turned towards a 3_2 h.p. machine with sidecar. With the old tax I should have been able to bear the usual expenses, but now I shall have to turn to one of the

other two alternatives, viz., a lightweight under 200 lb. Now comes the question: Is the 200 lb. to be the weight of the machine stripped of accessories, i.e., lamp set, alarm, and tools, or the weight of the machine ready for the road complete with the above accessories?

If the latter statement proves correct, I think that it would be in the interests of lightweight manufacturers to turn out a complete machine, ready for the road, under or up to the specified 200 lb. F. HANSON.

Sir,-As a reader of your paper since 1905 and a motor cyclist since 1907, may I give my views on the unfair system of taxation proposed in the new Budget? Is it not time motor cyclists protested as a body, not only as regards taxation but against every form of persecution from which we suffer, surely our numbers are now great enough to make some impression on those responsible for the state of things. We keep taking every new imposition quietly, but I think this last blow ought to waken every motor cyclist up. If the country wants money for the upkeep of roads, why should the motorist pay it all? What about the big farm carts and lorries, and all horsed vehicles, also pedal cycles? The new tax on motor cycles is going to make motor cycling impossible for a lot of working men, and they are the men that require it most. J. FIELDING.

BOOKS AND MAPS FOR MOTOR CYCLISTS

Issued in conjunction with The Motor Cycle.

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20, Tudor Street, London, E.C.4, or of leading Booksellers and
Railway Bookstalls.

MASS PRODUCTION AND COSTS.

The Summary of a Talk with a Prominent American Manufacturer.

If it were not for the present unfavourable rate of exchange and the import tariff, the powerful American sidecar outfit could be sold in this country at a figure in the neighbourhood of £150. Yet wages in the U.S.A. are even higher than in this country.

The significance of these facts was brought home to us during a talk with Mr. Arthur Davidson, of the Harley-Davidson Co., who at present is on a visit to

this country.

We were impressed by the possibilities attainable by any firm which can properly organise its plant and adopt methods by which a large output is rendered possible. Employees at the Harley-Davidson factory number 2,000, and the output is well over 20,000 machines per

over 20,000 machines per annum, or roughly one

machine each month per man.

Mr. Walter Davidson has a reputation of being a ruthless "scrapper" of machinery, with the result that the Harley-Davidson factory is always up to maximum efficiency by the constant introduction of the latest time and labour-saving machinery, a large proportion of which is made in their own factory.

Despite their success, the gentlemen from whom the machines take their name practically live at the factory, and so cordial is the relationship between employers and employees that labour troubles are

reduced to a minimum.



Mr. Davidson told us that there are no secrets in the manufacture of Harley-Davidson machines. Only the best materials were used—an efficient laboratory saw that no materials differing from specification passed into production—and, if any British manufacturer cared to go over their factory in Milwaukee, the door was open and a hearty welcome awaited him.

We were led to understand that the flat-twin model is made by practically a separate plant, added to the factory specially for its production, and that during experimental stages a smaller engine was first made but was not considered sufficiently powerful for solo use in America and the Antipodes.



Mr. Duncan Watson (Mayor of Marylebone) driving Mr. Arthur Davidson, of the Harley-Davidson Motor Co., Ltd. Mr. Davidson has just arrived from America to study European conditions

Although a T.T. Harley-Davidson has been produced by the experimental department, it will not be seen in England this year, and we gathered-that the decision of some of our leading makers not to support the race has had something to do with this. Of course, the chances of winning the Blue Riband of the motor cycle world are greater this year than ir any of the contests in the past and likely to be in the near future, but the company had no desire to race with other than a thoroughly re presentative British entry This T.T. model is a smal V twin, and not a flat twin as might have been expected since the flat-twin Harley is only a little oversize for the T.T., having a capacity o

Referring to the "oversize" (1,100.9 c.c.) model which recently covered nearly 112 miles per hour a Daytona. Mr. Davidson told us that the chances of its being seen in this country are small, as, at the present time at least, there is no intention of marketing it.

The Question of Production.

Asked for his impressions of British motor cycles Mr. Davidson replied that there were too many and not enough of any one of them, while he was almos bewildered by the multitudinous sidecars produced it this country, which he thought were being over developed.

In contradiction of the rumours current from time to time, there is no intention at the present time of opening a factory in Great Britain. Mr. Davidso explained the many difficulties, and was extremel doubtful whether a British Harley-Davidson could be made to give any advantage to purchasers in this

country.

He paid tribute to the popularity of *The Moto Cycle*, and stated that he had found the blue covered paper in every part of the world where motor cycle are used. He remarked that the enormous circulatio (over 120,000 copies weekly) for a "class" journal was remarkable and a source of astonishment in his country.

A SCOTTISH OPEN HILL-CLIMB.

N Saturday, the 15th, the Western M.C.C. of Glasgow will hold an open hill-climb on Garshaike Hill (Dumbartonshire), which is about fourteen miles from the Scottish Metropolis. Five classes are provided for: up to 350 c.c., 600 c.c., and "unlimited" sidecars.

The awards will be made on time and also of formula, while a special prize will be awarded to novice member of the club putting up the best pe formance on formula. Entrics close on the 13th, an should be sent to Mr. P. Napier White, Sunnybanl Campsic Road, Hillpark, Glasgow. Practising on the lill is not permitted.

Hints for the London-Edinburgh Run.

A Few Notes on the Classic Whitsuntide Event by the Captain of the M.C.C.

IT is highly desirable that competitors in this year's London-Edinburgh equip their machines with magneto cut-outs for the descent of Kirkstone Pass, writes Mr. W. H. Wells, captain of the M.C.C.,

who has just surveyed the course. Without a means to cut off the ignition on the descent into Patterdale, it will not be possible to use the low gear to full advantage for braking purposes, and those who depend entirely on their brakes may burn them out.

Alterations in the Course.

The course definitely decided upon is as shown on page 465, The Motor Cycle f April 22nd, with the exception that instead of including Wetherby and Harrogate, it leaves the main road a mile and a half south of the former town, where the road from Tadcaster town, where the road from Indicaster meets the Great North Road and diverts to the left through Harewood, Poole, Otley and Ilkley, where breakfast will be served at the Middelton Hotel, then on to Skipton.

The roads are in excellent condition from London to a point about five miles beyond Doncaster; then rather rough until the Great North Road is left, after which the road is extremely good all the way through to Kendal. From all the way through to Kendal. From Kendal to Windermere there is about a quarter of a mile of bad road, after which it is remarkably good to Crook Inn, where about two miles of bad road is encountered. The road is then exceptionally good right through to Edinburgh,

TRADING WITH FORMER ENEMY COUNTRIES.

The following resolution has been passed by the Council of the British Association of Trade and Technical . Journals, Limited:

"In view of the expression of opinion by Sir Auckland Geddes, as President of the Board of Trade, regarding the acceptance of advertisements of goods manufactured in late enemy countries. the Council have carefolly considered the whole position. They now recommend members to adhere to the adopted policy of the Association not to accept such advertisements for the present, in order to enable British manufacturers to recover their normal working conditions, At the end of the present year (1920) the subject will again be considered, with a view to further advising members on the subject."

The publishers of "The Motor Cycle" readily accept this recommendation, and have, in fact, constantly refused offers of advertisements of German goods.

The ascent of Kirkstone Pass from-Ambleside resembles Porlock in gradient, especially for the first one and a quarter miles, but it is easier to climb, in view of the fact that the road has a hard stone surface, which allows a good wheel stone surface, which allows a good wheel grip under all conditions of weather. The last three-eighths of a mile up to Travellers' Rest is fairly easy, although the last hundred yards' stretch, known as "The Struggle," is probably 1 in 4.

Accommodation.

It has been very difficult indeed to secure hotel accommodation along the route, but the hotels that have agreed to accommodate the competitors, such as the George at Grantham, the Middelton at Ilkley, Patterdale Hotel, Patterdale, and Annerdale Arms at Moffat, are first-class hotels, all of which have their regular and permanent goests. They, therefore, look to the members of the M.C.C. to remove their overalls, riding clothes, waders, etc., before entering the dining room.

Entrants must remember that the times now are very different from what they were in pre-war days, and should refrain from grumbling if the service should not come up to expectation. If there are any complaints forthcoming, it may mean that in future years the club will be unable to obtain any accommodation

Results of the Victory Cup Trial.

A 250 c.c. lightweight won the Victory Cup in the Birmingham M.C.C.'s recent trial in which 165 riders competed. This machine is a special Diamond mount with overhead valves and camshaft, ridden by A. Milner. The following are the official results:

VICTORY CUP AND GOLD MEDAL. (For best performance.)
A. Milner (21/2 Diamond).

MIDLAND CUP AND GOLD MEDAL. . (For best performance in the passenger class.)
J. E. Greenwood (3½ Sunbeam sc.). DUKE CUP AND GOLD MEDAL.

(For the competitor in the solo class above 275 c.c. who had the greatest number of marks to his credit.)

F. A. Applebee (3 A.B.C.).

ALEC ROSS PRIZE.

(For greatest number of marks on a machine under 270 c.c.)

A. Milner (2½ Diamond).

SPECIAL GOLD MEDAL. (For best performance by private owner.)

J. H. Walker (4 Triumph).

GOLD MEDALS. GOLD MEDALS.

(For best performance in each class excluding the winners of premier awards.)

F. J. Lidstone (24, James).

G. E. Stobart (5-6 James sc.).

J. H. Walter (4 Triumph).

H. B. Denley (8 Morgan).

E. Forter (5 A.B.C.).

TEAM PRIZE.

I. Sunheam team (J. E. Greenwood, G. Dance, and T. C. de la Haye).

2. B.S.A. team (L. L. Sealey, H. F. Edwards, and M. C. Breeze).

3. Norton team (H. Hassall, L. Paynter, and G. W. Walker).

SILVER MEDALS. L. Horton (8 New Imperial sc.).
B. Kershaw (214 Verns).
J. Allday (31/2 James).
T. Peck (31/2 Ariel). W. E. Emery (4 Rex sc.).

W. E. Emery (4 Rex sc.).
T. G. Amphlett (5-6 James sc.).
S. E. Longmore (8 Harley Davidson sc.).
W. Koeley (4') James sc.).
H. G. Horn (2') Gymy J.
J. A. Watson-Bourne (4 Blackburne).
J. A. Watson-Bourne (4 Blackburne).
H. H. Saddington (5-6 James sc.).
H. B. Fowler (3-6-James sc.).
H. B. Fowler (3-6-James sc.).
P. Pike (2'4 O.K. Union).
R. C. Akbreley (4 Trimph).
F. H. Brown (8 Rex sc.).
G. W. Waller (5-1) Norton.
W. Swiffen (2'4) Verus-Blackburne).
H. J. Watson (6 Ariol sc.).
G. W. Waller (3'1) Norton.
W. Swiffen (2'4) Verus-Blackburne).
F. J. Watson (6 Ariol sc.).
G. W. Wilkin (3'2) Wilkin sc.).
F. Turvey (4'4 B.S.A.).
L. Chalee (2'4) Alfays Allon).
H. G. de The Haye (3'5 Sunheam).
H. G. W. Wilkin (3'5) Wilkin sc.).
F. Turvey (4'4 B.S.A.).
H. G. W. Wilkin (3'5) Wilkin sc.).
H. G. W. Wilkin (3'5) Sunheam sc.).
H. G. Hayes (3'5 Sunheam sc.).
H. W. Brandish, juur. (5-6 Rover).
F. A. Watson (3'5 Sunheam sc.).
H. N. Roberts (3'5 Scott.).
H. N. Roberts (3'5 Scott.).
H. J. R. Fellows (6 A.J.S. sc.).
F. J. Aldams (7-9 Indian sc.).
G. E. Misson (3'5 Sunheam sc.).
H. S. E. Misson (4 Newton sc.).
R. Filliott (5-6 Rover).
F. J. Aldams (7-9 Indian sc.).
G. E. Misson (3'5 Sunheam sc.).
H. C. W. Worrall (3'5 Sunheam sc.).
H. C. Hayes (3'5 C.).
H. J. Sunheam sc.).
H. J. Sunheam sc.).
H. L. Hayes (3'6 R



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Altering Compression Ratio.

Would you kindly inform me what possible effects would occur in my 24 h.p. two-stroke by putting a packing piece between the cylinder and crank case, thereby lowering the compression ratio? I have been thinking of trying this on my machine with different sized packing pieces, but before experimenting I should be glad to have your opinion.—W.A.W.

You do not state for what reason you wish to vary the compression ratio on your machine, but we would advise you not to make an alteration, as by raising the cylinder you will alter the port timing, and probably lessen the efficiency of the engine to a greater or less degree, varying with the thickness of the packing used.

Defective Carburation.

I have a 33 h.p. machine, fixed engine, which I have had recently overhauled by the makers, a new cylinder, complete with valves, etc., being fitted, and, in my opinion, the engine is in perfect order. When I purchased this machine there was fitted an old type carburetter. The float chamber would not fill, and, acting upon information received from you previously, I in-serted a thick leather washer under the lid. This allowed the float chamber to fill, but all the time I have had the machine, both before and after overhaul, it is impossible to get more than twenty-five or thirty miles per gallon. Flooding will only occur after violent "tickling." In spite of all the efforts of myself and the local garages, the machine is most difficult to start, sometimes requiring to be run sixty or seventy yards, never less than thirty yards. Is this machine, than thirty yards. Is this machine, a 33 h.p., capable of taking a sidecar over moderate or fairly level roads, provided I had a simple variable gear fitted?-Novice.

From your description of the trouble, it would appear that the petrol level in the carburetter is too low, and, as the carburetter appears to be completely out of adjustment and of an old pattern, we should recommend that you fit a new one. The petrol consumption with your machine should certainly be 90 m.p.g., and the starting should not be at all difficult. The machine would be reasonably successful with a light sidecar on level roads, especially if you fitted a Philipson pulley, the latter being of the special model made for sidecar work.

Carburetter Trouble.

I ride a 1915 Baby Triumph, with a Triumph (?) carburetter, with the petrol feed from the bottom. The engine requires full air, with about half throttle, and with full throttle it vibrates badly. The benzole consumption is high, and a fine deposit forms in the cylinder. (1.) How can this be remedied? (2.) How is the jet removed? (3.) Would a W.S.R. adjustable jet improve the running? (4.) Would a hot air intake be an improvement. (5.) What alterations are necessary for running on benzole?—G.S.S.

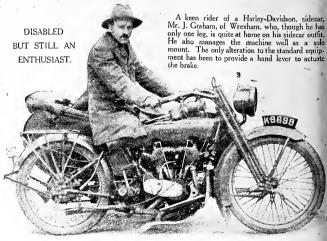
(1.) Your trouble is apparently caused by too rich a mixture, and we should therefore recommend that you experiment with the lowering of the petrol level, and the fitting of a smaller jet. The vibration might be caused at full throttle opening by pre-ignition, which is caused by the presence of incandescent carbon deposit in the combustion chamber. (2.) The jet can be unscrewed when the float chamber is removed from the body of the carburetter. (3.) If the adjustable jet you mention can be fitted it would greatly facilitate tuning and experiments. (4.) This is entirely a matter of opinion, but, in cold weather, it might be an advantage. (5.) An in

crease in the supply of air to the carburetter, or a slight reduction of the fuel supply, effected by reducing the jet size or lowering the level.

Date of Machine.

I bought an outfit in December 1919, for £78, and, as a result of certain observations recently made at a garage concerning it I wrote to the makers, quoting frame number (which had been covered by enamel, and received a reply stating the machine was a 1912, not 1914, a divertised and as stated on the receipt What is my position now? I want is sell, but cannot honestly advertise is as a 1914 machine. Can I get the vendor to take the machine back an refund the price I paid?—G.B.

Before you can insist upon the selle taking back the machine, or returning a part of the purchase price to compensate you for the difference in value between the 1914 and 1912 model, you will have to prove that his statement of the date was deliber ately made with the intention of deceiving you, and so obtaining a higher price for the machine than it was actually worth Consult a local solicitor, with a view to obtaining some redress from the seller as, presumably, being a dealer, he should have known the age of the machine.



Cycle Car Gear Ratio.

I require a top gear ratio of 43 to 1, and my present gear box has a top gear ratio of 4½ to 1. has a top gear ratio of 4½ to 1.

Driven sprocket on gear box, 36 T, 5in. pitch; countershaft rulleys, 7in. diameter; belt rims, shaft pulleys, 7in. diameter; belt rims, 17in. diameter. What sprockets do I require on engine and countershaft ?-

you retain the 36T x gin. pitch sprocket the countershaft, you will require an T sprocket of the same pitch on the ine-shaft to give the top gear ratio of to 1 (approximately), retaining the sting pulley and belt rim.

Cause of Hub Gear Breakage.

Will you be good enough to give me all possible causes of a 3 three-speed spindle breaking inside the internal clutch cone? The machine in question is a 914 model, and has broken two pindles, one doing 80-100 miles, the ther about 50 miles. Can you help me a this matter?—H.C.W.

ere are many faults which would cause ir three-speed hub spindle to break, ongst them being a loose fit of the ndle itself in the fork ends; a fierce tch; hanging on to top gear to the t moment; the whole or partial sure of the gear mechanism due to ufficient lubrication; broken portions the pinions getting mixed up in the chanism, and bad driving, which was the full shock of the engine imses at low speeds to come on the gear. u might also carefully check the lining. of the fork ends, as if these are bent twisted in any way, considerable ass will be imposed upon the spindle, I any further shock, through any of causes mentioned, would possibly ise the actual breakage to occur.

The B.S.A. Gear Box.

the following matter: There is an intermittent occasional slip in my B.S.A. gear box, accompanied by a scrunching grating sound, specially when taking a loaded sidecar p a hill on second or third gear. When the sound ceases the load is again aken up for a short distance. What want to know is whether the B.S.A. ear box is such that a good amateur actor cyclist (who does all his own unning repairs and replacements) can afely and easily take it apart for xamination, or is it a job for the

Would you please advise me in

akers ?-F.D.T. re is no real difficulty in dismantling B.S.A. gear box and clutch, but a ain amount of skilful manipulation thought are necessary. No special s are required, as the tension can be en off the clutch springs by means of chtch push rod itself and the help a large vice. Your best plan would to obtain the makers' spare parts cata-ies, which illustrates the whole of the ponents separately. This will be some if to you. The trouble you experience le to you. The trouble you experience indoubtedly due to clutch slip, and possibly result from the use of unable oil. Engine oil on no account ild be used—a very thin lubricant what is required.

RECOMMENDED ROUTES.

NORTHAMPTON TO COVENTRY .- S.V. Northampton, Weedon, Daventry, Willoughby, Dunchurch, Coventry.

BIRMINGHAM TO TENBY (via WORCESTER

AND HEREFORD) .- E.A.V. AND HEREFORD).—E.A.V. Briningham, Bromsgrove, Droitwich, Worcester, Bromyard, Stoke Lacy, Hereford, Witney, Hay, Three Cocks Junc., Brecon, Llandovery, Llandilo, Carmarthen, St. Clears, Tenby.

BRISTOL TO LYNTON .- W.L.H.

Bristol, Redhill, Churchill, Cross, East Brent, Highbridge, Bridgwater, North Petherton, Taunton, Bishop's Lydeard, Wheddon Cross, Exford, Simondsbath, Challacombe, Blackmore Gate (or Brendon Two Gates, Barbrook), Lynton.

Wednesfield (Staffs.) to Market Rasen

(Lincs.).—J.N.S.
Wednesfield, Bloxwich, Pelsall, Brownhills, Weeford, Tamworth, Ashby-de-la-Zouch, Loughborongh, Wimeswould, Willoughby, along Fosseway to Newark, Lincoln, Langworth, Lissington, Market

NEWCASTLE-ON-TYNE TO GODALMING .-G.W.G.

Newcastle-on-Tyne, Gateshead, Birtley, Chester-le-Street, Neville's Cross, Ferry Hill, Darlington, Scotch Corner, Catterick, Leeming, Boroughbridge, Wetherby, Aberford, Ferrybridge, Don-caster, East Retford, Newark, Grantham, Stamford, Stilton, Buckden, Biggleswade, Hitchen, St. Albans, Watford, Rickmans-worth, Uxbridge, Denham, Staines, Chertsey, Ottershaw, Woking, Guildford, Godalming.

IMPORTANT DATES.

Sat., May 8th -Bristol M.C.C. Speed Trial, Westensuper-Mare.

Super-Mate.
Sat., May 15th—
Liverpool M C. Open Speed Trials.
Junior Car Club Brooks ands Meeting. Fri. and Sat., May 21st and 22nd-M.C.C. London-Edinburgh Run.

Sun., May 30th— Motocycle Club de France Grand Prix Race

Sat , June Sth - Ilkley Open Reliability Trial.

Sat., June 5th -Scottish Speed Championship: at St. Andrews.

Scottana Speed Championship: at St. Mea. The Section 15th— Junior T.T. Race, Isle of Man. Thurs. June 17th— Sector T.T. Race, Isle of Man. Mrn. July 5th. to Satt, July 10th— Scottish Six Days Trial. Wed. and Thurs., July 7th and 8th— Arbnthnot Trophy Trial. Wed. July 17th— Union Motocylic Crosof Prix Race for Motor Cycles and Cycle Cars. Thurs., July 15th— Essex M.C. Joint Open Speed Trials, Westcliff-on Sea. Thurs., July 15th— Aug. 15th, July 15th— Thurs., July 15th, and Fri., July 16th—

Westeliti-on Sea.
Thurs, July 15th, and Fri, July 16th—
Irish End-to-end Trial
Sun, July 25th, to Aug. 1st—
International Six Days Trial in France.
Sun, Aug. 1st, to Wed., Aug. 4th—
Anglo-Dutch Trial.

Angu-Buch Han,
Sat, August 7th—
S.A.C.U. Grand Inter-club Meet at
Callander.
Mon., Aug. 23rd, to Sat., Aug. 28th—
A.C.U. Six Days Trial.



Graphited Oils.

The Graphite Oils Co., Ltd., of Glasgow, are issuing shares to the extent of a quarter of a million new capital with a view to enlarging their plant.

Increased Prices.

Owing to the continuous advances in wages and cost of materials, the price of the standard two-seater T.B. has been increased to £250.

The price of the Levis two-stroke Popular model is now £60. This increase took effect on the 1st inst.

American Electric Horns.

Replacements for the electric horns fitted as standard to most American machines can be obtained from Messrs. R. Cadisch and Sons, 171, Great Portland Street, W.1, who are making them under licence to the specifications of the Dean Electric Co., of America.

Competition Rider and Garage Proprietor,

Mr. Eric Williams, the well-known competition rider, has recently opened new showrooms and garage, including a well-equipped workshop, at Lowesmoor, Worcester, where repairs are carried out under Mr. Williams's personal supervision.

Plug Tips for Plug Users.

An interesting little booklet bearing the above title has just been issued by the Apollo Manufacturing Co. It tells the motor cyclist much more about plugs than probably he ever knew before. Interesting figures are given showing the conditions under which a plug is used. A treatise on insulation and the theory of electric spark ignition is also included.

Goodyear Tyre Enterprise.

A series of interesting films, embodying the Goodyear Factory and long distance hauling by the Goodyear Akron Express on Giant Pneumatics, are now being shown to the trade in various towns throughout the country. Goodyear Tyre Co. certainly show no lack of enterprise in their methods of publicity.

A Travelling Motor Repair Agency.

We have received a pamphlet concerning the Travelling Motor Repair Agency, run by ex-officers at Golden House, Great Pulteney Street, London, House, Great Pulteney Street, London, W.1. The primary objects of the agency are to repair all types of cars and motor cycles at the owner's residence, to buy and sell cars and motor cycles, to give and sell cars and motor cycles, to give instruction in driving and mechanism, also insurance. The Agency clairs that on receipt of a wire or telephone message, specially qualified men will be despatched immediately to any locality. They also state that repairs are charged by the hour, and that all spare parts are sold at cost price.

1# DAY ++



Start from Perth, include a Run to John-o'-Groat's, and Finish with One Day South of Edinburgh.

THIS year's Scottish Six Days Trials promise to be the most severe of any yet organised. At the same time, none of the usual sporting characteristics will be lost, and those who compete will no donbt have as enjoyable a time as on any previous Scottish "Six Days." For the first time Edinburgh will not be the starting point, and another innovation is that one day's run will be south of that city.

London competitors will have to travel about 430 miles to the starting point at Perth—a long distance trial in itself, excepting that, of course, they may travel by train if they desire. They rarely do this, however, and the majority of competitors travel by road, and there-by assure themselves that their machines are in every way fit to start on the strenuous 1,000 miles over the worst hills in the United Kingdom.

Neither Applecross nor Aultnaharie, (last year's pièce de résistance) will be included in this year's trial. Other hills associated with the Scottish Trials are also omitted. Several new hills are included, and Abriachan, which was omitted last year, will apparently be climbed twice (on the second and fourth days). New hills include Talla Linns and Redstone Rig, which are not unknown, as the Edinburgh club has included them in its recent one-day trials.

On the third and fifth days no observed hills are included.

The following are the six routes pro-The observed hills are shown in capital letters.

First Day, Monday, July 5th.

Perth, Methven. Buchanty, Newton Bridge, AMULREE. Kenmore, Aberfeldy, Grandfully, Ballin-

Grandtully, Dannie luig, Pitlochry, Moulin, Kirkmichael, Braemar, Crathie, Rin-loon, Corgarff, COCKBRIDGE, Tomintoul, Bridge of Avon, BRIDGE O'BROWN, Grantown, Carrbridge, Findhorn Bridge, Inverness.—1733 miles.

ABRIACHAN.

Second Day. Inverness, ABRIACHAN, Beauly, Muir of Ord, Dingwall, Evanton, Ardgay, Bonar Bridge, Lairg, Althaharra, Tongue, Bettyhill, Strathy, Melvich, John-o'-Groat's, Thurso.—186½ miles.

Third Day. Thurd Day.

Thurso, Wick, Latheron, Dunbeath,
Berriedale, Helmsdale, Brora, Golspie,
Mound Station, Lairg, Bonar Bridge,
Ardgay, Evanton, Dingwall, Muir of
Ord, Beauly, Inverness.—153½ miles.

Fourth Day,
Inverness, ABRIACHAN, Drumnadrochit, Invermorriston, Clunie, Shiell Inn,
MANRATACHAN, Glenelg, GLENDOE, Errogie, Craggie Inn, Carrbridge,
Grantown.—1804 miles.

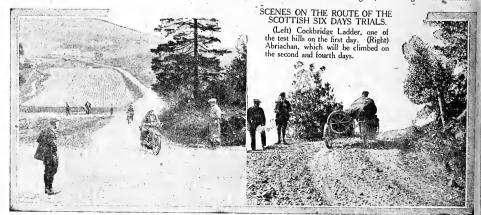
Fifth Day.
Grantown, Tomintonl, Corgarff, Rinloon, Crathie, Braemar, Kirkmichael, Pitlochry, Aberleldy, KENMORE, Amulree, Gilmerton, Crieff, Stirling, Larbert, Linlithgow, Edinburgh.—186 miles.

DINGWALL DESCRIPTION UMPADDOCRIT BRAFMAR O. CRAINE KIRKHICHAFI KENMORE OSSERVED IN AMULDEF CHECK

Sixth Day.

ST HARY'S LOCK

Edinburgh, Penicuik, Leadburg Edinburgh, Penicuit, Leadouri Broughton, Tweedsmuir, TALL LINNS, St. Mary's Loch, Gordon Arm: Innerleithen, Heriot Station, Humbic Gifford, DANSKINE HILL, Redston Rig, Garvald, Spott, Elmscleugh, St. Agnes, REDSTONE RIG, Donally Burn' Haddington, Edinburgh.—1521 miles.





Simes to Light Lamps.

lay	6th		٠	8.59	p.m.
,,	8th			9.1	٠,,
,,	10th			9.4	,,
,,	12th	• • • •	•••	9.7	,,

of the London-Edinburgh.

ie first competitor starts half a ate after the official car, which leaves p.m. The statement on the prepary regulations that the first com-

tting Address.

veral times of late we have heard complaint that the address has been ted on letters answering advertise-. Will enquirers please note.

Practising.

actising for the T.T. will commence he 31st inst. and will be permitted 4.30 to 7 a.m. each day pro-I the rider carries his official number

e Activity.

te police are very active in the earnbe district, especially on the acnade, where, during the summer hs a ten-mile limit is enforced. deration shown by certain youths, a motor cycling activities seem conto short "bursts" along the front open exhausts.

otor cyclists in Cheshire are warned cide cautionsly on the Knutsford, as Chapel, Brereton, and Newcastle s. The manner in which the police bing is carried out in these districts, prespondent states, is most unfair.

an-Ladysmith Race.

non-stop reliability trial from Durban adysmith and back, held on April proved a strenuous affair, only six of seventeen riders arriving as far as ysmith; only five completed the full ney.

ie winner of the Lambon Trophy, a for fastest time on a sidecar, was 'arks (Indian sc.), J. Booth (Junior mph) taking the Rudge Trophy, h was awarded for the best time on th was awarded for the best time on old mount. The handicapping was nendable, as demonstrated by the that a Harley-Davidson (solo) hed only 7½s. hehind the Triumph. ompleting the course—some 310 miles, rough roads—the competitors put up creditable performances, particularly n the case of Booth, who rode an llent race on his small machine, his age speed being 21 m.p.h.

Tax Tyres?

In the discussion last week in the House on the proposed new schedule of motor taxation, Mr. Pemberton Billing revived the suggestion of a tax on tyres. Minister of Transport announced that a workable scheme would be considered.

Stolen Machine.

A 1920 6 h.p. Royal Enfield has been stolen from Mr. R. G. Strutt, Afterglow, Wadhurst, Sussex—engine No. 67,586, frame No. 14,947, sidecar chassis No. 14,056. The machine is fitted with Magdyno lighting and Cameo windscreen.

What is a Scooter?

If a motor scooter is not a motor cycle, as some affirm, it is indeed difficult to find the line of demarcation, for it is certain that neither frame design nor engine size determines the respective types, hence one can only assume that wheel size decides the point. Nevertheless, however small a machine may be, it is still a cycle. Most of the so-called scooters bear not the slightest resemblance to the child's toy, the name of which was first used by The Motor Cycle in connection with a machine that had some of the scooter's characteristics.

Special Features.

ROAD TESTS OF NEW MODELS. TOURIST TROPHY NOTES. 1920 SCOTTISH SIX DAYS ROUTE.

A Suggestion.

We have from time to time received We have from time to time received complaints from readers that the sharp portions of the A.A. ladge often cause minor injuries to clothing or hands. Possibly the design might be modified so that there are no sharp edges to give trouble in this direction.

Over 115 m.p.h.!

In the issue of April 22nd we published particulars of many new speed records set up last February on Daytona Beach by Harley-Davidson machines. News of still greater speeds has been recently received from over the water. On April 15th, and 16th the Indian racing experts made a successful attack on the above-mentioned records, covering the mile, with an eight-valve (998 c.c.) the mile, with an eight-varie (550 c.C.) Indian, in 31, 1s. at the remarkable speed of 115.7 m.p.h. The same distance was made in 34s. by the Powerplus model, equal to 105.7 m.p.h., while a speed of 87.8 m.p.h. was attained by a four-valve (550 c.c.) Indian

(500 c.c.) Indian.

The British record for this distance with a 500 c.c. engine is 78.95 m.p.h.



The winning sidecar in the recent Durban-Ladysmith race. J. Parks, on the Indian illustrated, received quite an ovation on his arrival at Ladysmith.

MOTOR CICLE

London-Land's End Awards.

In addition to awards in connection with the London-Land's End Trial, already published in this journal, we are informed by the organising authorities that R. E. Darnton (8 Sunbeam sc.) has been awarded a gold medal.

Helpers Wanted.

A number of keen motor cyclists are required as observers in connection with the Lycett Trophy Trial from Birmingham to Land's End and back. These will be stationed at Porlock and Lynton on the outward journey on the 22nd inst., and on Countisbury on the 25th during the return. Any motor cyclists willing to assist in this respect should communicate with the hon. sec., Mr. W. H. Egginton, 76, Earlsbury Gardens, Birchfields, Birmingham, who will also furnish full particulars of this event to intending competitors.

An Inter-club Team Trial.

June 5th has been fixed for the interteam reliability trial for the Mandes challenge shield. Teams will be composed of three solo motor cycles of any c.c., and three motor cycles and sidecars of any c.c., with one solo motor cycle and one sidecar outfit as reserves. Clubs will nominate one team only. The course will be a secret one, consisting of circuits of 25 or 35 miles in length, which shall be covered four or three times respectively making 100 miles in all. The organising secretary is Mr. W. Pratt, c/o Maude's Motor Mart, 100, Great Portland St., London, W.1.

News in a Nutshell.

The Scottish light car trials have been abandoned.

Reflex lights are not suitable substitutes for rear lamps on bicycles, according to the report of the Ministry of Transport Departmental Committee on Lighting.

Lighting.
Ladies will be allowed to compete in this year's Scottish Six Days Trials. A comparatively large entry from the fair sex is expected.

The Commissioner of Police for the Metropolis has issued a warning to motorists who permit their number plates to be obscured by mud or dust.

Electric transmission is coming to the fore in cars. Shall we have petrol-electric motor cycles?

30,000 Government aero engines are

available for sale.

In January fifty-three American car manufacturers turned out 118,310 cars, an

average of 678.9 per working day.
The capacity of the engines in the new
Indian T.T. machines is 494 c.c.

"THE MOTOR CYCLE" INCREASED PRICE.

Owing to the advance in the cost of paper since January 1st, 1920 (apart from production costs generally), it has become necessary to increase the price of "THE MOTOR CYCLE" to 4½d, from the next issue.

When it is considered that the paper in each copy of this issue of "THE MOTOR CYCLE," which before the war would have cost approximately three-farthings, now costs over 33d., it will be apparent that the additional price does not cover the whole of the increased cost, but merely represents the reader's contribution.

The advertisers and the proprietors also have to bear their part, but since we hope the high cost of paper is only temporary, we, as proprietors, are prepared to shoulder a large proportion. The very success of "THE MOTOR CYCLE," as evidenced by its large circulation, makes its position the more difficult.

Readers may rest assured that the price will be reduced immediately conditions permit.

ILIFFE & SONS LTD-



As in previous years, arrangements in hand for The Motor Cycle telegrow the T.T. course to be displayed the chief motor cycling centres. For who have suitable means to display the telegrams and wish to do so should a municate with the Editor.

Essex M C. Hill-climb.

The official results of the recent E M.C. hill-climb include the award L. P. Openshaw (Zenith) of the Herkt medal for the fastest time of the His time was 32\cdot s., as compared de la Hay's 37\cdot s., on his Sunbeam rint the same class. Special medals awarded for the fastest time in class, and these were won by A. Mis (2\cdot Diamond), 46\cdot s.; de la Hay (3\cdot 1) the min class, and the compared with the class and th

A Welsh Open Hill-climb.

The open hill-climb organised by Tredegar Motor Club and beld at Fide Elbow on the 29ult. proved a g success. Altogether there were entries in the six classes, and some fine performances were put up, the the bend on the hill proved the undof several riders. As usual, a l crowd of spectators was present and a great interest in the proceedings.

a great interest in the proceedings.
Unfortunately, the results are not to hand, but these will be published our next issue.

A Yorkshire Open Trial.

On June 5th, the Ilkley M.C. L.C.C. will hold an open reliability is over a very sporting course, which include many of the natural difficuence ountered in Upper Wharfedale and A dale. This event is one of the "support trials of 1920, and every effort is brade to organise a mountainous "ride," rather than a schedule-speed al under hard and fast regulations. It land manufacturers are presented with opportunity of entering their machina trial of the "overseas" type is district where open competitions well-known riders are only too in quently seen. The secretary of Ilkley Club is Mr. H. W. Selk Langley Avenue, Bingley, Yorks.

A.C.U. Consuls.

The following have been elected le A. C. U. consuls, whose duties are to in an advisory capacity to A. C members in the districts mentioned: Aherystwyth, Mr. W. H. Wheatley, Barata Brook and Mr. E. Hood; Blackpool, Mr. Burrows; Bolton, Mr. J. E. Whittaker; Cad Mr. T. Eutherford; Circarester, Mr. N. B. Burrows; Bolton, Mr. J. E. Whittaker; Cad Mr. T. Eutherford; Circarester, Mr. N. B. Burrows; Bolton, Mr. J. E. Whittaker; Cad Mr. T. Eutherford; Circarester, Mr. N. B. Burrows; Bolton, Mr. J. E. Whittaker; Cad Mr. T. Eutherford; Circarester, Mr. N. B. Burrows; Bolton, Mr. C. H. L. C. Gifford; Hull. R. M. L. C. Gifford; Hull. R. M. M. M. C. J. Lestherbarrow; Chernsey, Mr. G. H. E. Gallers, Mr. C. W. Huntbach; Hereford, Mr. G. H. G. Gifford; Hull. R. G. Giffor



ON ONE OF THE SCOTTISH SIX DAYS HILLS—REDSTONE RIG. Claude Duncan (3½ h.p. Norton), who won most of the events in his class at the Edinburgh M.C. hill-climb last Saturday.

A YORKSHIRE TEAM TRIAL.

A Difficult Week-end Course. The Traders' Trophy Competition, organised by the Sheffield and Hallamshire M.C.C.

one goes into Yorkshire and runs ato an acquaintance, who is also a atotor cyclist, the first thing he will you is that he has found a new hill. Yorkshireman is at his happiest r when he sets before you a mighty of sets before you a mighty hill; obt cases he will say, challengingly, av tackle that!" and judges you our appetite or your climbing ability, hen a hot-stuff mountaineering trial view, trust the men of the broadle county to find something suitable, her it be a joy-ride amongst thems, or an open event.

On Team Trial Lines.

e Sheffield Traders' Trophy, for the Sheffield and Halamshire C. is trustee, is a cup presented by motor cycle traders of the city, to ompeted for by teams of six, three and three passenger machines. Each represents one of the traders, and etition is very keen.

lowing the lines of the M.C.C. Inter-Team Trials for The Motor Cycle last Week's event was on a short e which had to be covered three, non-stop rules being observed ghout.

A. Handford (trials hon. sec.), ed to break new ground without far out of Sheffield, and conselv secured the invaluable aid of Mr. surveyor of Stocksbridge, and in quence a most arduous twenty-seven circuit was planned. Though but miles from the centre of the city, oute began to be difficult from the encement, and the first ten miles do ut many of those who started. In Bridge was the first point of in, but the severe climb with right



J. Beet (8 Acme sc.) and E. Searle (4 Triumph sc.) approaching the hairpin above Midhopestones reservoir.

and left hairpins did not offer serious resistance. After traversing a mile or two of beautiful moorland road, what appeared to be an almost vertical ascent, known (perhaps wisely) as Wind Hill, was tackled. This was about 200 to 300 yards long, with a gradient of one in four, and a loose surface.

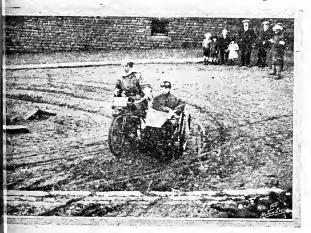
A section of excellent and quiet lanes next appeared, and after one or two sudden turns the riders were confronted with a steep descent, about 1 in 3½, at the foot of which lies Stocksbridge. In the strestvor. latter place someone had removed the arrows, and this was the only defect noticed in the route marking. Stocksbridge being "in a hole" was left behind by climbing one of those typically West Yorkshire hills having paved gulleys at intervals. To make matters worse, a fierce hairpin and a gulley led on to about half a mile of single figure gradient, enlivened by several outcrops of rock.

No Lack of Power.

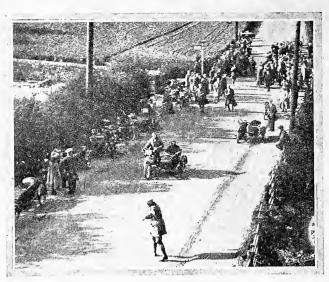
Of the thirty riders comprising the five teams it was noticed that very iew failed from lack of power; indeed, of the larger machines only one—a Brough—appeared to be in difficulties on the hills. Specially good climbs of Stocksbridge Hill were made by F. B. Roper (7-9 Indian sc.), A. Budd (53 Scott), F. W. James (8 Morgan), W. James, sen. (8 Morgan), Dan Bradbury (4 Norton sc.), and L. Radley (4 Triumph sc.).

A long and steep descent with a beautiful surface brought the competitors down to the valley again, and in climbing the other side, near a reservoir, a bad left-hand hairpin was almost immediately followed by one of even greater acuteness to the right. Most of the solo men attempted to take this too fast, and shot over the road into the grass. On his second round S. Russell (4 Norton) rode about thirty yards in the ditch before he could regain the road, but he did not stop. The Morgans, by skillful handling, all came round well, but they had no room to spare. Others who cornered well were J. Beet (8 Acme), who ran very consistently, R. Stacey (7-9 Harley-Davidson sc.), and S. Raynes (8 Enfield sc.), while L. Radley (4 Triumph sc.) did not appear to be happy with the right-hand bend.

A fairly easy run brought the first circuit of twenty-seven miles to an end,



. B. Roper (7-9 Indian sidecar), captain of the winning team, crossing the paved gulley on the first hairpin of Stocksbridge Hill



At the finish of the Sheffield Traders' Team Trophy Trial. S. Raynes (8 Enfield sc.) checking in.

and on this part, strange to relate, Dan Bradbury (4 Norton sc.) momentarily stopped his engine, thus dropping out. The following failed to complete the

first circuit: Mr. Jackson's team: A. Shipman (5 Brough), C. Ward (5 Zenith), P. Inman (5 Brough), E. Whaley (24 Levis), and E. Matthews (5-6 Rover sc.).

Mr. J. Stacey's team: F. C. Wates Triumph) and N. Scaife (4 Coven Eagle). Mr. Roper's team: W. Kan hem (6 A.J.S. sc.). Mr. W. Jam nem (b A.J.S. Sc.). Mr. W. Sunbaam), reletcher (2½ Elite), and B. Taylor Elite), Mr. Bradbury's team: Bradbury (4 Norton sc.), B. Williams Norton), R. Denby (4 Norton sc.), W. Steele (4 Norton).

Second Time Round.

Slight showers fell during the f circuit, but a strong wind arose and surface rapidly improved. Those completed the first round mostly impro their running on the second, and the c two to fall out were S. Fletcher (6 -A .. second retirement from Mr. Roper's the and A. Blake (8 Morgan).

On the third round the survivors car on, and no more retired. The finisl in each team are given below, and Roper's team carries off the aw having four finishers and the grea mileage to its credit. G. Wilkin Wilkin] made a remarkable perform in being the only rider of a small mach to complete the course.

Provisional Results. THE SHEFFIELD TRADERS' TROPHY

THE SHEFFIELD TRADERS' TROPHY
First: Mr. F. B. Roper's team. Finishers
Wilkin (2^M₂ Wilkin), F. B. Roper (7-9 Indian
A. Budd (3^M₂ Scott), and F. Ashby (3^M₂ Scot
Second: Mr. J. A. Stacey's team. Finishers
R. Stacey (7-9 Harley-Davidson, sc.), R. K.
(4 Harley-Davidson), E. Searle' (4 Triumph
and S. Rayes (8 Enfeld sc.), Finishers
Wilking Mr. G. Grand (1998), James (8 Mort
Fourth: M. Dan Bradbuy's team. Finish
S. Russell (4 Norton) and L. Radley (4 Trius
Sc.),

Sc.).
Fifth: Mr. Jackson's team, Finisher: J.
(8 Acme sc.).

NEW BRITISH MAGNETO.

The Imp-a Single-cylinder Magneto at a Low Price produced by a Well-known Engineering Firm. place it on the market for single-cylinder motor cycles, and it forms an important addition to the range of British magnetos.

It is a quantity production proposition, the design being such that it permits it

to be placed on the market at the com-

A LTHOUGH the Imp magneto illus-A trated is new to the motor cycle world, it has been made in large numbers by Messrs. Petters, Ltd., of Yeovil, for some time past for service in connection with their small lighting sets. It has now been decided, however, to

paratively low price of £4 for single magnetos. Conventional practice is followed practically throughout with the exception of the make-and-break, which is of the face cam type, in which four light flat springs are used. The contact breaker cover is an aluminium casting, held in position by two spring balls engaging in a groove, and while the ignition point is adjustable, means are not provided to make the variation controllable by the rider while

under way.

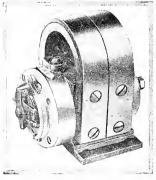
The body is a die casting of aluminium, the magnets are of the best tungsten steel, and the armature runs on ball bearings, the condenser being embodied in the armature end plate. Embedded in ebony insulations with wide cheeks, the slip ring is provided with the usual safety spark gap and the pick-up ter-minal screws into the base, the insulating terminal, which slips on to the high tension terminal, being waterproof and dustproof.

Before being placed on the market, we understand this magneto successfully passed a searching test by the National Physical Laboratory, which body reported

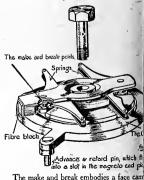
that it was a highly efficient mach For motor cycles, scooters, and of small powered single-cylinder engines, quiring an anti-clockwise magneto, Imp should fill all requirements, especi

In an individual and in the price can be regarded as very 1. Its dimensions are 3\frac{3}{4} \times 2\frac{1}{4} in. beight, and 5\frac{1}{4} in. width over and its weight 6 lb.

The sales office of Messrs. Ltd., are located at 117 to 123, G. Portland Street, W.1.



A new magneto to sell at a popular price -the Imp, manufactured by Petters, Ltd., of Yeovil.



Redstone Rig the Venue of Hill-climb.

One of the New Hills in the Scottish Six Days Trials used by Edinburgh Club Last Week.

THE Edinburgh opening hill-climb, on the new Scottish Trials hill, Redstone Rig, was not all that might be sired for a hill-climb on account of the eacherous nature of its corners. The mface for the most part is good, opening, ith a straight steady pull of 1 in 12 for 0 yards, and terminating like most tottish hills with two bad corners and gradient which stiffens up to about in 6.

Fine Performances.

Undoubtedly, the star performers were and Duncan (Norton) and Russell yack (Bat). Duncan not only put up stest single-cylinder time of the day, it also made lastest time in each of the solo events in which he competed. File riding a three-speed Norton he was stest in the 395 to 600 sidecar handicap. Russell Boyack's cornering was marvels, and he put up fastest time of the y. Among the lightweights James exander, riding a 22 Douglas, did well, tile A. Alexander (7-9 eight-valvedian) put up some impressive performes in the heavier classes. O. G. Braid to an R. J. Braid (32 Moto-coche) also did well among the heavy lecars.

Rodger Macrae, on a 7-9 Harley, was rhaps the most distinguished rider, ough it must be admitted that the ueral standard of riding was excellent, and in all the classes there was a very narrow margin between the competitors. A large number of spectators were present, and the weather favoured the event, which attracted over eighty entrants.



At the start of the Edinburgh M.C. hill-climb on Redstone Rig. The machine in the foreground is a 3½ h.p. Motosacoche

Speed Hill-climbing in Italy

HILL-CLIMB at Monte Vecchia, organised by the Sport Club Milan, took place in April, and, in spite heavy rain, the various classes were dy contested. The course, starting

from Cernnsco, was five kilometres (three miles approximately) in length, and the gradient is 1 in 5 in places, with very bad corners. A $\frac{31}{2}$ h.p. Sunbeam made fastest time of the day.



Gilera (500 c.c. Gilera) rounding one of the bends in the Italian Monte Vecchia hill-climb.

	1,000 C.C.	CLA	SS.		
					m. s.
1.	Bestetti (Indian)		***		5 43
- 2.	Maffeis (Indian)				6 17
	750 C.C.	CLA	SS.		
1.	Nazzaro (Indian)				5 32
2.	Nazzaro (Indian) Spallanzani (Trium	ph)	***	***	5 32 6 30
	500· C.C.	CLAS	SS.		
1.	Vailati (Supheam)				5 20
2.	Vailati (Sunbeam) Acerboni (Fresa)				5 20 5 59
	350 C.C.		88		
1.	Catalano (Douglas)	***		***	6 5
2	Gambi (Donelas)				6 31

A NOVICES' TRIAL.

A VERY interesting collection of machines gathered at Whitley Common Saturday last for the start of the Novices' trial of the Coventry and Warwickshire M.C. Amongst these were two A.B.C.'s, 8 h.p. Rudge, 2½ h.p. Wilkin, a Francis-Barnett, Henderson, F.N., and Coventry Challenge. A thirty-mile set speed run through Dunchurch, Southam, Fenny Compton, and Avon Dassett provided plenty of interest, and led to the foot of Edge Hill, where a slow hill-climb was held. This club was most amusing from a spectator's point of view, but we should imagine, from sights and smells, that it proved rather expensive in clutch material. The climbs were so slow that it became a matter of balance rather than power, though a few failed through misjudging the gradient. The winners proved to he J. Swindlehurst (Lea-Francis) and S. Allen (5-6 Rover sc.)

3½ h.p. Machines Do Well on Kop Hill.

Successful Event organised by the Ealing M.C.C.

THREE and a half horse-power machines secured eight places out of nine in the solo classes at last Saturday's hill-climb on Kop Hill. This event was organised by the Ealing and District M.C.C., and a splendid afternoon's sport it proved to be. The new 3½ h.p. Duzmo machines and 3½ h.p. Nortons put up some very good performances, and were placed first, second, and third in the 550 c.c. class, first and third in the event for 750 c.c. machines, and first, second, and third in the 1,000 c.c. class. S. P. Brown's 2¾ h.p. Douglas also made a fast climb. The results were as follow: as follow:

	CLASS A (up to 550 c.c.		secs.	
2.	H. le Vack (3½ Duzmo) B. R. Bennett (3½ Norton) J. Wallace (3½ Duzmo)		40} 42g 44	
2.	CLASS B (up to 750 c.c. H. le Vack (3½ Duzmo) D. J. Chesbire (5 Jap)	:::	419 42	
	J. Wallac (3½ Duzmo) CLASS C (up to 1,000 c.c.		443	
2.	B. R. Bennett (3½ Norton) H. le Vack (3½ Duzmo) J. Wallace (3½ Duzmo)		413 428 43	
	00 C.C. SIDECARS AND CYCL.			
1.	J. A. Masters (7-9 Harley-David S. E. Longman (7-9 Harley-Da	son)	573	
	son)		59#	

 P. J. Malone (7-9 Harley-Davidson) 68 The machine ridden by D. J. Cheshire was a hybrid, consisting of a 1913 5 h.p. J.A.P. engine in a Rudge frame.

AWARDS,
GOLD MEDAL (for fastest time of the day).—H.

Vack (3½ Duzmo).

Silver Medals.—H. le Vack (3½ Duzmo R. Bennett (3½ Duzmo), and J. A. Masters Harley-Davidson).



AT THE START. H. le Vack (31 Duzmo), who was first in the 500 c.c. and 750 c.c classes and second in competition with 1,000 c.c. machines.

46 Competitors Entered for T.T.

27 Senior Entrants; 19 for Junior Events. Keen Contest Expected.

S UCCESSFUL racing in the Isle of Man is assured. Entries at ordinary fees closed on Monday last, when upwards of fifty competitors had been nominated. Double fees will be accepted

by the A.C.U. for late entrants up to Monday, May 17th. It will be noted from the lists appended

that each event has received fairly representative support.



AT THE EALING CLUB'S HILL-CLIMB ON KOP HILL. Using the number card as a screen. D. H. Davidson (4 flat twin Harley-Davidson).

Senior Entrants.

Senior Entrants.

F. C. North (3/4, Norton).

John Martson, Ltd. (3/4, Sunbeam).

To Control Sunbeam).

T. C. de la Haye (3/4, Sunbeam).

E. F. Abram (3 A.B.C.).

P. Sinister (3/4, Norton).

H. I. Sunbeam (3/4, Sunbeam).

W. Sinister (3/4, Norton).

H. I. Sunbeam (3/4, Sunbeam).

W. E. Horsman (3/4, Norton).

H. Petty (3/4, Norton).

H. Petty (3/4, Norton).

H. Olsson (3/4, Norton).

H. Olsson (3/4, Norton).

D. S. Alexander (3/5, Indian).

T. W. Dixon (3/4, Indian).

H. R. Harveyson (3/4, Indian).

Ert. W. Dixon (3/4, Indian).

Ert. W. Dixon (3/4, Indian).

Ert. W. Dixon (3/4, Indian).

For the Moulding (3/4, Indian).

Junior Entrants.

Junior Entrants.

Junior Entrants.

J. Wasson-Bourne, Ltd.:

J. A. Wasson-Bourne (Sackburne).

J. Halvason-Bourne (Sackburne).

J. Halvason-Bourne (Sackburne).

J. Holtoyd (28' Hackburne).

J. Holtoyd (28' Hooler).

J. Holtoyd (28' Wooler).

J. Houberg (28' Wooler).

J. W. Woognalas.

J. W. Houldins. Marks, and Rigby:

A. Marks (28' Diamond).

H. V. Prescott (28' A.J.S.).

J. Price (28' Diamond).

A. Milner (28' Diamond).

J. Houlding (28' Diamond).

J. Pike (28' Diamond).

J. W. Applebee (29' Levis).

G. Kuhn (28' Levis).

G. Kuhn (28' Levis).

J. Koopnan, Ldd.:

J. W. Ayls.).

J. J. Stevens, Ltd.:

J. H. Haden (21' New Comet).

Attries close at double fees on May 1

Entries close at double fees on May 14

MOTOR (YCLE

N.M.C.F.U. (Coventry).

Starting from Swan Lane, Gosford Green, at 7.30 p.m. on the 11th inst., an evening run will be held in the form of a paperchase,

N.M.C.F.U. (Rotherham).

Several events have been arranged Several events have been arranged for this month, including a run to Matlock Bath on the 9th, and a special meeting on the 14th. This meeting will be at the Y.M.C.A. at 7.30 p.m., and all motor cyclists are invited to attend.

Winchester and District M.C.C.

At a general meeting held recently it At a general meeting held recently it was decided to restart the above club, with Mr. C. E. Godwin as president. The opening run will take place on the 15th inst from headquarters, "The Black Swan," Winchester. Affiliation with the A.C.U. is to be renewed; the hone see, is Mr. G. S. Tungate, 5, St. Cross Road, Winchester.

Sheffield and Hallamshire M.C.C.

Sheffield and Hallamshire M.C.C.
Two competitors, S. Raynes (6 A.J.S. sc.) and J. Best (6 Rover sc.), tied for first place in the Stacey Trophy Trial. Other successful members were: Gold medal, D. Keye (4 Triumph); silver medal, J. C. Wates (4 Triumph); bronze medals, E. Sneath (2½ Wilkin) and W. Vessey (3½ Ariel). Sneath also won the lightweight award, and the two winners divided the sidecar prize.

Neath M.C.C.

The results of the joint club speed trials, held at Margam Park on the 24th trials, held at Margam Park on the 24th ult., were as follow: Class 250 c.c.: S. R. Horsell (2½ New Hudson), 53\frac{4}{5}\$. Class 350 c.c.: W. Edwards (2½ Verus), 47s. Class 500 c.c.: Dr. A. Lindsay (3½ Norton), 33\frac{2}{5}\$. Class 750 c.c.: Dr. A. Lindsay (3½ Norton), 33\frac{2}{5}\$. Class 750 c.c.: Dr. A. Lindsay (3½ Norton), 33\frac{4}{5}\$. Class 1,000 c.c.: Dr. A. Lindsay (3½ Norton), 33\frac{4}{5}\$. Class 750 c.c. sidecar: J. Thomas (3½ Norton sc.), 45s. Class 1,000 c.c. sidecar: J. Thomas (3½ Norton sc.), 43\frac{4}{5}\$.

Mansfield and District M.C.C.

Interest was added to the social run interest was added to the social run held recently by the inclusion of im-promptu hill-climbing en route. On reaching Matlock members tried their machines up Bank Road. G. Mills (5 Matchless) and E. Chandler (7-9 D.M.C.) made good ascents. Later on Monsal Dale was tackled, when again the big D.M.C. showed up well. R. Liake (3½ Lincoln Elk), J. Shaw (2¾ Villiers), and C. Spearing (4½ L.M.C.) also climbed

Westmorland M.C.C.

Brigsteer Scar hill presented a very animated scene on the occasion of the hill-climb held by the club last Thursday. The course was half a mile in length, including two S bends, and had a very bad surface. As might be expected, several competitors came to grief pected, several competitors came to grier in trying to cut the corners too closely. The results were as follow: Class 1 (350 c.c.), M. Sedgwick (23 Douglas). Class 2 (550 c.c.), L. S. Parker (3 A.B.C.). Class 3 (soler 550 c.c.), A. J. Moffatt (4 Norton). Class 4 (sidecars), B. Jeffrey (4 Norton sc.). In the 100 mile reliability trial for the Onice Corn beddens. trial for the Quirk Cup, held on the 24th ult., A. J. Moffatt proved the winner, with E. Wood second, and W. Westwood third.



Marlow and District M.C.C.

At a recent general meeting the following officers were elected: President, Mr. G. C. Bailey; vice-president, Mr. J. P. Hodgson; hon. treasurer, Mr. R. G. Bailey; and hon. sec., Mr. A. F. H. Baldry, Marlow Common, Bucks.

Northern M.C.

This club's recent driving contest over a very tricky half-mile proved a great success. Mr. Brooks (Coulson B), after tieing with Mr Ellis, finally won by reducing his variation to see., and was awarded the Binks carburetter, kindly presented to the club by the makers.

Newcastle and District M.C.

Meetings are being held weekly by the club at the Grand Hotel, during which discussions on various motor cycling topics are particularly interesting to members. The club has already 150 members, and an excellent programme has been drawn np. The hon, sec. is Mr. A. Allison, c/o British Motor Trading Corporation, Ltd., St. James's Street, Newcastle.



Eli Clarke, jun., is evidently following in his father's footsteps, for he won a silver medal in the Bristol M.C.C. Trial to Torquay and back on the 24th of April. His mount was the 4 h.p. Douglas.

Darlington B. and M.C.

At a meeting held by the Motor Cycle Board of the N.E.A.A. at Newcastle the above club was awarded the Grimshaw shield, having had the largest percentage of paid-up members at the Easter Richmond meet.

Manchester M.C.

The results of the speed trial on the 2nd inst. were as follow: Class I.—1, O. E. Carter; 2, G. Cowley. Class 2.—1, E. Bottonley; 2, N. B. Newton. Class 5.—1, E. Bottonley; 2, O. E. Carter. Class 4.—1, E. Smith; 2, II. Taylor.

Burton and District M.C.C.

Runs are being arranged for May and June with the Derby, Loughborough, and Notts clubs, and a 100 mile reliability trial is fixed for May 24th. Hon. sec., Mr. A. E. Cook, Outwoods Street, Burton-on-Trent.

Liverpool M.C.

An interesting "old crock" hill-climb was held on the 2nd inst., the machine used being a two-stroke with a small is the period of the state of t

Middlesex M.C.C.

The results of the speed-judging competition held near Hockcliffe on the 25th ult. were as follow: First, E. Brocard (10 Morris), 5 secs. error; second, W. Farmer (4 Triumph), 1 min. 55 secs.; and third, H. Holmes (10 Morgan), 2 min. 10 secs

Southend-on-Sea and District A.C.

The following wire has been sent to local M.P.'s . '250 members of the Southendon-Sea and District A.C. emphatically protest against the proposed iniquitous taxation of automobiles." This example might be followed by other clubs, and would help to stop this proposed tax becoming law.

Worcester and District M.C.C.

A new club has recently been formed in Worcester, and the following officers appointed: President, Mr. T. W. Badgery; chairman, Mr. J. Bladder; hon. treasurer, Mr. B. J. Parks; captain, Mr. Eric Williams, and shon, sec., Mr. J. Howell, 12, The Foregate, Worcester. All motor cyclists in the county are invited to join. East Lancashire M.C.C.

In order that all members may be able to compete, the Jerrard Cup trial will be run both on the 13th and 15th inst. The course selected will be completed six times at 18 m.p.h., with a stop for re-plenishments after the third lap. Further information and entry forms can be obtained from the hon. sec., Mr. G. Guest, 9, Exchange Street, Blackburn

Wath and District M.C.C.

A very successful hill-climb was held on the 1st inst, in conjunction with the Wombwell Club. The venue was Hoober's Stand, near Wentworth, and over fifty entries were received. The results will be announced in due course. The club will hold a speed trial on June 4th, and motor cyclists in the district are invited to communicate with the hon. sec., Mr. W. W. Evers, Wath.

Club News .-

Northants L.C. and M.C.C.

Among the vice-presidents elected at the annual meeting was Mr. C. A. McCurdy, M.P., the Food Controller, who so ably assisted the club last year. The club is in a good position financially, and a good programme is being arranged.

Bridgwater and District M.C. and L.C.C.

On July 31st a reliability trial for the Carver Cup will be run from Bridgwater to Land's End, starting at 7.30 a.m. Further details can be obtained from the hon, sec., Mr. J. W. Hooper, The Oaks, Wembdon, Bridgwater.

North London M.C.C.

The "find your way" competition held recently proved a great success, and was won by Mr. Jelks, while in the impromptu speed-judging competition, held in the afternoon, Mr. Harveyson proved the victor. An unfortunate incident occurred near Trent Park, when Mr. Barrett collided with a motor 'bus, his passenger sustaining slight injuries.

Redditch and District M.C.C.

successful flexibility hill-climb was held at Beoley Hill, Redditch, on the 28th ult., and some remarkable performances were witnessed, especially the solo slow ascent made by J. Dosher (8 Enfield). The results were as follow: Lightweights: 1, C. Johnson (23 Verus). Heavyweights: 1, J. Dosher (& Verus). Heavyweights: 1, J. Dosher (& Enfield). Sidecars: 1, F. Bicknell (& Enfield). Intending members should communicate with the hon. sec., Mr. P. C. English, "Hazelwood," Headless Cross, Redditch.

N.M.C.F.U. (Leeds).

Twenty-six competitors faced starter in the reliability trial for the Mitchell Trophy held on the 25th ult. The course was part of that included in the 1914 Six Days Trial, and proved quite interesting. H. Pattinson (2½ Revere) won the cup and gold medal with full won the cup and gold medal with full marks. Other successful competitors were: R. Horsley (3½ Norton), gold medal; E. Preston (7-9 Harley sc.) and Morfoot (3½ N.U.T.), silver medals; R. W. Pattinson (4 Triumph ec.) and F. Keyworth (3½ P. and M.), brouze medals. A smoking concert has been arranged for the 12th inst. at the "Golden Lion." All motor cyclists and friends are invited.

MOTOR (YCLE

Future Club Events.

May 8.—Helensburgh M.C.C. Hill-climb. May 8.—Ilkeston and District M.C.C. Run to May 8.—Ilkeston and District M.C.C. Ren w Berger, May 8.—Middlesbrough and District M.C.C. Scott May 8.—Bridgwater and District M.C. and L.C.C. Run to Weston, May 8.—Bridgwater M.C.C. Efficiency Trials. May 8.—Exerty M.C. and J.C.C. Opening Run to May 8.—Low and S. Beds. A.C. Reliability Trial, May 8.—Exerty M.C. Speed Section and S. Beds. A.C. Reliability Trial, May 8.—Exerty M.C. Speed Contest. Contest. 8.-N.M.C.F.U. (Wolverhampton). Paper-

May 8.—N.M.C.F.U. (roosson, chast, chast, chast, chast, chast, chast, day 8.—Birmingham M.C.C. Half-day Trial, May 8.—Birmingham M.C.C. Speed Trials, May 8.—Eastern Valley M.C.C. Slow Hill-climb, May 9.—North London M.C.C. Run to Chemies, May 9.—North London M.C.C. Run to Chemies, Charles M.C. Start M.C. Run to Charles M.C. May 9.—Rockester, Chatham and District M.C.
May 9.—Rockester, Chatham and District M.C.
Picnic.
May 9.—Leicester and District M.C.C. Run to

May 9—Leicester and District M.C.C. Run so New 9—10 estimated Proventions M.Q.C. Reliability Run. May 9—10 estimated Proventhem. Run to Arundel Park. (Portsmouth). Run to New 9—Wakefeld and District M.C.C. Run to Review 1. S. C. Scheffield). Run to Notting May 9—10 estimated Park. Scheffield). Run to Nottender 1. S. C. Scheffield). Run to Nottender 1. S. C. Scheffield).

May 9.—N.M.C.F.U. (Skeffield). Hun to rotationally may finghton and District M.C. Reliability Trial. May 9.—York and District M.C. Meet likitey Club at Collingham.

May 9.—Wordwich, Planstead, and District M.C. May 9.—N.M.C.F.U. (Leeds). Run to Bishop Monkhoff May 9.—Liverpool M.C. Amateur Trial for Members

May 8—Liverpool M.C. Amateur Arm. Jon.
bors.
May 8—Bedford and District M.C. and L.C.C.
Ladies Day.
May 9—Reading and District M.C. and -L.C.C.
Run to Sarernak.
May 9—Risely M.C. and L.C.C. Social Run and
Gymkhana.
May 9—Woodwich, Plumstead, and District M.C.
Please.

May General Managara (Auguste M.C.)

May 9—Scarborough M. and M.C.C. Joint Run with Harroquic Club.

May 12—Middlesbrough and District M.C.C. Speedjudging Competition.

May 12—Reston and District M.C.C. Run to
Matobara (Run to Mary).

May 12—Plymouth and District M.C. and L.C.C.
Club Run to Mary.

May 13—Ordord M.C. Speed Judging Competition.

May 13—W.M.C.F.U. (Sheffield). Run to Ashfordin-Water. May 13.—Eastern Valley M.C.C. Hill-climb.

Woolwich, Plumstead and District M.C.

The reliability trial for the Mayor of Taunton's cup, held recently in conjunction with the Rochester and District M.C. over a very sporting course, resulted in a win for J. Howland (Matchless sc.), the next two members being O'Brien (Matchless sc.) and W. Lumsden (Matchless sc.). The best Rochester performances were made by Lawrence (Lea-Francis), Jenner (Triumph), and S. White (Levis).

Bristol M.C.C.

A one day trial from Bristol Torquay and back was held on the 24th ult. C. W. Rankin (3½ Sunbeam sc.) made the best performance, with A. W. Dyer (4 Douglas sc.) second, while sixteen other competitors won silver medals, including Mr. Eli Clark and his fourteen-year-old son, both riding 4 h.p. Douglas sidecars. Young Clark has only recently learnt to ride. F. G. Mann (4 Douglas sc.) won the novice prize.

Surrey M.C.C.

At the members' hill-climb, held at Blagdon Hill on the 24th ult., the following members proved successful in the lowing members proved successful in the various classes: Classe I. (350 c.c.), R. Robinson (Levis). Classes II. and III. (over 350 c.c.), H. C. Mansell (Rover). Class IV. (unlimited on formula), T. G. Meeten (Rudge). Class V. (stopping and restarting), F. J. Disney (Triumph). Class VI. (unlimited on time), T. G. Meeten (Rudge). Class VII. (sidecers on formula), A. Robins (Blackburne).

Ilkley M.C. and L.C.C.

Two competitions, a hill-climb and speed trial, were held on the 25th ult. The former event, in which members competed for the Dawson Trophy, was won by W. S. Crothers (3½ Triumph sc.), with R. W. Stanfield (3½ Scott) second, and J. S. Duxbury (3½ Scott) third, while in the speed trial for the trade trophy, G. Brook (3½ Teiumph) proved the winner, J. Stanfield (2½ Douglas) second, and J. Midgley (2½ Douglas) third.

Burnley and District M.C.C.

Fifteen classes were included in the recent members hill-climb held at Thornyholme Hill, and with a good entry, the event proved a great success. The best event proved a great success. The performances were as follow: Fast: performances were as follow: Fast: 1, 270 c.c., G. Swinglehurst (Levis); II, 350 c.c., B. Houlding (Douglas); III, 600 c.c., B. Houlding (Douglas); IV, 800 c.c., H. Armstrong (A.B.C.); V. unlimited, S. A. Marks (Harley); V1I, sidecar over 600 c.c., B. Houlding (Harley sc.). Slow: V1II, 600 c.c., W. H. Greenway (Triumph); IX, H. Armstrong (A.B.C.); XI, over 600 c.c., sidecar, J. Collison (Ariel sc.). Acceleration: XII, 600 c.c., J. R. Ashworth (Sunbeam); XIII. H. Armstrong (A.B.C.); XV. J. XIII. H. Armstrong (A.B.C.); XV. J. XIII, H. Armstrong (A.B.C.); XV, J. Collison (Ariel sc.).



MISCELLANEOUS ADVERTISEMENTS.

PRICES.

ADVERTISEMENTS in these columns First 12 words 3/-, and 3d, for every ad-litional word. Paragraphs of under 8 words ure charged double rate. Each paragraph is sharged separately. Name and address must be counted. Series discounts, conditions, and special terms to regular trade advertisers will oe quoted on application.

Postal Orders and Cheques sent in payment for dvertisements should be made payable to ILIFFE & SONS Ltd., and crossed reasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Hertford Street, Joyentry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday norning previous to the day of issue.

All letters relating to advertisements should juste the number which is printed at the end of ach advertisement, and the date of the issue n which it appeared.

The proprietors are not responsible for clerical ir printers' errors, although every care is taken o avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be didressed to numbers at "The Motor Cycle" Office the third is desired, the sum of 6d. to defrey the cost of egistration and to cover postage on replies must be added to the alvertisement charge, which must include the onte Box 000, c/0" The Motor Cycle." Only transmissed in apparating the complete of the content of the con

DEPOSIT SYSTEM.

DEPOSIT SYSTEM.

Desans who hesitate to send money to unknown persons any deal in perfect safety by availing themselves of our lopait System. If the money be deposited with "The foor Cycle," both parties are advised of this receipt. The time allowed for a decision after receipt of the mount to the seller, but, if not, we return the amount o the depositor, and each party to the transaction pays arriage one way. For all transactions up to f.70, a eposit fee of 1/- is charged; on transactions over f.70 and under f.70, the fee is 1/6, over f.50 and under f.70, a f. over f.50 and under f.70. The f. over f.50 and under f.70. The f. over f.50 and under f.70. The f. over f.50 and the f.50 and f.50 and

SPECIAL NOTE.

Readers who reply to advertisements and receive no answer to their enquiries are requested to rezard the illinean 32 an indication that the goods : 'vertised the illinean's partial that the goods : 'vertised the illinean's partial that it is quite impossible to roply to lagh one by post.

MOTOR CYCLES FOR SALE.

A.B.C. Motor Crele, just delivered from makers; £160.—D. Lavin, Old House, Sonning, Berks.

A.B.C. Motor Cycle, 1920, not been ridden 40 miles, indistinguishable from new, ready to ride away; offers over 140 gns.—J. Barton, Coln, Fairford. [7808]

A B.O. Book early and prevent disappointment Specification and full particulars will be sent on undication.—The Spaiding Rotor Co. Ltd. Spaiding, listibuting agents for Lincolnshire.

WEEKLY LIST BARGAINS.

NEW MACHINES.
12475. 2] h.p. 1300 P. & S. Motor Cycle,
2-stroke (plus expenses) 289 15
12170. 2½ h.p. 1320 CLYNO, 2-stroke, free

engine, bandle clutch, T.T. bars
(plus expenses) £75 0
Motor Scooters £42 10
SECOND-HAND MACHINES.
12562. 4 h.p. 1912 ZENITH £67 10
12549. 32 h.p. 1919 I.O.M. RUDGE\$115 0
12962, 32 h.p. 1912 RUDGE 248 0 12907, 22 h.p. 1916 DOUGLAS, W.D. mod 265 0 12910. 22 h.p. 1916 DOUGLAS, W.D. mod 275 0 12910. 22 h.p. 1916 DOUGLAS, W.D. mod 265 0
12507, 21 h.p. 1916 DOUGLAS, W.D. mod £65 0
12510. 2 h.p. 1916 DOUGLAS, W.D. mod £75 0
12508, 23 h.p. 1916 DOUGLAS, W.D. mod £65 0
12515. 33 h.p. 1913 B.S.A £52 10
12496. 2] h.p. 1915 DOUGLAS £59 10
12414. 3 h.p. 1912 TRIUMPH £65 0
12294, 22 h.p. — FORWARD £27 10
SECOND-HAND COMBINATIONS.
12502. 7-9 h.p. 1920 Powerplus INDIAN
Combination, as new£215 0 12564. 4½ h.p. 1916 JAMES Combination, £99 10
12564. 41 h.p. 1916 JAMES Combination. £99 10
12567. 6 h.p. 1912 REX and Sidecar £80 0
12559. 3# h.p. 1913 SCOTT and Sidecar £69 10
12528. 6 h.p. 1914-15 ROYAL ENFIELD and Sidecar
and Sidecar
12497. 5-6 h.p. 1914 RUDGE Multi and Sc. £39 10
12560. 6 h.p. 1918 A.J.S. Combination . £185 0
12558. 4 h.p. 1918 TRIUMPH Combin'n £165 0
12165. 6 h.p. 1916-17 ROYAL ENFIELD
and Sidecar£167 15
12276, 7-9 h.p. 1914 INDIAN Combination,
fitted with disc wheels £105 0
12502. 7-9h.p. 1913 INDIAN and Sidecar. \$80 0
12362. 7-91. p. 1913 INDIAN and Sidecar. 200 0
12530. 8-10 h.p. 1915 HENDERSON & Sc. £125 U
SECOND-HAND CARS.
12534, to h.p. SIZAIRE-NAUDIN Car ., £177 10
12492, 8 h.p. 1913-14 G.W.K. Car £210 0
12458. 8 h.p. 1914 MORGAN, sporting
model
drive, A.C. J.A.P. engine £150 0
12383. 9.5 h.p. 1914 STANDARD Car., £420 0
12484. 8-10 h.p. 1916 MORGAN Runah't £210 0
12531. 8-10 h.p. 1917 MORGAN G. Prix £275 0
NEW CAR
12556. 8 h.p. 1920 A.V. Monocar (new) £172 16
SIDEGARS.
B.S.A. Sidecars £35 0 WILLIAMSON Sidecars £28 10
No. 2 WAUCHOPE'S Sidecars £23 10
No. 2 WAUCHOPE'S Sidecars £23 10 No. 3 WAUCHOPE'S Sidecars £22 10
NO. 3 WAUDIUFE & SIGNAL 222 10
CANOELET K3 Sidecars £22 10 CANOELET Minor Sidecars £18 8
CANOELET Minor Sidecars £18 8
CANOELET K4 Sporting Model £23 5
CANOELET D4 Sidecars £30 5
DOUGLAS Sidecars (r only) £27 10
Flying MIDDLETON (second-hand) £16 10
,,
 .
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Wauchope's

9, Shoe Lane, Fleet Street, London, E.C.4.

'Phone: Holborn 5777. ,'Grams: Opificer, Fleet, London.

MOTOR CYCLES FOR SALE.

Abingdon

4 h.p. Abingdon, 1915, T.T. engine, just been over-hauled, 3-speed, clutch; £60.—Darby Kmbworth Station Hats. [8476

1920 Abingdon King Dick, 3½h.p., 3-speed, slightly used; £105.—Frank Whitworth, f.td., 139, New St., Birmingham. (X0324

A BINGDON King Dick 41/h.p., 1914, 3-speed Arm-trong, excellent condition, been stored, acces-sories; £55.-106, Munster Rd., Fulham, S.W.6.

19²⁰ 6-7h.p. Abingdon Twin Combination, lamps, horn, wind screen, not done 500 miles; £175; Guaranteed.—Prank Whitworth, Ltd., 139, New St., Birmingham.

19 ¹⁴ Ahingdon King Dick, 3½h.p., 3-speed, C.B. sideour, speedometer, 3 lamps, horn, all accessories, excellent condition: 275,—Gilderson, 112, High Rd., Hord. 'Phone: Hord 522, [8455]

A.J.S

A.J.S.—See displayed advertisement.—Clifford Wilson Mig. Co. 18838 19²⁰ A.J.S. Combination, delivery May; 2210.— [7763

1916 A.J.S. Combination, almost as new; £150.-57, Birdhurst Rise, South Croydon. [7801 CROW Bros., High St., Guildford, A.J.S. agents since 1912, accept no premiums. [X7943

Since 1912, accept no premiums. [X7943]

1918. A.J.S. Combination, screen, hood, spore wheel, oversize tyres; 2175.—Burns, Newbury. [X0478]

A.J.S. Combination, Nov., 1919. mileage 800: best cycle.

[8744]

A.J.S. Combination, 2 speeds, clutch, K.S., C.D. side-ear, all accessories; 280; after 6.—22, Breat St., Hendon.

1914 A.J.S. Combination, lamps, hore, good condition; £100.—Burrows, Dogsthorpe Rd., Peterborough.

1919 A.J.S. Combination, Swan C.B. sidecar, 6h.p. 3-speed, splendid condition; £175.—Lee, Weed Very, Bucks. T6317

over, Bucks.

A.J.S. 1920 6h.p. Combination, just taken delivery;
E.Z.S. 250; apply after 6 p.m.-46, Gladstone Av.
[8239]

1920 A.J.S. Combination, new, just delivered, o bought car; accept best offer.—Box 3,630, The Motor Cycle. owner The Motor

A J.S. Combination, 1920; delivery expected next the Motor Cycle. 19 19 A.J.S. Combination, all lamps, horn, 4 disc wheels, in pertect order; \$215.-2, Nightingale Rd., Lower Clapton. [7979]

A J.S. Spares: engine and gear box repairs; prompt delivery.—Cyri, Williams, Chapel Ash Depot, Wolverhampton, T.A.: Parts.

23h.n. A.J.S., 1916, been stored, guaranteed new 24 and perfect condition, engine 555.—Enquiries, 81, Granville, Peterborough.

1920 A.J.S. Combination actually delivered, brand Warerley Hotel, Southport.

1920 A.J.S. Combination actually delivered, brand Warerley Hotel, Southport.

1920 A.J.S. Combination brand new, spare wheel, changes brand, 2250 cash, or offer.—Box 5,708, c/o The Motor Cycle.

19²⁰ A.J.S. Combination, accessories, no speed meter; delivery 29th April; London; £240.
Box 3,751, c/o The Motor Cycle.

6 h.p. A.J.S. Coachbuilt Combination, just overhauled, excellent condition, 3-speed, countershaft, lamps, etc.; 105 gns.—Wright, Rongement, Ross. [8513

A J.S. 3-speed 254h.p., kick start, clutch, all spares, excellent order; by appointment; first over £75 secures.—1, Hempstead Rd., Walthamstow. [7694]

secures.—1, Hempstead Rd., Warmannson.

19 20 A.J.S., acetylene head and tail lamps, Hunt's
lectric side, Warford speedometer, horo, etc.,
hrand new; £255.—2, Nightingale Rd., Lower Clapton.
[7980]

hrand new; £255.—2, Nightingule Ad., Love (7980)

A J.S. 1916 Combination, 6h.p., new bulbous sidecar, new tyres, just been overhauled, excellent condition; £120.—58, Fowlers Walk, Brentham, Ealing, (8190)

WAUCHOPE'S. 9, Shoe Lane, London, E.C.4.—

(h.p. A.J.S. combination, 1918, detachable wheels, spore wheel, free engine, kick start, accessories, £185; also another 6h.p. A.J.S. combination, 1918, on offer. [6870]

19 (Ang.) A.J.S. Combination, spare wheel, all mileage; £200.—Emery, 36, Lyndhust St., Burgland, Staffs.

19 18 A.J.S., 6h.p. military model, Miliord sidecar, Easting oreen, speedometer, lamps, spares, insurance policy; price £150.-9, Darenth Rd., Loodon, N.16.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. C23

MOTOR CYCLES FOR SALE.

A.J.S. Combination, 1914-15, enamelled and overhauled by experts, hood, screen, lamps, horn; £130; stored since 1915.—Alderton, Hardwick Rd., Reigate.

A J.S., 1919 khaki model, done 100 miles only, new,
Lucas lamps, combination all complete, fully
equipped; £225, no office.—Miller, 62, Hampstead Rd.,
N.W. Phone: North 1519.

1915 A.S., 6h.p., coachbuilt Gloria sidecar, all accessories, wind screen, hood, etc., in perfect condition; 2150; deferred terms 4½ down, balance, over 12 months, 4½ extra only.—Fordham and Rogerson, 19, Devonport Mews, Paddington.

A. J.S. 1917 Combination, latest improvements, Lucas dynamo lighting, interchangeable and spare wheel, hood, screen, apron, speedometer, horn, spares; nearest offer £175.—Baxton, 96, Westbourne Terrace, Paddington, W.2. Phone: Paddington 6287. [8117]

199 A.J.S. Combination, new Nov., complete with Lucas lamps and horr, all synars, including how 700×80 Godyear, full insurance policy, perfect mechanical order and condition; £210; owner bought car.—Haddon, North St., York.

A J.S. Specialists, The Walsall Garage, Wolverhamp ton St., Walsal. Tel.: 444. Can give favourable deliveries of these grand combinations. Book early 107 your spring outfit. [7215]

Alcyon.

3 3h.p. Twin Alcyon, less mag, and carburetter; no
4 further use for it; what offers?—The Lane,
Halton Lea Gate, Lambley, near Carlisle. [X0437]

Alldays.

A LLON 21/h.p. 2-stroke 2-speed model, splendid order; £45.—Moss, Wem. [NO491 19 20 Allon de Luxe, not ridden; £80; reason illness.—23, Central Rd., Gloucester. [862]

A LLON 2-stroke, 2-speed, lamp set, mechanical horn new back tyre; £48.—Noyes, Bracknell. [7676

A LDDAYS Matchless, Villiers 2-stroke, lamps, good manage order £58.—King, Egrove Farm, Oxford, [X0470] 19 19 Allon de Luxe, kick start, etc., lamps, perf condition; £82/10.-29, Terme Park F Stroud Green, N. Stroud Green, [8395

A LIDAYS 23(hp. 2-stroke, under 500 miles, a linely 0.K.; £45.—Matthews, 4, Cornwall M.

ALION, Nov., 1919, 2-speed, clutch, lamps, horn, done 1,500 miles; 270, or offer.—Tuson, Brompon Barracks, Chatham.

ALION 1920 2-stroke, 2-speed and clutch, kick starter, just arrived; at makers' price.—Wilkins, Simpson, orposite Olympia, London. [7945]

ALON 1920 Model, used few times only: & owner bought combination, ride 50 miles buyer.—Clements, Stogursey, Bridgwater. £85:

A LLON 2-stroke, 2-speed, head and tail lamps, mechanical horn, splendid condition; a hargain, £59/15.—Wilkins, Simpson, opposite Olympia, London, A LLON 24h.p., 1919, June 2-stroke, 2-speed, hand Clutch, legshields and accessories, little used; 200.—Lockett, Moreton Wood, Whitchurch, Salop, 1916 Allon 28th.p. 2-stroke companying 18547

1916 Allon 25/h.p., 2-stroke, countershaft gears, counterplant peter, perfect condition; bargain, £60, or exchange 31/h.p. upwards.—R. Smith, 38, High St., Walton-on-Nace (7668

Antoine.

A NTOINE 31/h.p., complete, Bosch, B. and B., ex-haust, rebushed, running order; £8.—Bryant, Vicarage Rd., Bagshot. [7896

Arlel. CROW Bros., High St., Guildford, Ariel agects. [X7944

FOR Early Delivery of Ariels, all models, apply, Bedford Garage, Walsall. 'Phone: 270. [5302 CYRIL WILLIAMS, for early delivery of Ariels.— Chapel Ash Depot, Wolverhampton. [X8625]

19²⁰ 314h.p. Ariel Combination, electric lighting Clifford Motories, Eastwood, Notts. [80 3½ h.p. Ariel Combination, 1916, splendid condition; £110.-Wray, 1, Vale Rd., Tunbridge Wells, [7664

A RIEL 1914-3½h.p. Combination, 3-speed hub, clutch, Bosch, B.B., overhauled.-Swayne, Stoke Rd., Guild-ford. [7679 4 Ariel 3½h.p., 3-speed hub, all accessories, excellent tyres; £65,-88, Derbyshire Lane, Shef-[7849] 1914

field. 6-7h.p. Ariel, Aug., 1919, and coachbuilt sidecar lamps, etc., as new; £140.-H. Wright, Arlessy

[8019 A RIEL Motor Cycle, 3½h.p., accumulator ignition; £16.—Albert Jameson, Upper Brear, Nodthownen, 17663

A RIEL 31/h.p., variable pulley, free engine, horn, lamps, good condition; £45.-50, Whitehill Rd., Crayford, Kent. [7787

THE BIRMINGHAM HOUSE

FOR MOTORISTS 87-91, John Bright St.

Phone : Mid 662.

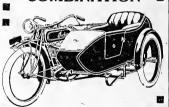
'Graph : "Lytcar, Bham.'

What about the Summer Holidays?

Why not avoid crowded trains and enjoy fresh air all the way

on an

COMBINATION



7.9 h.p. Powerplus spring frame model, complete with dynamo lighting set, electric horn and speedometer, and fitted with luxurious coach-built sidecar with commodious locker in rear of hody.

£218 10s. 0d.

plus delivery charge.

I can give almost immediate delivery of a limited num-ber of these famous machines.

MOTOR CYCLES FOR SALE.

ARIEL, all models, early deliveries; all pa stocked.—F. Speakman, Ariel Expert, 7, Rochd Rd., Harpurhey, Manchester.

WAUCHOPE'S, 9, Shoe Lane, London, E.C. Early delivery of Ariel machines anticipe book now for 3½h.p. and 6h.p. twins.

A RIEL 1913 31/2h.p. Combination, 3 speeds. ki starter, Brown and Barlow, U.H. mag.; £98 Maudes', 100, Gt. Portland St., London. [87 ARIEL 1919 31/h.p. Combination, lamps, speedometer, luggage carrier, spares, nedition; £130.-126, Headstone Rd., Harrow.

A RIEL 1914 31/h.p., decompressor, Lucas lam horn, Bosch, B. and B., perfect condition; a trial; £50.—Honess, Loves, Marden, Kent. [87] A RIEL 1920 New Combination, 3/4n.p., 3-spec clutch, countershaft, rick-starter, all on, splen outfit; £165; private cwner.—195, Stonehouse Clapham Common. [87]

Ciapnem Common.

10 19 3/4b, p. Ariel Combination, mechanically pfect, electric horn and lamps, wind screenier, spares, £130; cycle only, £90.—Wheel Henley Rd., Norwich. (D)

F. O.C.H. have a 1919 Ariel 31/4b.p. Combination of Car House, 5, Heath St., Hampstead for, Hampstead 1977, including Saturdays.

10 27, including Saturdays.

ARIEL 1918 3 4.b.p. Combination, Ariel sider Easting wind screen, Bonniksen speedouse hooter, electric side and tail, extra acceptene tail, star ard specification, Tan-Sad, Ariel lugance carrier, m spares, perfect condition; £140.—Oxfore, Xowwell.

BRAND new 1920 3/4np. Ariel, with new canoe by sidecar with apron, P, and H. Ismp so klaxon horn, sidecar lamp, footboards, just deliver registered and ready to ride away; accept list pride.—Wellis, 99, High St., Salron Walden, 1988 Arno.

4 h.p. Arno, Druids, B. and B., lamps, ride aw hargain, £36.—Miller, 151, Kingston Rd., 7 dington.

Auto-Wheels

A UTO-WHEEL, complete, little used; £10.-Ki

WALL Auto-Wheel, in perfect order: £16.-Mayes, Rattlesden, Budy St. Edmunds. [80]

A UTO-WHEEL, new hall bearings, good condition 213.—Arckite, 2. Linden Rd., West Green, N. B.S.A. Auto-Wheel, De Luxe model, sound runn order; 12 gas.-1, Blomfield St., Bury St. Edunn (X00

A UTO WHEEL De Luxe, condition like new; £1 ready to ride away.—Cardo, Edgware House, Edgware House, Edgware

 ${f A}^{
m UTO.WHEEL}$ de Luxe, 1919 model, little use ${f A}^{
m UTO.WHEEL}$ de Luxe, 1919 model, little use 118.—Burtenshaw, 40, St. Michael's St., Fol AUTO Wheel, 1920 Model de Luxe, in stock, bra new; £25.-Wilkins, Simpson, opposite Olymp

nobacol Wall Auto-wheel, perfect order, thoroughly hauled by makers, not unpacked; £12.—U

Greenlythe Rd., Leicester.

B. S.A. Autowskeel and Lady's 3-speed Cycle, spik
endition; bargain, 222; would separate
48, Franktort Rd., Henne Hill.
A 26x13/in, tyres, specially built, condition as neaccept 28 gns.—Linley, 100, Adder St., Sheffield. [X03]

A UTO-WHEELS, Modele de Luxe; cash £25, or; deposit and 37/6 monthly; descriptive catalog post free.—M.Y. Dept. The Metropolitan Machimo Co., Ltd., 248, Bishopsgate, E.C.2. Bat.

BATS for early delivery, apply. Bedford Garage Walsall. Phone: 270.

NEW 1920 8h.p. Bat Combination: list price, offers. Box 651, c/o The Motor Cycle. [X04]

19 20 Bat, Model No. 4, immediate delivery; li price.—Morriss, 139, Finchley Rd., N.W.3.

5 h.p. Twin Bat-Jap Motor Cycle, 2-speed countershall take sidecar anywhere: £68, offers.—194, Itak St., Enfield.

St., Enfield.

BAT 8h.p. Combination, recently overhauled, as Chains; £100, nearest offer; seen my time. Featherstone, 66, The Dirve, Tonbridge.

BAT_JA.P. C.B. Combination, 8h.p., 5-speed, clubel kick starter, lamps, speedometer, wind scree all in good condition; £65. or offer,—50, Mitchan 187 Tooting, S.W.

BAT, 6h.p., heavyweight touring model, pre-waspeed, countershaft, equal new, £70; sidecar, £18 mornings.—314, Gray's Inn Rd., London. [787]

mornings.—314, Cray's Inn Au, London, 1910.

19 15 Bat Sh.p. Combination, Millord sidecar, 1910.

guerds, front forks, engine and transmission exceller order, all spares, tools, etc.; best offer over £128 Dumbartonshire.—Box 3,743, c/o The Motor Cycle.

C24 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

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MOTOR CYCLES FOR SALE. Chater-Len-Jan

CHATER-LEA-J.A.P. 6h.p. Twin, 1915, 2-speed, free ongine, Lacas lamp, genuine machine; £75.

-Larkin, 126, James St., Gillingham, Kent. [8630]

"Blazie L. M. A. D. Milleriam, Kent. 1860 (MATERI-LARA J.A.P. 1915 2-speed Combination, Blaz, double sideer, speedmeter, lamps, etc.; spentment.—Mangans, 51, Stanktop Gardens, Hard Gardens, Hard Stanktop, March Stanktop, Carlon, Hard Hard Mann, generator, Rakson horn, Billon seat, told kit, new tyres, good condition; 245; seen after 7.—61, Palmerston Rd., East Sheen, S.E.J.A. (7844)

Chater-Lea-Minerva.

11h.p. Chater-Lea-Minerva, new Sandam C.B. side-car, variable gear, lamps, Klaxon, splendid condi-tion; £65, offers.—Rosslyn, Devon Rd., Cheam, Surrev. [8099]

Cleveland.

1920 Cleveland, delivered this week, 3h.p., 2-speed, ehrleh, kick start, chain drive; list £86.—Atkins, Union St., Dowlais, S. Wales.

Clyno.

CLYNO.—New 21/2h.p. 2-stroke, 2-speed, hand clutch, in stock.—Moss. Wom. [X0493

CLYNO 21/th.p., almost new, done 200 miles, just overhauled; best offer over £75.—Write Senger, 51, [7683]

Beetham, York.

CROW Bres., Guildford, West Surrey Clyso egents. have large contracts for 8h.p. combinations and 24h.p. lightweights. [3172

24h.p. lightweights. [3172]
WAUCHOPE'S, 9, Shoe Lane, London.—2½h.p.
Clynos, new, 1920 models, 2-speed gear; £75;
delivered from stock.

delivered from stock. [586]

hp. clyno. 3-speed, 700×85 tyres, hood, serem stock. [586]

hp. clyno. 3-speed, 700×85 tyres, hood, serem stock. [587]

Lambeth, London, S.W.S. [595.—13, Wilcox Rd., Speth London, S.W.S. [595]

CLYNO Combination, 1917, replated, overhauled, vary fast; any trial; £110.—27, Crystal Pauled, ed., Each Dulwich, S.E.22. [235]

CIXNO 2-speed 2-stroke; £70; delivery from stock-Julian, 84, Brond St., Rending. Biggest dealer in the South. Phone: 1024.

UNYO, Speed, K.S., Schip, spare wheel, ell-chain, Clamps, horn, bulb back sideers; 2100.—70. Leis ban Vale, Tuls Hill, S.W. 2. [7819]

Chyno, September 2, 1981 and 1

CLYNO 6h.p. Twin, 1918, 3-speed gear, £80; new Underslung coach sidecar for same, £25, hargain, -336, Gray's lan Rd., W.C.1.

CLYNO 6h.p. Twin, 2-speed, kick starter, lomps coachbuilt siderar, powerful machine: £75-Reale, 27, Tawcett Rd., Senthasea. [7892]

19 (Nov.) Clyno, 25(h.p., mileage 700, condition guaranteed perfect; best offer over £60.—May Stafford Rd., Gorsebreok, Welverhampton. [8478 CLYNO 1920 2-stroke, 2-speed and clutch; £75; brand new; actually in stock at makers' price.— Wilkins, Simpson, opposite Olympia, London. [7941

Wikins, Simpson, opposite Original, opposite Origin

CLYNO Combination, 1916, 3-speed, K.S. large body screen, spare wheel, splendid outfit; £110 part exchange lightweight.—27, Gayhurst Rd., Dals ion, E.S.

CIYNO 2-stroke, 2-speed, clutch, all scoessories, pointment—Reply, J. B. Greaves, 44, Victoria Park, Smbridge.

5-6h.p. Clyno Combination, lined black and gold 4 interchangeable wheels, new tyres, hood, screen, tamps, 3-speed, kick start; £140.—Dodd, 104, Plongh Rd., Battersea.

CLYNO-JAP. Combination, 8-10h.p., 4 interchange Clable wheels, new Jin. Palmers, all accessories are parses; £150.-H., Coralyan, Rutland Rd., Maiden (7629)

CLYNO Lightweight in stock. Orders booked in rotation cliver from Clyno combination orders booked in rotation lelivery from March.—Rothwell and Milbourne, Cow leigh Garage, Malvera.

CLYNO 5-6h p. 1916 Conchbuilt Combination, mag-nificent condition throughout; hargain, £110; ex-phenge entertained; deferred payments, half down.— Bunting's Motors, Wealdstone.

1920 Brand New Clyno Lightweight, in stock, for immediate delivery: £75; early positions vacant on our wanting list for combinations.—Rhosha Motor 30., Mawney: Rd., Romford.

CLYNO.—We are sole Wolverhampton agents; write us for delivery dates, repairs, overhauls, re than the control of the control o

CLYNO Combination, No. 4144, 3 speeds, kick lid etarter, spare wheel, electric and acetylene, splen lid condition, privately owned.—Garaged, 16, Comwall Mews (behind Baker St. Station), or 'phone Weston 2346, £110.



MOTOR CYCLES FOR SALE.

Clyno

Ciyno

19¹⁶ C'yno Combination, makers' No. 6500, 6h p., K
start, 3-speed, 4 detheladdo wheels, Easting
seton (new), 4 good tyres, 3 large lamp sets, escellent
condition fitunishent; sny traft; will be diften 100
miles to purchaser; £155. — Glibbs, Bell, Melkelann,
[X0374]

19 19 Comet-Villiers, 2-speed, fully equipped, ridden under 300 miles, appearance and mechanically perfect; trial; ±52.—Sonley, Cobham Terrace, Greenlithe, Kent. (7647)

Connaught. 1 9 20 Connaught, Intest clutch model: 190; immediate delivery.—Kemp's Gange, Louta, Lines 1914. Connaught 2 bin, p. 2 speed, 1 mix re-camelled Mardely, Stropshire.

(Kodyo, 7)

CONNAUGHT 25th.p., hungs, footbeards, mild Lisbo, hargain, L38/10.—Lynton, Park Cress Chandlend, Finchley. milenge

19²⁰ Mininturo Connaught, Sturmey 2-speed, K.S., hand clutch, head and tail lamps, tools, iidden 10 miles; bargain, £80.—31, Park Rd., Rugby, [X0426

CONNAUGHT 25th.p., clatch, 3-speed, K.S., Lungs, accessories, take siderar, excellent condition, stered directly are training are any train; 260.—Ralph Cook, Hut 21, H. Lines, Halton Camp East, Bucker. [7720]

Coulson.

COULSON B.—See displayed advertisement.—Clifford Wilson Mfg. Co. [8840

EGERTONS, Northgate, Inswich, can give immediat delivery Coulson B.-Phone: 962. [6150

COULSON B. -The ideal spring frame.-Enquiries viewed by J. Blake and Co., the motor cycle experts of Liverpool and Manchester. [5573]
COULSON B., 1920, brand new, special 4h.p. Blackburne, sports model, spring frame; 230.-Longman Bros., 17, Bond St., Ealing, W.S. Tel. [593].

919, lamps, forks, good

COULSON B., 25(h.p., 2-speed, late 1919, i Klaxon, insurance, spares, Biampton forks, condition: £85, offers.—Stoten, 24, Hartington

COULSON-B 25th.p., new last Oct. only ridden 650 miles, perfect condition insured, 2-speed, springer frame, oversized tyres, speedometr, lamps, all accessories; 295, or best offer.—Studholme, Longwall House, Oxford. COULSON B. 1920, delivery from stock, 2%hp, Blackburne engine, 2-speed, spring frame, all latest improvements; list price 95 gns.; extende terms—Elre and Co., 15-16, Bishopsgate Av., Camelie St., E.C.3.

19 20 (April) 4h.p. Coulson B., 2-speed, spring frame, absolutely as new, onscratched, F.R.S. electric lighting, Cowey hooter, extra tool case, pares, etc., hees offer, Ello or over.—Silver Star Wotors, Frederic Mews, Wilton Place, Koightshridge,

COULSON Model B, 4h.p. Blackburne engine, spring Guilson Model B, 4h.p. Blackburne engine, spring onthly feliable mount; £1106 cash, or on exag par-central political control of the control of the lists and full porticulars of Harrod's easy payment system on application—Harrod's Motor Showroms, 116-118, Brompton Rd. (opposite Main Building), Loa-don, S.W.I. Coventy Englie.

Coventry Eagle.

COVENTRY EAGLE, 2%h.p., 2-speed, lamps, etc., excellent order; offers.—D. Norris, Talbot, Merc, Vilts. (7932)

COVENTRY EAGLE, 1915, 23An.p., Villiers, tools, excellent condition, little used; £48.-7, Laurel (8181

COVENTRY EAGLE, sporting model, fast and power ful, splendid condition, new heavy Dunion and Palmer; £47/10.—Adventiser, 88, Maybury Rd., Wokings

Dane.

Dane.

19 20 3½hp. 2-stroke Dane-Precision sump Inbrication, conterlabil 2-geod, front-order footests, bear of the Stroke Content of the Stroke Content of these excellent machines, snitable for fast solo of these excellent machines, snitable for fast solo of these excellent machines, snitable for fast solo for the Shp. twin, with Starmer-Archer counterchart zent.—Dane Works, 131a, Uxbridge Rd., West Edilgs, 1932. Diamond

DIAMOND.—New 1920 2-stroke and J.A.P. models in stock.—Moss, Wem.

CYRIL WILLIAMS for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. (X8622

DIAMONDS is Stock, the prize winners in open competition.—Jones' Garage (Lichfield), Ltd., Lichfield. BEDFORD Garage, Walsall, official agents
Diamonds; delivery from stock; makers' p

DIAMOND-VILLIERS, 1919 (May), 2-stroke, single speed, kumps, horn, etc.; £47; atter 6.—24. Eccesstoa St., close Victoria Station.

MOTOR CYCLES FOR SALE.

Diamond.

Diamond
Diamon

3h.p. Diamond-Jap, new February, 1920, Enfield 2-34 speed, Cowey horn, electric lamps, tools; buying sidecar; eveninas after 6; best offer.—Charles Dixon, 9. The Crescent, Surbiton, [7886]

Douglas.

VIVIAN HARDIE and Lane, Ltd., Douglas Special-

4 h.p. Combination, 1920 model: £170.

2 1h.p. Solo, 3-speed Model W.; £100.

WE Stock Everything you require for your Douglas.

24. Woodstock St. (off Oxford St.), Bond St., W.1. [0012]

DOUGLAS.—See displayed advertisement.—Clifford Wilson Mfg. Co. [8843] T8843 DOUGLAS 25(h.p., brand new; £75, or offer.-2, Madrid Rd., Baines.

DOUGLAS 25th.p., 2-speed, lamps; ride away; 52 gns. X0315

19¹⁵ 2%h.p. Douglas, 3-speed, lamps, horn, perfect. [8502

DOUGLAS, late 1915, fully equipped; bargain, £57.—

DOUGLAS 25th.n., 1916, in new condition; 278.— Seen at Tilley's, Dorchester. [7746

BRAND New W.D. 25th.p. Douglas, 2-speed; £72.— 9, Church Rd., Willesden, N.W. [8566 DOUGLAS Cycle, 1910, less engine, tyres nearly new; bargain, £22.-Tilley's, Dorchester. [7747]

DOUGLAS, equal new, 1916; £52/10; cash wanted. —Marks, 121, Acton Lane, Chiswick, W. [8090] 4 h.p. Douglas Combination, 1919, seen any time: £140.-140, Trinity Rd., Upper Tooting. [8148

DOUGLAS 1919 4h.p. Combination, fully equipped; 140 gns.—Knipe, Wolsey Hall, Oxford. [8314] 19¹⁴ 2³4h.p. Douglas, just overhauled; £49.-5. Bolina Rd., South Bermondscy, London. [8437

DOUGLAS, 1916, 25th.p., uncrated August, 1919, complete; £66.—Box 3,694, c/o The Motor Cycle [7960] DOUGLAS, 25h.p., 2-speed, horn, lamps, perfect condition; £55.—Exall Farm, Welling, Kent. [7626]

D⁰UGLAS, 1912, 2⁸/h.p., 2-speed, splendid condi-tion; £40.—Fuller, 19, Trafalgar Sq., Chelsea, 2³/₂h.p. Douglas (1915), lamps; £56; after 6, p.m. 4, Friday.—Platts, 602, King's Rd., Fulbam, S.W.6

1915 234h.p. Douglas. 2-speed, new Amac, Books 19266 og gas.; after 5.30.-2, Stag Lane, Edgware.

19¹⁵ 2⁵4h.p. Douglas, equipped; £63; exchanged higher power.—143, Evington Rd., Leicester.—180456

19' higher power.—143, Evington au, Louisse.

D'UGLAS 1916 25',h.p., W.D. model, excellent condition: \$72.—256, Brockley Rd., Brockley, Rd.

D'UGLAS 2',h.p., 5' speeds, 1914, excellent condition; £52.—202, Winster Rd., Fulkam; SW.6.

4 h.p. Douglas Combination, 1918, and new silvent, Goldent Condition; £62.—202, Winster Rd., Edsham Mews, Eds.

Cont.

DOUGLAS 1919 4h.p. and sidecar, wind screen, W.C.1. [8843]

W.C.1.

DOLGLAS 4h.p. Motor Cycle, 1916, thoroughly overliabled; £75.—H. Rushworth, 95, Northgate, [8815]

DOUGUAS, 254h.p., Bosch, splendid condition, any trial; £35, or nearest-47, Old Winton Rd., Andover.

Andover. [8232]

DOUGLAS 1916 25(h.p., 2-speed, just overhauled race, W.8. [7851]

DOUGLAS 1913-14 23 h.p. 2-speed, speedometer, ride away; £48.—195, Stonehouse St., Claphan dometer, [8719 Common.

M OFFAT, Douglas Agent, Yeovil.—A few new 1920 models for quick delivery. Write us.—Phone: 50 Yeovil.

1 9 bouglas, 254h.p., 2-speed, very fast; genuine burgain, 45 gns.—10, Bonner Hill Rd., Kingston-on-Thames. [8423]

DOUGLAS.—Brand New 23th.p. W.D. models, 2 speed, unused; £75.—Carfax Motors, Ltd., Cobham, Surrey.

DOUGLAS, einele sreed, tyres new, lamps, horn, rood condition; \$50.—Skilton, 65, St. Marry's Rd., Reigate.



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X 23	THE CONTROL THE CONTROL !!	00,	00/9
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264-266, Vauxhall Bridge Road, Victoria, S.W.1.

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Douglas.

DOUGLAS 2%h.p., 1919, as new, done about 5 miles; £85.—Surrey Motors, Ltd., Sutton. Tel Sutton 1000

BRAND New 1920 4h.p. Douglas Combination; fir offer £20 premium secures.—Box 3,625, c/o T Motor Cycle.

DOUGLAS, 23/h.p., 2-speed, new condition, on wants seeing; £70.-207, Westcombe Hill, Blac heath, S.E.3.

D^{OUGLAS} 23 h.p., 1915, maker's colours, in perfect order; 55 gns.—Seen, 126, Lordship Lane, Ed. Dulwich, S.E.

19¹⁴ 234h.p. Douglas, 2-speed, footboards, ex-order throughout; £55.—Arthur G. Daw Brixton Hill.

DOUGLAS 1916 234h.p., 2-speed, levely condition not W.D., any trial; £60.—J.B., 399, York R. Wandsworth.

DOUGLAS 2%h.p., 2-speed, condition as new, tyn unperactured; 75 gns.—Ineson, Cemetery Rd., Her mondwike, Yorks. DOUGLAS Combination, 4h.p., late 1917, perfect, Angel, E.C.

Hotel, Southport.

FOR Sale, T.P. Douglas 23th.p., late 1919, die Hotel, Southport.

For Sale, T.P. Douglas 23th.p., late 1919, die Hotel, Southport.

Douglas, 23th.p., 2-speed, lamps, etc., good ord first £35: carriage paid.—Stationer, 46. Chas St., Marylebone.

Douglas, 23th.p., 1915, new magneto. carburet the first Parade, Brixton.

Douglas, 23th.p., 1915, new magneto. carburet the first Parade, Brixton.

DOUGLAS 2%hp. W.D. 1916, new conditions with the condition of the conditio

DOUGLAS, 1914, excellent condition througher Watford speedometer; hest over £52.—Box 5,7 ct. The Motor Cycle.

19 15 2-th.p. Douglas, 2-speed, lamp, accessor long exhaust. £50; after 6.—69, Trango Vale, Eliacheath, S.E. [8].

DOUGLAS, 1914, 234h.p., 2-speed, Bosch, he lamps, splendid condition; £45.-42, Morni ton Rd., Chingford.

23h.p. Douglas, bought February, not been used, scratched; bargain, £85.—34, Bradshaw Moss Side, Manchester.

4 h.p. Douglas Combination, 1917, engine guaran, as new, lamps, Klaxon; £115, no offers.—Do. Surrey Hall, Margate. [7]

DOUGLAS 2%h.p., 2-speed, 1914, fast, relained hithe New Rd., London.

4 h.p. Donglas Combination, 1918, 3 speeds, K.S., fine condition throughout; £110.—Scholes, Man St., Buxton. 'Phone: 79.

SMITH'S.—Douglas 1916 234b.p., in excellent contion; £60.—Smith's, 86, Chalk Farm Rd. (opportunity Farm Tuoe Station).

19¹⁶ 254h.p. Douglas, lomp set, horn, tools, sp mechanicaly perfect, very fast; 60 gns., off Read, Aston Clinton, Tring.

DOUGLAS 4h.p. Coachbuilt Combinations, 11 good going order, lamps, etc.; £86/10:—A.S., Thrale Rd., Streatham, S.W. 19 Douglas Combination, fully equipped; sell, £160; seen by appointment.—11, Am Av., Golders Green, N.W.4.

19 16 Douglas, as new, all lamps, new tyres, new buretter, perfect: £60.—The Aquarium Gar 5, Manchester St., Brighton.

DOUGLAS 1916 274h.p., 2-speed, semi-T.T. by good; £62.—Avery, Little York Cottage, B. Pantiles, Tunbridge Wells. (D)

1914 23h.p. Douglas, 2-speed, K.S., clutch, spemeter, Kinxon; bargain, 25-610.—12, quadrat, Winchmore Hul, N.21.

1915 Douglas 25h.p., 2-speed, W.D. new conditions to the sess Rd., Kentish Town, N.V.5.

DOUGLAS 25h.p., 1912, that overhanded, they be considered the session of the session of

19 14 Douglas, 24th.p., clutch, 2-speed, enamel scratched, makers colours; 55 gns.—The Ha

120, Sutherland Rd., W. Croydon.

DOUGLAS 25(h.p., 2-speed, late model, new Dops, ride away; bargain, £45; after 6 ch. —8, Shalimar Rd., Acton, Jondon.

1918 Douglas Combination, 4h.p., 3-speed, side rescenses, J.A.P., Precision, A.B.C., Cyno.—54; Dops, W.C., Cynlader, £5/15; 25(h.p., 1-25), Essex Rd., Islington, [8]

MOTOR CYCLES FOR SALE.

Findeld.

YAUCHOPE'S, 9, Shos Lane, London, E.C.4,—
6h.p. Royal Enfield combination, 1920, not lden 500 miles, offers; also 6h.p. Royal Enfield and lear, 1914, offers; and 1916 Royal Enfield combinat; 2145.

3hp, Enfield Twin, 1914, 2 speeds, speedometer, 4 lamps, all spares; £35; has been thorreuchly trhauled; stores 3 years; saraged at Well'a Gar-, Woodford, Owner's address: 69, Chamberlayne Kensal Rise.

(KFIELD) Tombination, 6h.p. twin J.A.P., hand a starter, Annae carburetter, Bosch nurs. 2-speed, chabnit, recently overhaudet, sidecar re-uphotstered and chi painted, 26×2½in. tyres, excellent condition; D; can be seen any evening by appointment, or at or time, if necessary.—Vine Cottage, Bilton, near 600.

Excelsior.

IXCELSIOR, 31/2h.p., m.o.v., single speed, good contidition, less mag.; £18,-13, Gt. Pultency St., W.I. [8574 MERICAN Excelsior Combination, dynamo model; will accept £110, or offer.—Ward, 67, Shadwell Norwich.

MERICAN Excelsior 7-9h.p. C.B. Combinatioa, speeds, clutch, good tyres, etc.; 80 gns.—69, Camlge Rd., Kilburn, N.W. 8315

20 American Excelsior Combination, guaranteed as new, perfect condition, lamps, horn, tools, on, etc.; £185.-24. Oxford St., Liverpool. [7757 ANCASIIIRE, Cheshire, North Wales, Isle of Man only.-American Excelsior; enquiries.-J. Blake | Co., Official Dealers, Liverpool-Manchester. [6586 MERICAN Excelsion, new autumn, 1917, fitted Cacare bulbons sidecar, wind screen, hood, pillion ; £150, or offer.—Lundgren, 48, Main St., Burton-Frant. [7682]

MERICAN Excelsior Combination, 7-9h.p., Montgomery, Cameo, Bonniksen, electric lights, Turp, spares, 1919, like new: £185.—Aldred, 58, Church Warrington, (X0281

Warrington.

XCELSIOR American Combinations, actually in stock, new, and a few second-hand; from £120 £195; complete.—W. H. Grimes and Co., 18, Bruton ce, New Bond St., W.I. Maylair 4792. [7347

168 New Bolla St., W.L. aspiral 4752.

HE New 1920 American Excelsior represents the best value for money on the market. Book now for y delivery. Fitted with Swan de Luxe sideeur,—rards and Parry, 4 Blenhein St., Bond St. May-2666.

MERICAN Excelsior, 7-9h.p., C.B. sidecar, hand and loot clutch, electrically equipped, climb hill, too powerful for owner, seen any time, trial appointment; £140. — Excelsior, 317, Ley St., d Essex.

MERICAN Excelsior 7-9h.p., C.B. sidecar, 3-speed clutch, K.S., dynamo lighting, electric and hand xoas, disv wheels, new tyres and chains, tools, sparse, auted as new; any trial; very smart outfit: offers £130.—Anderson, c/o Central Aircraft Co., Northal Aircraft Ro., Northal Mitome, Ruislip. [7671]

Fainir.

AFNIR 2-speed, free. C.A.V.; ride away; £25.-Leannington Rd. Villas, W.2.

N. 51/26h.p. Clutch Model, ride away: £45, or near; Mauchester.—Box 641, c/o The Motor Cycle. [X0459 tOW Bros., Guildford, F.N. agents for the 7b.p. 4-cyl, and 2%h.p. lightweight, Book your machine

9.—F.N., 4-cyl. shaft drive, in splendid running order; trial any evening after 7 p.m.—20, Welling-Rd., Wimbledon Park, S.W.19. 7. 2½h.p., 2-speed, clutch, shaft drive, Bosch, Brooks, good tubes, new Dunlop heavy rear, good ag order and condition; £22.—25, Louf Rd., East-te.

N. 7-9h.p. Combination, 4-cyl., 3 speeds, shaft, K. starter, clutch, Cowey speedometer, F.R.S. hunneetylene, horn, spares, absolutely like new; 145-48, Plough Lane, South Wimbledon. [X0468]

Grandex.

ANDEX-PRECISION, 214h.p., 2-speed, good condition, just overhauled; £30.—Hurst Nook, St.

ANDEX-PRECISION and Sidecar, 1915, 3 speeds, clutch, and kick start, first-class condi-£70.—54, Downham Rd., Kingsland, N. [8254] 14 Grandex, 35/h.p. Precision and sidecar, N.S.U. 2 speeds and spares; £55, or offer; Saturdays 1 o'clock.-44, Calabria Rd., Highbury, N.5. [8047]

Harley-Davidson.

20 Harley-Davidsons; immediate delivery of all models.—Kemp's Garage, Louth, Lines. [X0369 RLEY-DAVIDSON, all models.—Official agents, The Motor Cycle Mart Stafford St., Walsall. 19 Harley-Davidson 7-9h.p., magneto model, condition as new; £135.—Taplin, 159, Hornsey N.



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Harley-Davidson.

FLAT Twin Harley, perfect condition, 1,000 miles, owner buying car; £155.—Box 3,710, c/o The Motor Cycle.

HARLEY-DAVIDSON, khaki model, practically new, not W.D.; 140 gns.—Stevens, 184, Pentonville Rd., King's Cross, N. [8187]

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—7.9h.p, Harley-Davidson and sidecar, 1919, splen-fold condition; £195.

HARLEY DAVIDSON Flat Twin, 1920, new, all accessories; 168 gns., or nearest; Hants.—Box 3,756, c/o The Molor Cycle.

3.756, c/o The Moor Cycle.

2.77.—1915 Harley, 2-speed, clutch, top-hole condition, stored 2 years [solo], cannel and tytes good.—Barchy, Shelly, Ongar, Essex.

[7655]

HARLEY-DAVIDSON 1919, re-enamelled and plated throughout, ulmost os new; £125.—28, Minford dardens, Shepherl's Bush.

HARLEY-DAVIDSONS, 1918 and 1919 models, in lumning order, need pointing; from £35, Owen, 59, Scholeheld Rd., Upper Holloway.

[X0464]

HARLEY-INVINSON, 1918 No. X.

HARLEY-DAVIDSON 1915 Mag. Model, and coach siderar, lamps, horn, pamp, and tools; £130.—
T.H.M., 2, Rosemont Rd., Hampstend. [7950]

19 15 44/h.p. Harley, 2-speed, re-enamelled and over-hauled, accessories, tyres as new; £80, offers. -80, Fairfield Lane, Barrow-in-Furness. [X0419]

HARLEY-DAVIDSON Combination, 1919, as new, in perfect running order and all on; any trial; £160.-1, Townley Rd., East Dulwich, S.E.22. [8529]

HARLEY-DAVIDSON Combination, 1919, excellent condition, fully equipped; £190,—Longman Bros., 17, Bond St., Ealing, W.5. Tel.: 689. [8808

HARLEY-DAVIDSON, Khaki model, disc wheels, grand condition; £135, or nearest offer.-5, Bromfelde Rd., Jeffrey's Rd., Clapham Rd., S.W.4.

1920 Flat Twin Harley and Henderson Feather weight Sidecar, disc wheels, very smart turnout; £180.—626, Lea Bridge Rd. (opposite Baker's Arms), [829]

HARLEY-DAVIDSON Combination, 1920, 79h.p., a new, any trial; £220.—Exc Motor Co., Exm. Bata new, any trial; £220.—Exc Motor Co., Exm. Bata

1920 Flat Twin Harley-Davidson and Luxurette side-car, delivered April, all guaranteed; £205, or nearest offer.—David Wright, Jun., Annieston, Sel-kirk.

HARLEY-DAVIDSON Combination, special model, built for comfort; view 20, Pembridge Rd., Notting Hill Gate; offers, trial.—Box 3,761, c/o The Molor Cycle.

7-91.p. Electric Model Harley-Davidson Combination, perfect order, accessories complete, new July, 1919, 2,000 miles; £190.-K. M. Pennington, Trinity College, Oxford.

HARLEY-DAVIDSON 7-9h.p., 1915, new doublet sidecar, just overhanled, lamps, speedometer, perfect condition; £140.—Skinner, The Oaks, Mickleover, 1841a

19 20 Flat Twin 4b.p. Harley-Davidson, fitted with Bat aluminium sidecor, speedometer, lamps, mileage negligible; offers.—Parkinson, Jaycroft Rd., Burnham-on-Sea.

HARLEY-DAVIDSON Combination, 1916, electric lamps and horn, recently overhauled by Harley Co.: £150, nearest.—Bryant, The Close, St. Ives, Huntingdonshire.

19 19 Mag. Model Harley-Davidson, conditions new, new lamps and generator, too powerful for present owner; £145, or nearest.—Henson, West

10 17 Harley-Davidson 7-9h.p. and Henderson Special sidecar, new; £160, or exchange for 1920 31/4h.p. Sunbeam and cash.—C. Cannan, 'Adam and Eve, Hayes, Middlesex.

19 20 Harley 7-9h.p. Combination, electric model, speedometer, hood, wind screen; exceptional bargain, £190; Saturday afternoon or Sunday morning.—60a, Kirkdale, Sydenham.

HARLEY-DAVIDSON, Nov., 1919, Grindlav de Luxe, hood, screen, luggare guid, petrol can holder, only done 200 miles, guaranteed; £215, no offers.—Broomfield, Baker, Whitehoise Rd., Croydon. [7856]

LATE 1915 (guaranteed) Hariey-Davidson Combina-tion, coachbuilt to match, excellent condition, good climber, and fast; examination welcomed; £147/10. —Harry Thrall, Wainfleet Rd., Skegness. [7888

1916-17 Harley-Davidson 7-9h.p. Combination, mag. model, 3-speed dual clutch, lamps, horn, tools, all in good condition, last and smart turnout; £150.—770, Stratford Rd., Sparkhill, Birmingham. [8596

10 20 Harley-Davidson Combunation, lamps, Klaxon, speedometer, Tan-Sad, hood and screen, mileace tool, indistinguishable from new: £210.—Burns, 103, Holloway Rd., London. Phone: North 2547, 7070

10 18 Harley-Davidson Combinations, overhauled and re-enamelled, new sidecars, indistinguishable from new, £150, or near offer; 1918 solos, re-enamelled, £120,—Howard, 172, St. Ann's Rd., S. Tottenham, N. [8508]

MOTOR CYCLES FOR SALE.

Harley-Davidson. HARLEY-DAVIDSON 1915, 76x90 types, new chain, fitted with new 1920 Mills-Fulford sidecar, 3 lamps, Klaxon, one of the fastest Horleys on the read; £150, no offers.—Deane, Rosebury, Matlock Bath, (Yezos,

HARLEY-DAVIDSON Luxurious Combination, dynamoroco, and mahogany panels, finest turnout anywhere, chers.—37, Streatham Place, Brixton Hill, S.W.2.

thers.—37, Streatman Place, 18324.

1900 [Fab] Harler Davidson Flat Trino Cancelet Minor sideon, Connece wind exceen, succession of langua, and complete set of tools, fully inspect, what offers?—Apply, North, Newton Hall, Kirkny Lonson and Complete set of tools, fully inspect.

ARLEY DAVIDSON, Triumph, Matchless, Enfold motor cycle combinations for immediate delivery, each machine thoroughly overhauled and offered at lew cost.—White Bros., 80, Junction Rd., London, N.19.

HARLEY-DAVIDSON Combination, Oct. 1919, prillion seat, parallel electric head lights, small mileste, perfect condition; £210.—70, Hatfield Rd., Bedford Park, W.

HARLEY-DAVIDSON 1916, clutch model, racer, kick-starter, overhauled, replated and enamelled 1920 colon, cream discs, long exhaust, Goodyears, lastest Harley on the road; £115.—3, Courtlands Av., Lee, S.E.12.

1919 (guaranteed) 7-9h.p. mag. model Harley-David-sons, ready to ride, mechanically perfect, splead did tyre, had very little use; also 1918 (ditto). Price, 1918, £90; 1919, £100.—Olphert, 66, Church Rd., Barnes, S.W.

NOT War Models.—1918 Harley-Davidson 7-9h.p., electric model, speedometer, perfect, imported direct from America, and guaranteed; £145; exchange considered.—Rathbone Bros. and Johnson, Juaction Rd. Grange, Kingsley, Northampton.

HARLEY - DAVIDSON, 1917, dynamo lighting model, tyres see, a super turnout, discs, screen, code and the see, and the see of the see, and the see of the se

FOR 1919 Guaranteed Harley-Davidsons, 7-8b, pr. specially selected, ready for road, no marts missing, mechanically perfect, very low mileage, not to be confused with salvage junk, £100; also three 1918; few parts wasted, £70 to £95, according to condition.—Clayton Garage, 384, Kennington Rd, S.E.11. (8597

Clayton Garage, 384, Kennogton Rd., S.E.1. 1897, SOME Bus, Harley-Gloria spring wheel combination, ompletely renovated and enamelled, aluminium disc wheels, electric and acetylene lighting, Bosch mag., 2 accumulators and box, spare tyre and tube, electric hore, speedometer, tools, etc., must sell, accept £150; privately oweed.—View at Hubert Turner and Co.'s Garage, 45, Crawford Passage, Ray St., Farringdon Rd., E.C.1.

H.B.

H.B.-BLACKBURNE, 1920, 254h.p., 2-speed, only run 200 miles; 85 gns.—Moss, Wem. [X0498

Hazlewood

HAZLEWOOD-J.A.P. 6h.p. Combination, just de-livered; £186; first cheque.—Rayobam, Saffron Walden.

HAZEL-J.A.P. 2½h.p., Bosch, B. and B., tyres recently new, low, fast, reliable: 30 gns., including accessories.—Hull, Chandos Rd., Buckingham. [8044]

Henderson.

L ANCASHIRE, Cheshire, North Wales, and Isle of Man - Enquiries for Henderson 4-cyl. wanted,J. Blake and Co., Official Dealers. Liverpool-Man

HENDERSON Combinations Actually in Stock, new Hand second-haod; prices from £160 to £260.-W. H. Grimes and Co., 18, Bruton Place, Bond St., W. Mayfur 4792 [7346]

HENDERSON Combination, just delivered too fast for present owner; exchange new 1920 31-25, p. Sunbeam combination, or sell £225.—Jas. Ballach, 336. Easter Rd., Leith. [7628]

HENDERSON 10h.p. 4-cyl. Coachbuilt Combination, late 1914, just overhanled, side-car repainted all black, lumps, electric hour, tyres good; ride away; £120, or offer.—32, Elm Bank Gardens, Barnes. [6903 HENDERSON 10h.p. Combination, late 1915, 2-speed, chitch, lamps, tools, mechanical syren, steed-custer, 2 spare tyres, space driving chain, Best and Lloyd, thoroughly overhauled, very smart ±145- after 7 p.m.—E., 49, Deablyl St., S.W.1. (8891

H OBART 1919 2-stroke, 2 speeds, new condition, httle need; £55, offers. -202, Trimity Ed., 8.W.17, [7645]

with large enough 3 lamps. and all the features and qualities mentioned in specification.

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HOBART 4h.p. Twin, new Starmey-Archer 3-s; hub gear, new pistons, belt, sidecar and a screen; 285, or near offer.—Armitage, Levs Av., be worth.

a Generator 19 18 2% in.p. Hobart. Villiers engine alumin 19 18 2% in.p. Hobart. Villiers engine alumin college of the college

HOSKISON, 1920 models in stock; list pri-Seampton, Regent St, Clifton, Bristol.

Humber.

HUMBER 25th.p. Twin, 5-speed, clutch; £40.

district agents BEDFORD Garage Walsali, d. Humbers; rotational delivery.

HUMBER 2h.p., Bosch, Dunlops, lamps, as 1 £23.-91, St. Margaret's Rd., Coventry. [Xi HUMBER 2%h.p. Twin, 3-speed hub, new tyres belt, in good order: £40.—Bowker, Garage, A

19 13 2½h.p. T.T. Humber, lamps, etc., exce Worthing.

2 1 h.p. Humber, 1914, perfect order and condi ride away; £29.—Mac, 13, Victoria Rd., U Norwood, S.E.

HUMBER 1914 31/2b.p., 5-speed, clutch, rebusplendid condition, 1919 S.C.; £95.—143, L ham High Rd., S.E.14.

HUMBER Lightweight, 24h.p., 3-speed, Dnn lamps, splendid condition; £40.-32, Gatt Rd., Wood Green, N.22.

3 1b.p. 1912 Humber, 2-speed, handle start, 22 and B. and B., engine and gears in good £37/10.—115, Clarence St., Bolton. 1914 Humber Coach Combination, 31/2h.p., 3 sg Clutch, good running order; £70; after Chertsey, Gresham Rd., Edgware.

MODERNISEE Humber, Bosch, B. and B. cretter, complete, less levers, £1.—Street, Pease Bath.

EARLY Delivery of the Celebrated Humber mac from the accredited agents.—The Lankester gineering Co., Motor Cycle Dept., 63, Brighton Surbiton.

Ch.p. Horizontal Water-cooled Humber Combine electric lamps and accumulator, coachbuilt sin excellent condition, 1917: £120.—Barnstaple 2 Co., Barnstaple.

HIMBER Combination, 2-speed, new tyres and splendid running order, plate and enamel exceed dropped frame: about £50.—W.F., 1, Rose Col Handcross, Crawley.

HUMBER 31/h.p., 2-speed, hand start, 1913 or stored during war, about 3,000 miles, pract new, good lamps, shit sidecar; £65.—19, Lewishan Highgate Rd., N.W.5.

HUMBER 3/sh.p. Coachbuilt Combination, 191 speed, just thoroughly overhauled by me excellent condition, lamps, horo, tools, all in, trial; £79.-3, Garlinge Rd. Brondesbury, N.W. HUMBER 3½h.p. 2-speed C.B. Combination, bulbous tack body, lamps, spares, handle stree engine, good running order; £70.—47, Top Parade, Crouch End, N.S. Phone: Hornsey 12

19 19 6h.p. Water-cooled Humber Motor of machine for man wanting power, speed, and luxu Seen at Humber, Ltd., 32, Holborn Viaduct, E or write Box 3,752, c/o The Motor Cycle.

Indian.

19 15 7-9h.p. 3-speed Indian and Millford coach sidecar.—Norman, Stansted, Essex.

19 15 5-6h.p. Indian, 3-speed, clutch, K.S., e condition; £100.—Winkworth, Staines. INDIAN 7-9h.p. 1915 Clutch Model, just overho period condition; £65.—Murray, Eyrie, Radi

INDIAN and Sidecar, in good condition: 100 p Barker's Motors, -194, Balham High Rd., S.V

INDIAN 5-6h.p. Combination .complete with and accessories; £100.-St. Vincent, Grove S.E.

Not War Models.—1917 Powerplus Indian, impedirect from America, and guaranteed: £1

19 18 Powerplus Indian, electric model, impactions of direct from U.S.A., guaranteed; £140; exconsidered,—Eathbone Bros. and Johnson, Jun Road Garage, Kiogsley, Northampton.

INDIAN, Swan combination, 7-9h.p., 3-speed, after 5; £105.-24, Littlewood Rd., Lewis 5, E.13.

MOTOR CYCLES FOR SALE. J.A.P.

ag. J.A.P., Sturmey-Archer latest 3-speed counter-dant, Druid forks, Lucas lamps, Brooks R170 lig. Rinks latest cardinatela, Tan-Sad, Bosch max, t and Lloyd drip feed, horn, fools, very simil, ac-done 300 miles; 275; evenings artic, 6. Saturday, t 2.—A. C. McCutthy, 153, Lowfield St., Partford,

n. Twia J.A.P., P.V. spring frame, just completely overlevuled, new 5-speed hub, gate change, FTT, bars, 1920, B. and B., horn and lamps, dy new tyres all round, and Barking 5-point C.B. e.g., with wind screen and ever, at flue outiff; 80, guaranteed perfect; will meter buyer 75 milestwistle, Garage, West Haddon, Rugby, 17830

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E.S. Motorcyclette, better than a scooler, economical, reliable.—Enquiries invited by J. Blake and Liverpool and Manchester. (6579)

FAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 7-9h.p. J.H. Combination, 1915, M.A.G. engine, otershalt Sturmey-Archer gear, all-chain drive;

H. Late 1918 Milliord Combination, 6-8h.p. M.A.G., Shumer-Archer countershart, claim drive, Lines School, School, School, School, School, sh, new Wood-Mille tyres, titles, all spures, toils, litien, appenince perfect; £150.—Jones, 21, School w, Wallasey, (7780

Juno.

Juno.

NO-VILLIERS 25/h.p., excellent condition, lamps, horn; £38.—10, Baronsmead Rd., Barnes, [8382]

INO 1919 2-stroke, little used, in perfect condition: ride away; £42, or near offer.—H., 95, St. 1's' Rd., Wembley. [7854]

Lea-Francis.

**LA-FRANCIS 51 ph.p. Twin, 1914, 2-speed; £56. 32, High St., Reigate. [86]

20 Brand New Lea-Francis, M.A.G. engine, in stock; at makers' price, £125.—Rhosha Motor Mawneys Rd. Romford. [5801

A-FRANCIS, exquisite new 1920 model, special 319.1.7. M.A.G. engine,—Apply, Browley Motor 18, Mason's Hill, Browley, Kent. [8146 A.FRANCIS, 1920.—Place your name on waiting list for delivery of these aristocunts.—A. J. Sproston, Ltd., 198, Gt. Portland

Levis.

20 Levis (new) in stock; first cheque £60 secures, —Denuis, Woburn Sands. [7833

VIS 1917, lamps, etc., new condition; £32. Stroud Green Rd., Finsbury Park.

VIS Popular, 1920, delivered March; what offers -D. Norris, Talbot, Mere, Wilts. [7933 RIL WILLIAMS for early delivery of Levis.-Chapel Ash Depot, Wolverhampton. [X8626

D Levis, 2-speed, mileage 300, all accessories; £60.—Leggett, Coppord, Colchester. [7689 VIS 256h.p., 2-speed, in good condition, complete with accessories; £45.—Tilleys, Dorchester. [7751

16 Levis 21/4h.p., in perfect condition, fully equipped, tyres as new.-25, Plumstead Rd., Woolfully

VIS 21/4h.p. 2-stroke, 1917, excellent condition £42/10.—Longman Bros., 17, Bond St., Ealing Tel.: 689. condition:

BY Levis, 1914, new cylinder, piston, tank, 1919, tyres as new, perfect order, low mileage; £38. ton, St. Stephens, St. Albans. (D) [8228]

19 Levis, July, tools, lamps, horn, grand condition: £50, near offer.—Mr. L. Stevens. 46, is St., St. James' Rd., Bermondsey. [3286]

VIS. 21th.p., 1916, Amac, lamps, good tyres, pump, good condition, between 6 and 8; £40.—5, Lichfield Rd., Grove Rd., Bow, E.3. [X0423] VIS.—We strongly recommend, and can supply early, this famous 2-stroke.—District agents, The all Garage, Wolverhampton St., Walsall. Phone:

VIS 2¼h.p. 1920 Popular Model.— Vivian Hardie and Lane, Ltd., anthorised agents, 24 stock St. (off Oxford St.), Bood St., W.1. Phone air 6559.

7/18 Populars convertible into 2-speed models with the addition of the Roc countershaft gear. bly, Roc Gear Dept., A. W. Wall, Ltd., Hay Birmingham.

VIS Popular, 1919, lamps, horn, accessories, variable jet and ignition, aluminium disc wheels one exhaust pile, splendid condition; £53; even—Elm Lodge, Earley, Reading.

.-414h.p. Lincoln-Line speed countershart, like new, new lamps, Klaxon; way; any trial.-58, Lilac Grove St., Laistendyke, odd. [X0085]



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19²⁰ Matchless Combination, the king of the road —Clifford Motories, Eastwood, Notts. [8023 MATCHLESS Combination 7 9h.p., all accessories, splended order; £138.-10, Conway St., Birkenhead.

CROW Bros., Guildford, West Surrey agents for this first-class outfit. Matchless in name and [3173]

MATCHLESS H Model Combination, brand new; best offer above £225 secures.—73, Douglas Rd. Madstone.

1980 Matchless Combination, early deliveries.—Pattison Bros., 29, Montford Place, Kennington, S.E.11.

ton, S.E.11. [8598]
20 Spring Frame Matchless, Model H, all acceptors of Sories; what offers?—Box 3,753, c/o The Motor Cycle. [8749]

Sh.p. Matchless-Jap Combination, 2 speeds, k start excellent condition; £98.—Kingcott, Mu well, Pembury, Kent.

MATCHLESS 6h.p. Jap, clutch, kick-starter, excel-lent condition, take sidecar; £70.-4, College Gardens, Carleton Rd., N.7. [6886]

19 19 Model Matchless, spare wheel, 3 nursed Lucas large, Klaxon, Cowey, Easting, new condition; £175.—Swain, Bishop's Stottford. [831]

1 Q 20 Spring Frame Matchless Combination, hood, J. Spring Flames, complete, 500 miles; best off 18.

-A. C. Osman, Lower Mortlake Rd., Richmond. [7464]

MATCHLESS Model H., spring trame, mag-dynamo lighting, hood, serven, horn, done less than 500 miles; £238.—Tassell, 1a, Bloomfield Rd., Plumstend, 8078 miles: ±238.—1188cn, 16, Discounting 18078

20 Model H Matchless Combination, dyname
626, Lea Bridge Rd., Leyton (opposite Baker's Arms),
[8289]

10 18 (September) Matchless Combination, with spar-wheel, eagine No. 63588; expert examination and trial allowed; price £155.-Stuckey, Chemist, Northampton. [8045]

19 19 Matchless Combination, 8h.p., Lucas dynamo lighting, Dunhill's triple screen, discs, magnificent condition; offers.—Cassandra, Fernside Rd., Patkstone, Dorset.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4,—8h.p. Matchless combination, 1919, £185; alon miles; offers.

19 14 8h.p. Matchless-Jap Combination, almost new, bulhous coachbuilt sidecar, 2-speed clutch, kick-starter, Klaxon, tyres and condition excellent; £115.—Paget, Queen St., York. [8693]

1918 Matchless Victory Model Combination, 1920 colours, overhand by makers cost £40, 700×80 tyres, discs, spare wheel, lamps, Klaxon, tools; £170.—106, Church St., Chelsea. [7662

MATCHLESS 7h.p. Magneto Combination, dynamo lighting, electric horn, speedometer, new Dun-lop on back, lop-hole condition; £165.—Hawkins, 455, York Rd., Wandsworth.

MATCHLESS, Victory model, Sunbeam finish, bul-bons back sidecar, lamps, Cowey speedometer, Klaxon; £175; seen by appointment.—Driscoll, 58, Woodfield Rd., Eahng, W.5.

M ATCHLESS Victory Model, enamel and plating as pew, wind screen, 2 new oversize Palmers, date November, 1918; any trial, umpteen up; offers.—175. The Grove, Denmark Hill, S.E.5.

The Grove, Denmark Hill, S.L.S.

M ATCHLESS 8hp. Rocing Model, recently overmarked and renovated, costine £19; too nat for
owner; Al for speed interchants; £75, or exchange rod
Diouglas 4h.p.—Sargent, Anchor and Hope, Charlton,
22

MATCHLESS New Spring-frame Model.—Orders booked for rotational delivery. Demonstration model on view. Replacements for Matchless models of all dates to etock.—Tassell, 1a, Bloomfield Rd., Plum-retod, 8 E.

L ATEST Model H Matchless, delivered to day, not ridden, complete, dynamo lighting, bood, sereen, spare wheel and type, all accessories, ready to drive hwar, only 50 miles from London; £240.—Apply, Bood, 653., (c) The Motor Cycle.

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NEW August, 1918.—3-speed countershaft Matchless-J.A.P. combination, screen, grid, 4 wheels inter-changeable, spare cover new, 5 lamps, Jones speed-emeter, hooter, tools, only done 3,000 miles; any trial, \$160.—25, Chariord Rd, Beckton Rd, Canning Town,

E.16. PARGAIN.—Late model 7-9h.p. M.A.G.-Matchless canchinuit combination. 3-speed countershaft wind screen, Lucas lamps, luggage and petrol carrier, privately owned, condition as new, handsome outfly 130 gns.—8a, George Lane, Lewisham, London. (8206

130 gns.—8a, George Lane, Lewisham, London. [8206]

M ATCHLESS Combination, 7-9h.p. mag., 1914-15.
S-speed countershift, enclosed silent chain drive, 2 nearly new tyres, screen, lamps, hon, spare valves and chain, in fine condition; expert examination invited; reason selling expecting delivery of car; 130 gns.—Rsyward, Grocer, Woodside, S. Norwood. [8555]

M ATCHLESS Model H., Inxurious, fully equipped be wheels and spare, rear driven speedoueter, side-or hood and screen, Cowey horn, mirror, Sterling legs, shields, and other accessories, done 800 miles, carefully shields, and other accessories, done 800 miles (arefully Treaton Park Av., Brighton.)

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MATCHLESS Combination,—Book your orders with Ross, 86, High Road, Lee, S.E., for 1920 spring frame 8h.p., Matchless combination. A model always on view at above address. Deliveries guaranteed strictly as per order received. Retail pirca as rullog at time of delivery. A large assertment of second-hand motor cycles of all makes always in stock. [5242]

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just overhauled.—1, Duke St., Richmood. [8780]

MATCHLESS Combination, 8h.p., 2 speeds, Cancelet sidecar, Lemington pillion seat for child, 3 Lacas lamps and generators, horn, Cower speedometer, mirror, wind screen, apron, new epare tyre, rainproof suit, all tyres excellent, back one new, carefully used; any tinl; owner bought car; price £95. Tel: LW6336. Amy evening.—28, Green Lane, New Eitham, S.E. [7835]

Metro.

19 19 Metro Tyler, T.T., mileage under 100, periect; £55.-2, South Park Rd., Wimbledon. [7930] 19 19 Metro-Tyler 21/2h.p., 2-speed, 2-stroke, very fast; £38.—Taplin, 159, Hornsey Rd., N. [8688 METRO-TYLER, 1917, fast and sporty, disc wheels, 234h.p.; £44.-26, Grosvenor Rd., Westellif-on-

19 Netro-Tyler, 2-stroke, single speed, lamp, Klaxon, nearly new machine, done 300 miles; £55.—Black, 132, Western Rd., Hove. [7721 METRO-TYLER.-Enquiries from Liverpool : district invited by J. Blake and Co., 110-1 Bold St., Britain's premier motor cycle saloon. [6]

Minerva.

TWIN Minerva and Sidecar, good order, Bosch: 28 gns.-2, Austin Waye, Uxbridge. [X0285]

MINERVA 25(h.p., B.B., good tyres, belt, wants magneto: £12.-!79, York Rd., Islington, 18669 don.

31h.p. Minerya, running order, Bosch mag., B. and B. carhuretter; £22.-Walsh, 17, Brookshaw St., Bury, Lancs. [7794

Monarch.

19 Monarch and Accessories, as new, mileage 200; 57 gus.—Morriss, 139, Finchley Rd., N.W.3. [7733 MONARCH 244h.p. Villiers 2-stroke, Alblon 2-speed gears, not done 100 miles; £65.—Roberts, Blen cathra Garage, Keswick.

Moto-Reve.

MOTO-REVE Twin, mag. tyres good, requires carburetter, seen at garage Nutfield, near Redhill. I minute station; £10.—Goodere, Reigate Dairy, Reigate Heath.

1912 22th, D. Moto-Reve, purchased first hand Feb-tapshed, fittled new Grade gear 1917, stored ever since, horn, kamp, tools, front cover wants replacing, spares, new belt, tube: touring pannier bag, valves, perfect me, chanical condition; £24; carriage paid to London.— demet, Tent Contractor, 14, Seaton Place, desgrey Jenne, Tent Control Channel Islands.

Motosacoche.

MOTOSACOCHE 21(h.p., mag, excellent condition, very fast; stamp reply; 223.—Marsh, Bridstow, T7668 Ross.

1 h.p. Motosacoche, 1914, just overhauled, re-bushed, 2 tools, etc.; £35.—Bate, 19, Henshaw St., Strettord, Manchester. [7788]

MOTOSACOCHE 354h.p. and C.B. sidecar, screen, hood, etc., 1914, but only used 10 months, perfect order; £85, Box 3,783, c/o The Motor Cycle. [8866] MOTOSACOCHE 31/4h.p. Twin, Bosch mag., Enfield 2-speed, F.E., head lamp, tools, new covers, ride away; £50.—Shepherd, Hillside, Frimley, Surrey. [8406]

A PRESS OPINION.

From "The Irish Cyclist and Motor Cyclist,"
March 17th, 1920.

"There are not many machines finished in Colour nowadays and the few that are come from new comers to the Motor Cycle World. There are exceptions of course.

The IVY is one, and a real smart machine it looks, too, in its khaki and black finish. All-the same I doubt whether its colour has anything to do with its popularity,

It is one of the finest two-strokes made, and if it were painted sunrise pink, it would sell, because its owners talk and spread the good news."

In the Colmore Cup Trial, IVY'S obtained a first and second class Certificate.

1920 MODELS.



Isle-of-Man Sporting Model, single-

speed, plain countershaft gear \$73 0 0
Isle-of-Man Sporting Model, with

Sturmey-Archer 2-speed gear, hand-controlled clutch, and kick-starter.....

Send us a P.C. for list, and we will advise you where you can obtain early delivery.

£78 0 0

S. A. NEWMAN, LTD., ASTON CROSS, BIRMINGHAM

THE

MOTOR CYCLES FOR SALE.

New Hudson. 10 13 New Hudson, with accessories, genuinely £50.—Kim's Garage, Leatherhead.

NEW HUDSON, 4h.p. J.A.P., clutch and ride away; £48.-106, Albany St., N.W. NEW HUDSON 21/h.p., 2-speed, 1914, Bosch-just overhouled; £48.—Tilley's, Dorchester. NEW HUDSON 21/h.p., 1917, 2-speed, splendid dition; £50, offers.—87, Truro Rd., Wood 6

19 20 New Hudson, 21/h.p., 2-speed, 2-stroke, li horn, etc.; £70.—Colgrove, Winslow, Buck

19¹⁶ New Hudson, 2-stroke, 2-speed, good cond quick sale; \$42,-48, Diusmore Rd., Ba

19 17 New Hudson 21/1h.p., in new condition the out, lawps, tools; bargain, £45.—Ford, Scaear Wallingford.

19²⁰ New Hudson 2¹/₄h.p. 2-stroke, 2-speed, 1 horu, excellent condition; £68/10.—Burges Selbourne Rd., Luton.

23h.p. 1916 New Hudson, J.A.P., Bosch, 3-delutch, lamps, Dualop tyres; £45.—Thou Manor, Hockwold, Brandon.

NEW HUDSON Lightweight, countershaft, condition, lamps; offers.—1, York Terrace Colie Rd., Forest Hill, S.E.

19 14 6h.p. Twin New Hudson with same sided speed clutch, Rick start, little used, condition fect.—Baldwin, Durgates, Wadhurst.

NEW HUDSON 1915 6b.p. Combination, co. 3-speed, clutch, kick start, hood, screen;
-Box 3,695, c/o The Motor Cycle. NEW HUDSON, 1915, 2-stroke, 2-speed, per dition; 243; apply Sunday morning.— Roseleigh, near Wake Arms, Epping.

NEW HUDSON 31/h.p., 3-speed, F.E., Kloxc accessories, new tyre and belt, splendid con £65; after 6.—9, Hamilton Gardens, St. John's

NEW HUDSON 6h.p. Combination, Bosch, 1 B., lamps, horn, tools, hood, and screen 1914; £95.—Hebblethwaite, 121, Midland Rd. ford.

NEW HUDSON 4h.p. 1914 Combination, coarsidecar, new 2-speed gear, lamps, horn tyres, starter, good order, recently overhauled or offers.—10, South St., Hammersmith, W.6.

1948 New Hudson Coachbuilt Combination, 5 and clutch, new set of lamps, nearly new nice turnout, mechanically perfect; seen by a ment; £68, lowest.—Martin, 9, Lindore Rd., C Junction.

BRISTOL.—1919 4½h.p. 3-speed countershal Hudson coachbuilt combination, B, and B, son-Bennett, all Dunlops, excellent condition, equipped, not done 500 miles; £150, or offe Cromer Rd, Eastville, Bristol.

New Imperial.

CROW Bros., High St., Guildford, h have cont 19 20 New Imperial and Sidecar, lamps and sories, new; £160.—Evans, 37, Talbot Rd.,

ham

19¹⁶ New Imperial, 2-speed, lamps, Dunlon I ride away; £48.—Miller 151, Kingston Teddington.

NEW IMPERIAL-J.A.P. 2%h.p., 2-speed constant, perfect; £52.-J. Yearsley, High St. ford, Cheshire.

19 19 25th p. New Imperial, 2-speed, clutch, ktd electric lighting; trial; £75,-161, Fox Palmers Green, N.

NEW IMPERIAL 1920 Model 2%h.p., 2-spr good as new, complete with accessories; Tilleys, Dorchester. 23h.p. New Imperial, 1917-18, 2-speed, just 4 hauled, rebushed, etc., condition perfect; Wratten, Lindfield, Sussex.

BRAND New 1920 Imperial-Jap 25/4h.p., clutch

Brand New 1920 Impension 254,h.b., onter 3,619, clo The Motor Cycle. NEW IMPERIALJA.P., 1915, 254,h.p., 2 Countersbaft, fully equipped, smart, p 44710—56, Ormeley Rd., Balham.

19 New Imperial, 23/h.p., a speeds, B. pilot jet, 2 lamps, mechanical hora, almose65; after 7 or week-end.—137, Marsalo Rd., Le

19 20 23 t.p. New Imperial, 2-speed, clew kick starter, run 500 miles; £75; 1917 with accessories, £55.—Arthur G. Daw, 114, E Hill.

NEW IMPERIAL-J.A.P., 1918-1919, 8b.p., gomery coachbuilt sidecar, 5-speed, all drive, splendid condition; price £150.—Lt. I Hyde St., Winchester.

19 20 (February) New Imperial-Jap, 6h.p. special large sidecar, bulbous back, accum electric lighting, 3 lamps, horn, condition unsernaileage 400, owner returning East Africa; 162 Spencer, 80, Newport, Barnstaple, Devon.

віб All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the Issue.

MOTOR CYCLES FOR SALE.

Rover.

OVER 3 h.p., clutch model; £55,—Cambridge Automobile Co., Ltd., Hobson St., Cabridge.

OVER-J.A.P. 5-5h.p. combantion; sacrifice 1100, or near.—113, Mayleid Rd., Sanderstend, Sariey, h.p. Rover, single speed, nearest carlos. [7892] (7802) (h.p. Rover, single speed, perfect order, new belt, i good tyres, hern; £40.—Witton, Antlers, Henc-, Nortolk. [7906]

120 Rover, 315h.p., countershaft, with Henderson light sideear; £165.-E. T. Smith, Heath Farm, suham, Norfolk. [7938

19 (latel 315h.p. Rover, Mills-Fulford sidecal, mileage 360, unscratched; £140.-30, Gerard Barnes, London. [8253

20 362h.p. Rover, T.T., Phillipsen pulley, lamp hore, tools, etc.; £114.-Wright's Garage on Walden. Tel. 16. 18832

YER, 1914, 3 speeds, clutch, and free engine, condition A1, ride away; 59 gus. — Timins, th Rectory, Ashlord, Kent. [7731 18 Rover Combination, 3½h.p., delivered September last, Lucas lamps, as new, unscratched: 7.-37, Regent St., Rugby. [X0456]

OVER 314h.p., 1914, 3-speed, coachbuilt sidecar, spares, excellent condition; best offer over £80 es.—64, Buuyan Rd., Hitchin. [8372

tAND New 31/2h.p. 3-speed Countershaft Rover: first offer £20 premium secures; just delivered. x 3,626, c/o The Motor Cycle. [7710

No. 3/2h.p., C.B. sidecar, 3-speed hub, clutch, lamps, horn, mechanically perfect; £75; trial after 7a, Lytchett Terrace, Richmond, Surrey. [8177]

h.p. Rover Combination, £110; solo, £85; 3-speeds, countershalt, all accessories, model 1918, to owner.—Box 3,786, c/o The Motor Cycle, [8924 WER 3½h.p., 1914, 3-speed clutch, lamps and speedometer, with new Henderson lightweight side-£75 nett.—Rover, 14, Market Sq., Aylesbury. [7608

14 Rover 31th.p., 3-speed, clutch, speedometer, tools, perfect condition throughout; 60 gns.; see 7 p.m.—E.B., 15, Trinity Rise, Tulse Hill, S.W.2. [7756]

7 p.m.—E.B., 13, 11m., [775b]
VER Combination, 1914-15, 3-speed, clutch, lamps, aprox, condition and engine periect, stored 5; after 5; £80.—110, Saugley Rd., Catrord, S.L. [8518]

VER, 5-6h.p., khaki model, bought new from makers Oct., 1919, P. and H. head, Klaxoo, £115.—Piegrome, 247, Camden Rd., N.7. 18644
16 Rover 3¹/₂h.p., 3-speed, clutch, new belt, new lighting set, horn, accessories, nice condition: £70. us, 57, Grosvenor St., Crosby, Scunthorpe, Lines. [7681]

VER 3½h.p., 3-speed hub, clutch, kick starter, condition very good, thorough working order: £60. rton, 49, Laurence, Millbank Estate, Westminster.

19 Rover T.T. 35/h.p., speedometer, D.A. lighting, Klaxon, tools, spares, new condition; £80; after w fime week-end.—68, Waller Rd., New Cross, 4. Rover Twin Combination, value 200 gns.; ex-change countershaft Triumph, T.T. Triumph, Norton, or Douglas.—Taylor, Habrough, near [7918]

19 Rover Twin with Rover sidecar, lamps and wind screen, unscratched; 200 gns., or nearest xebaoge.—Taylor, Station Hotel, Habrough, near by.

14 31/2b.p. Rover, hub gear and clutch, tyres as new, trame re-enamelled, very smart and fast; any after 6 p.m.; £60.—Rock, 10, Oakwood Av., mham. [7631

30 315h.p. Rover Combination, 3-speed gear and kick starter, clutch, etc.; list price £172/10, plus /9 carriage; first cheque secures.—Taylor's Gar-Fulmouth.

18 31/h.p. Rover Combination, £110; solo, £85; 3-speed countershalt, all accessories, splendid ion; private owner.—Apply, Shepherd, 79, High leckenham.

/ER Combination, late 1914, 3 speeds, kick start, electric light, coachbuilt sidecar, smart turnout, ra heavy Dunlops, any trial, alter 6; 95 gns.—8, Kilhurn Park Rd., WW.6.

/ER Combination, carefully used, lamps, Stewart thorn, tools, etc., overhauled for Easter, mechani-ndition, tyres, and appearance excellent; £115. antrill, 172, Cross Rd., Coventry. [X0413]

FER 31/4h.p., 1915, T.T., Phillipson, lamps, hore, pares, fast, stored during war, £60; consider exe twin motor cycle; also Smith speedometer; £2, and, 20, Westminster Rd., Coventry. [X0391]

| TER Combination, 3½b,p., countershaft, 3-speed, haia, belt, excellent condition and order, nearly new, quite a perfect outfit, 1915; £100.

Lordship Lane, S.E. Phone: 365 Sydenlam.

FROMEND LANE, S.E. PRIORE: Sob Sychemath, PER 3/4h, P. Combination, C.B., engine No. 2554, sturmer-Archer 3-speed and clutch, Binks carbon-Bosch mag, lamps, new left, good tries and tool kit; £65.—Jackson, 74, Hoxton St., Brad-tool kit; £65.—Jack

The best Hook

Fastener"

General Military Hospital.

Colchester,

14/4/20.

Dear Sir

I used the Forward hook fasteners throughout the London-Land's End Trial, and found them in every way reliable. They gave me no trouble at all, and assisted me to no small extent in getting a gold medal.

It certainly is the best hook fastener I have used.

Yours truly,

The FORWARD Sparking Plug Co., Summer Row. BIRMINGHAM.



CHATHAM AND DISTRICT 1934 HIGH ST., CHATHAM L.Hickman Glass-Proprieter

Telegrams: "Motorcycle, Chatham." We are Kent Distributers for the

Martinsyde-Newman

6 h.p. "V" Twin Combination

Demonstration model now on view. Your inspection is invited.

Fixed Price for 1920 season, £170

Hood, screen, and lightin, extra.

MOTOR CYCLES FOR SALE.

Rover.

32 h.p. Rover Combination, 2-speed, clutch, K.S., etc., maker Combination, 2-speed, clutch, K.S., etc., makers' colours, 80 m.lug., a good, sound, ustinble outfilt; all on, £80, no offer,—60, Apsley Rd., South Norwood.

1914 5tsh.p. 3-speed Rover Coachbrilt Combination, Binks T.T. and touring bars, overhaulted 225 (receipts shown), speedometer, took, chamel perfect, fast and good climber, any trial; £75,—Griffiths, thus zen Office, Glourester.

zen Office, Gloucester. [8548]
3 h.p. 1914 T.T. Rover, B.B. carburetter, Bosch borg, good covers, these, long copper open exhaust, in fine condition, any rea-onable trial; £65, of best offer.—Whurr, Yelden, Beds.

ROVER, 1918-19, 354h.p., 3-speed countershaft, bright of the condition of the con

Royal Ruby.

ROYAL RUBY 8b.p., brand new, 1920 model; £155. [8188

ROYAL RUBY, 4h.p. J.A.P., dutch model, just been overhauled, re-enamelled; £50.-22, Brent St., Hendon.

1920 Royal Ruby Combination, 8h.p., delivery guaranteed during May, £10 premium paid; what offers?—Lieut. Chandler, R.A.F., Flowerdown, winchester.

ROYAL RUBY 8h.p. Combination, 1918-17, good running order, complete spare tyre, all spares, lamps, houn, etc., £145, or offers.—Cuck, Chilcombe, Park Rd., Hale, Cheshire.

Ch.p. Royal Ruby Combination, bought use Feb., Ph.p. Royal Ruby Combination, bought use Feb., 1920, electric lighting, Easting, mirror, unti-shields, wide hars, copper exhaust, petrol can, fully insured, numerous spares; £200.—Searle, 21, Linton Rd., Oxford.

19 19 8h.p. Royal Ruby, W.D., Swau de Luxe sidecut, P. and H. Iamp, horn, tools, etc., has specially tuned engine, Bosch mage, and one of instet on road, in excellent condition; £160, or best offer.—15, Hölyell St., Oxford.

Rudge

CROW Bros., High St., Guildford, Rudge agents, supply at list prices. [X7948

R UDGES.—Early delivery of all models.—Bedlord Garage, Walsall. 'Phone: 270.

I.O.M. Rudge Multi, 1916, reasonable offer; mnst sell.—Rowallan Cottage, Weybridge. [8443]

RUDGE Multi 1916 31/2h.p., excellent condition: £63.—39, Balham New Rd., Balham. [7651

R UDGE Multi C.B. Combination: £75.—Ganaged, Goose Yard, St. Joho St., Abgel, E.C. [889]
R UDGE Multi 1919 Coach Combination, all accessions: offers.—9, Victoria Rd., Oswestry. [8219]

19 20 5.6h.p. Rudge Multi, delivered April; £125, or near.—Carder 13, Missenden Rd., Chesham. [7634 BROOKLANDS Rudge, very fast, suit sporty boy, T.T. bars; £50.-51, Downs Rd., Clapton. [7643 WAUCHOPE'S, 9, Shoe Lane, Loudon, E.C.4.— 5-6h.p. Rudge Multi and sidecar, £99/10.

19 17 Rudge Multi Combination, 31 ch.p., fast, smart; bargain, £88.—14, Beauclerc Rd., Hammersmith, (8060

W.6.

I.O.M. Rudge, 1920, run 200 miles, accessories; 110 gns., no offers.—55, Piccadilly, W.1. Cerrard (8896) 7711.

19 14 316h.p. Rudge, clutch, lamps, new tyres, belt, perfect running order; £35.-424. High Rd. Leyton.

1911 T.T. Rudge 31 h.p., new tyres, horn, fost matchine: £38/10,—Thomas, Amman View, Penylank, Ammanford. [X0290]

RUGGE Multi Combination, perfect condition, ride away: £85, or offer.—96, London Rd., Kingston-on-Thames. RUDGE Multi, very good running order, horn, and lamps: £58.—Wood, 55, Bebtley St., Lockwood, Huddersfield.

Ausgersneid.

21 h.p. Rudge Multi, 1919, total mileage undfa60.

22 delivered December horn; 195. Burnstaple Morer Co., Burnstaple Morer Co., Burnstaple Morer Co., Edwing S., Canbridge Automobile Co., Ltd., Hope, St., Cambridge Automobile Co., Ltd., Hope, St., Cambridge (1941)

18415

19 (Nor) I.O.M. Rudge Multi; £105; excellent order; tried on appointment.—David Guthrie, Queen's College, Oxford.

19 20 (March) 5-5h.p. Rudge Multi Combination, mineage 30, as new; £150, no offers.—Laurence, 19, Ashleigh Rd., Leicester.

RUDGE Multi 31-h.p., 1916, black discs, long ex-banst, lamps, horn, and pump, fast, sporty: ±80. -Rudge, 51, High St., Aylesbury.

RUDGE 1.0.M. 1920, Lucas lamps, hcfn, Cox speedometer, 500 miles; £120, or offer.—Johns 145, Sutherland Av., Maida Vale.

MOTOR CYCLES FOR SALE. Rudge.

RUDGE Multi, 3½h.p., T.T., clutch, K.S., discs, lamps, accessories, fast solo bus; £65.—538, Kensington Hill, Brislington, Bristol. [8594]

RUDGE Multi, two 5-6h.p. combinations, excellent condition; £90 and £80.—Longman Bros., 17, Bond St., Ealing, W.5. Tel.: 689. [8812]

3 1h.p. Rndge, 1914, free engine, pedal start, not nsed 3 years, officer deceased; £55, no offers.—103, Warwick St., Victoria Station. [8312]

I.O.M. Rudge Multi, brand new, in stock, special carburetter and equipment.—Longman Bros., 17, Bond St., Ealing, W.5. Tel.: 689. [8811

Bond St., Ealing, w.o.

R UDGE Multi 3½h.p., Oct., 1919, done 600 miles excellent condition, genuine; 295, or nearest ofter.—Wolkey, Duchurch, near Rugby.

10 20 Rugb gen Multi, 3½h.p., 1.O.M., large head lamp and horn, unscratched, any examination; £116.

Beltimore, Bramshott Chase, Hindhead. 18495

UDGE 3¼b.p., hond_clutch, lamps, horn, tyres,

RUDGE 3½b.p., hand clutch, lamps, horn, tyres, tubes nearly new, Dunlops (heavy); ride away; £40.—Rosetta, Rosedale Rd., Grays, Essex. [8062]

19²⁰ Rudge Twin, sporting sidecar, Lucas lamps, horn, Cowey speedometer, all accessories, perfect; £170.—Glenhaven, Cargate Hill, Aldershot. [8433] 31hp, Rudge C.A.V., hand clutch, 31 zecessories. 22 tyres userly new, long exhants, fast; 262; estl 8unday.—47, Ellesmere Rd., Chiswick, London. [8249 19 [16] Rudge Multi, 3½hp, Henderson coach-built sidecar, disc, lamps, brand new condition; 120.—29, Montford Place, Kennigton, S.E.11, [8599

1.0.M. Rudge Multi, 1917, engine 13416, lamps, horn, speedometer, excellent condition and fast; £80.—Walker, Elderberry Hall, Fishburo, Ferryhill, Durham. 1920 3½h.p. T.T. Rudge Multi, Lucas lamps and horn, Cowey speedometer, run 50 miles; offers.

–J. Hebden and Son, 149, St. James St., Burnley.
[8810]

19 20 I.O.M. Rudge Multi, engine No. 17084, lamps, horn, speedometer, tools, mileage 1,500, excelent condition; £105.-2, Queen's Drive, Thames Ditton. 19 (Nov.) 3½h.p. Rudge Multi, I.O.M., mileage 600, tyres unpunctured, Miller lamps, Klaxon, complete tool kit; £100.—R. H. Horsfield, St. Julians, Et. Albans.

55. Algans. (1752)
7-91.p. 1920 Rudge Multwin Combination, absolutely
4 unscratched, mileage 470, mostly solo, Bonniksen, Klaxon, no lamps; offers,—Blencathra, Maidstone Rd., Chatham. [8198]

Pl.hp. 1914 Rudge Multi, stored 4 years, clutch, 2 lamp, etc., belt new, tyres almost new; seen at Weymouth; £55, or nearest offer.—Box 3,762, o/o 2he Motor Cycle. [8757]

19 19 Radge Multi, September, and Rudge coaching built sidecar, electric lighting and Klaxon, excellent condition; £125; apply after 6.—42, Freegrove Rd., N.7.

R UDGE 34\(\text{h}\), p. h.b.c. clutch, new tyres, 2 lamps, 2 generators, speedometer, tools, spares, decent appearance, excellent condition; \(\pmu 550.-\text{Horsman}\), 16\(\text{f}\) Palex Rd., Bradford. (7902)

R UDGE Multi 3½h.p., 1916, Miller and T.W.R. lamps, recently overhauled, enamelled, tyres, belt nearly new; after 6 p.m.; £70.—Hawgood, 2, Holly Paik, Finchley, N.3.

19 20 Rudge Multi Twin, solo, done 200 miles, very fast, easy start and cootrol, perfect condition, owner bought cor; £160, or nearest offer.—Reply, Ravenscroft, Brathay, Oxton, Cheshire. [8654]

SPECIAL Competition Engined 1.0.M. Rudge Multi. Sep. (1919), guaranteed perfect, suit sportsman for fast road work and competition; £105, no effers-Bennett, 38, Brunswick Sq., Hove, Sussex. [X0284]

Bennett, 38, Brunswick Sq., 110ve, Sussex.

21 h.p. Rudge Mu li Rodaster, late 1919, smill milelier price; private owner selling; best offer—View at
Westherite's Motor Works, 295, High St., Lewisham,
F.O.C.H. Dave a Rudge Multi, fully equipped, exclient order.—Fair Offer Car House, 5, Heath
St., Hampstead (nr. Hampstead Tube Station).
Fhone: Hampstead 3752. Hours 9-7, including
Saturdays.

1919 3½b.p. Rudge Multi and Rudge conchbuilt sidecur, practically as new, complete with Lucas lamps, horn, hagage carrier, etc.; the complete combination, £110; owner bought car. Kingsmoor, Cleeve Prior, near Evesham.

Flot. have a 1919 Rudge Multi and Coach Side-car, fully equipped, excellent order.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station), "Phone: Hampstead 3752. Hours 97, including Saturdays."

1913 Radge Multi, 31th p., Eisemano, Senspray, clutch, Stewart epsedometer, Lucas lamps, mirrot, runn, knee gripe, spare belt, excellent tyres, libroughly overhaned, re-enamelled 1920 colours, mirrial; £65.—Peerless, Tupestine, Old Windsot, Herks. Senspray,

trial; £65.—Feeness, supermon. Comparison of the Comparison of the

AUTOCAR C. LT

We have large stock of 7-9 Powerplus

Machines of recent date.



The whole of these have been thoroughly overhauled and are ready to ride away.

Price £125

Write, phone, or call.

216, Gt. Portland St. LONDON, W.

Phone No.: Mayfair, 4535.

MOTOR CYCLES FOR SALE.

Rudge.

19 20 Rudge Multi, T.T., 1.0.M., brand new, m 50, accumulator or battery lighting, Hunt light head lamp and battery case, Klaxco, Cowey, grips, cylinder barrel turned polished, spare belt, nasured; £125, call after 6 or phone Victoria 5t Hauner 92, Ritherton Zh., Balham, SVA.

Homer 92, Ritherton Rd., Balhan, S.W.17.

RUIGE Multi, milenge 700, plating and ehigh compression piston, and rading came, Coway

rests, undershield, spore touring piston and comhunus valve complete, full fool kit; £212.—\$tock,

Munster Rd., Fulham. Seea 7.30-5.30 weekdays, v

pointment.

Saltley.

JAMEDIATE delivery of Sattley-Villiers 2-s single-speed 256, 2-speed 266.—Londou c sionnaires, Lancaster Motor Co., West Norwood few agencies available.

Scale.

1920 New Scale, the super 2-stroke, 31/sh.p. Pu engine, 2-speed, clutch, kick starter; delivers stock at makers' list price.—Clapham (Motors Stockwell St., Greenwich, S.E.10.

SCOTTS.-Place your order now with the B. Garage, Walsall. 'Phone: 270.

WAUCHOPE'S, 9, Shoe Lane, London, F 3%h.p. Scott and sidecar, 1913; £69/10. 19²⁰ Scott and Sidecar, not used 100 miles; or lest offer.—Nicholas, Garage, Yerbest

19 20 Scott, T.T. model, new, not ridden 100 £126.—Rendella, Oxford Rd., Birkdale,

SCOTT, twin-cyl., water-cooled, 2-stroke, 2 and free engine; £50.—13, Richmond Ipswich.

SCOTT, PT, 1914, in splendid condition, all acce poluding spare tyre and tube; £55.—Cook rold, Beds.

SCOTT, 1915, new Binks, new chains, perfect tion; cheap; private owner; trial.—87, sea Rise, S.W.11.

19 (guaracteed) Scott, lamps, horn, etc., in order, very small mileage; £105.—Layton High St., Oxford.

SCOTT and Sidecar, complete with accessori tyres new: price £75, or near offer.—Li Downing St., Cambridge.

SCOTT Combination, 1920, absolutely new con 10 go. electric lighting set, Lucas horn, 1 £170.—Styles, Bloxwich, Staffs.

SCOTT 1913 T.T., 2-speed, smart, 58 gns.; Sco car, £12; exchange lightweight and cash. 79, Fernhead Rd., Paddington. SCOTT 3%h.p., converted, T.T., very low, disc exhaust, eugine perfect: £80.—At 44, Rd., Wylde Green, Birmingham.

19 14 Scott C.B. Combination, wind screen, new tyres, perfect condition; £95.-1 Hyacinth Terrace, Wellington, Somerset.

SCOTT C.B. Combination, believed 1915, fitted semi T.T. hars, good running order; & separate.—Green, Swiss Cottage, Millord, Surrey SCOTT, Dec., 1919, engine 3814, twin lubr.
Klaxon, spare chain and links, 2 back sp.
run 1,200 miles; £115, no offers.—Mallet, Balli lord.

SCOTT (October, 1919), sports model, Watford ometer, Klaxon, P. and H. lamps, milesge owner huying, rew machine; new rear tyre; t £123, or offers.—Muntz, 47, Jesus Lane, Csn

19 15 Scott Combination, the neatest, nuttle unration everywhere, torpedo sidecar, all lamistyres, everything in tip-top condition, and bike inver; photo: 295.—Prank Dohie, Littleton, Oh

1920 Scott Combination, Swan-de luxe manye, P. and H. head lamp set, Klason Watford trip laminous, speedometer, electric sidear and tail lamps, hood, wind screen, acurtains, done 1,000 miles, heat offer over £11 pointment.—P., 156, Croydon Rd., Amerley, S.

SCOTT Combination, 1914, good condition, maining order, 3 electric lamps, new scommermer, broad screen, Brooks carrier bag, tyres perfect, over spare tubes and quantity other spare; trial pointment; £98; East Suifolk—Box 5,759, c Motor Cytic.

Singer.

SINGER Countershaft Combination, all nece 270.-C.S., 14, Swaton Rd., Bow, E.3. SINGER 315h.p., good condition, running order tyres; £25; stamp.—Marsh, Bridstow, Ross 19 13 2½h.p. Singer, good condition, new I makers' colours; best offer over £33.-J Twywell, Thrapston, Northants.

MOTOR CYCLES FOR SALE.

Trlumph.

11 Triumph, new piston and cylinder, Binks, W.D. bars, tyres almost new, lamps and tools, perfect tion; nearest £40.-W.B., 23, York Rd., Maiden-[8374] AUCHOPE'S, 9, Shea Lame, London, E.C.4.—4h.p. Triumph and sideen, 1918, offers, also p. Triumph, 1912, tree engine, 2-speed N.S.U. gen,

17 4h.p. Triumph Combination, countershaft, in exceptionally good condition, guaranteed medly nerfect, all accessories; £112.—Langton's, ricklewood Broadway, N.W.2. 'Phone: Hampston's 1922.

IUMP1-GLORIA Tembination, 1917-18, countri-shaft, condition perfect throughout, electric light-et, Lucus, sparces; £138.—Box 643, c/o The More X0505

IUMPH, 31th.p., single-gear, 1912, in perfect running order, lamps, etc., ride away; £42.— y, after 7, Saturday after 2, 51, Ravenscar Rd., ton. [7620]

on.

1 Triumph, excellent running order, smart,
powerful, long exhaust, good tyres, worn belt,
ride away; £58.—75, St. Dunstan's Crescent,
[XO481]

b. Countershaft Triumph and new sidecor, excellent condition, horn, lamps, Easting wind screen, £115, or very near offer.—785, High Rd., Levton-18306

**YOR Triumph, 2-stucke, 2-speed, lamps, tools, accessories, original plating, enamelling as new, t condition; nearest £60.—Capt. Smith, R.F.O., it, Wilts.

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(UMPH Combination, 1917-18, new sidecar, re-commelled, plated, new wheels, tyres, belt, as new; riul; £115.—Garaged at 126, Lordship Lone, Eost ob, S.E. [8351]

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UMPH 1919 4h.p., single speed, T.T. model, new left, tyres, horn, tools, condition as new, very 100 gns.: near Dorchester.—Box 3,706, c/o The Cycle. (D) [8139 [8139

TMPH, 1914, 3-speed, clutch, coachbuilt side-par, Easting wind screen, Lucas lamps, Dunlops, elds, stored during war; £90.—Godwin, Huccle-Gloucester.

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UMPH.—1919 4h.p. Triumph, countershaft gear, n perfect condition, with brand new sporting ll sidecar, electric lighting, horn; £149.—Rhosha Co. (below).

UMPH.—Two W.D.B. models in stock, renovated is new, by makers, holding guarantee; £95 each, sha Motor Co., Mawneys Rd., Romford. [8785

UMPH 314h.p., single, engine and plating per-ect, set P. and H. tools, tyres, nearly new, also eyele; bargain, £50 lot; no dealers.—Halfinide, y Rd., Brentwood. JMPH 3½n.p., single gear, T.T. bars, Bosch, good yres, recently overhauled, and in good going order; r near offer; seen by appointment.—W. F. Chester-5, Redelifie Gardens, Hrord.

9 4h.p. Countershaft Triumph and Sidecar, complete with lamps, wind screen, and tools, excel-budition throughout; price £150.—Niell's Garage, ombe Grove, East Croydon. [8494]

UMPH 3½h.p., 1913, Sturmey 3-speed, heavy tyres, new, hamps, horn, pump, etc., carefully nake splendid sidear machine: £58/10.—Spencer, Giles' Terrace, Northampton. [8470

on Triumph Junior 2-stroke, perlect machine, scarcely used; owner bought car; lamps, horn, est offer over £70.-M., 59, Hollaud Rd., Ken, W.14. 'Phone: Park 1945.

15.4 Triumph 31/sh.p., 3-speed, clutch, C.B. pattern wicker sidecar, door, apron, tyres good (two 00 miles). 2 lamps, horn, excellent condition; clarper, Otford, near Sevenoals. [2262

TMPH, 3-speed, 1919 model, purchased 1920, bsolutely indistinguishable from new, almost tehed and unregistered; highest offer.—Lord, field, Prestwich, Manchester . [X0414

MPH, 3½h.p., single, Bosch, new belt, tyres ood, just enamelled, appearance as new, good 8 order, trial; bargain, £35, or offer.—M.C., tggs Rd., Congleton, Cheshire. [8124

tCH Triumph, believed 1912, rebushed, adjust-le tappits, 2 lamps, horn, new lin, belt and perfect condition: 40; exchange udship Lace, E. Dulwich, S.E. [7921

MPH 4h.p. and Gloria sidecar, new October, 319, mileage 1,000, gears, speedometer, horn, lamps, knee grips, all in perfect condition; or near offer.—Dowse, Tidworth. [X0388]

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415, Crawford Passage, Ray St., Fattinguou C., 2019.

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RUS, all 1920 models.—Agents for Somers Scampton, Regent St., Clifton, Bristol. [75] VERUS, the 2%hp. 2-stroke that pulls like a 4h.p., Immediate delivery from stock, 2-speed, clutch, kick start; £80.—Cleare and Lowe, 125, High St., Woolwich.

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VINDEC 1915 2-speed 2-stroke, lamps, etc.; £48, bargain.—14a, Balham Hill, Balham. [8232 VINDEO 5h.p., 2-speed, and coach sidecar (uew body); £65.—Halifax Motor Exchange, Union St. South, Halifax. [8084]

V.S. Twin, 4-5h.p., Bosch, Seaspray, new tyre, wants overhauling, £20; 1911 Douglas, 2-speed, first cash, £28.—Edgell, Springhill, Coleford, Somerset. [8487

VINDEC 5-7h.p. Combination, clatch, Bosch mag., B. and B. earburetter, excellent running order; £44.—Wm. Broadhead, 85, Wooldale, Thougsbridge, eaer Huddersfield. [8555

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VIRGO 4½h.p., 3-speed countershaft, clufch, new bulbous back sidecar, lamps, and accessories, com-plete; £85.-6, Pendrell Rd., Pepys Rd., New Cross.

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Wit+All. 2-stroke 2-speed Models in stock; immediate delivery.—Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10. [8915

Wolf.

W.OLF 2-stroke, single speed, in good running order; E36.—King, Egrove Frim, Oxford. [XO474]
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ZENITH GRADUA Gear Motor Cycle, 1913, sidecar complete; £80.—Nicholas, Garage, beston.

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ZENITH 6h.p. and Sidecar, just overhauler makers, perfect condition; £110.—Ellis, High Beaconsfields, Bucks.

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ZENITH, 8h.p., Nov., 1917, all on, just overhat wants seeing; £155, Mortuary Keeper, Ma St., Drury Lane, W.C.

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ZENITH, 1916, 5-6h.p., countershaft and starter, disc wheels, Canoelet sidecar, 5 larges and Landons, 100, Gt. Portland St., London. 19 18 Zenith 5-6h.p. Twin Combination, counters clutch, kick start, speedometer, lamps, hwind screen; £125.-W., Newlands, Headley, Haut

4 h.p. 1915 Zenith-Gradua Combination, wind se speedometer, lamps, horn, perfect condition; trial; £80, or nearest.-52, Huxley Rd., Edmonton,

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ZNNITH-GRADUA, about 1913-14, 359h.p. T.T., Inc. 245.—Garaged, 34, Forest Hill Rd., Honor Oak, 13 bus.

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[7842]

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Harley-Davidsons.—All models in stock, list price.—Cambridge Automobile Engineering Co., Cambridge.

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Sidecar Chasses, with wheel	£7 12 6
Sidecal Oliossis, with wheel	

\mathbf{IF} **SAXONS** Were Alive.

If Saxon Spring Forks were alive-if they could speak-they would tell you that the present condition of the roads was their businessnot yours.

Decidedly pre-eminent in their shock absorbing qualities, they reduce to an absolute minimum all vibration and rough road shocks.

Get friendly with the Saxon, and ride rough roads in comfort. Sand postcard to-day for full particulars,

S. R. RIDGWAY, Digbeth, BIRMINGHAM.

RUNABOUTS AND CYCLE CARS.

A.C. Sociable, in new condition, with lamps spares; cheap.—Edwardes, 20, Blackfriars S.E.1.

MORGAN, sporting, speedometer, ho new tyre, chains; £120.—Dentham, hood, sere

19 19 8h.p. Carden Cycle Car, 2-seater, in new dition, hardly used; sperifice £160.—How Devizes. Sh.p. 2-seater Car, 3-speed and reverse, different shaft drive, mag.; £65.—122, Bromyard I

MORGAN, 1919, w.c., hood, screen, electric lam repainted; £245.—Barker's Motors, 194, Ball-High Rd., S.W. [8]

MORGAN de Luxe, 1916, M.A.G., electric los Binks, Klaxon, discs, new tyre, spares.—Pos Avenue, Wisbech.

WAUCHOPE'S, 9, Shoe Lane, London, E.C. 8h.p. Duo car, £165; also 5h.p. Ca monocar, 100 gus.

MORGAN de Luxe, 4-seater, J.A.P., new Au 1919; best offer for immediate sale.—Cordon, bury Mortimer, Salop.

MORGAN Runabont (water-cooled), 1917, in first-cooldition, complete with lamps and accessor £180.—Tillers, Dorchester. [7]

19²⁰ G.N. 2-seater, spare wheel, dynamo linew this week; offers.—Seen, 626, Lea Rd. (opposite Baker's Arms). REX G. MUNDY can give-early delivery of monocars at list price; economy, speed, cleanliness.—1, Duke St., Richmond.

19 20 Grand Prix Morgan, M.A.G., hood, screen, lamps, etc., undriven: best offer accepted; don.—Box 3,627, c/o The Motor Cycle.

MERRALL-BROWN New 5-wheeler, 10h.p., Coventry Simplex: £375; in stock.—Halifax Exchange, Union St. Sonth. Halifax.

BLERIOT Whippet Light Cor: price £280, i sive; delivery within fortnight; demonstration in stock.—Lloyd and Son, 29, Station St., Lewes. [MORGAN, 1920, Grand Prix, 10b.p. Mag, w cooled, fitted hood, screen, lamps, indisting able from new, done 150 miles; highest offer sec -Below.

MORGAN, 1915, in grey, extravagantly fitted, G: MPrix model, with 3-10h.p. J.A.P. engine, wheels, gnaranteed condition, very smart car; 12182.—Below.

MORGAN, 1916, late, in first-class condition, wheels, electric lighting, 8-10h,p. J.A.P. en water-cooled, with all accessories, guaranteed or price £185.—Sproston, Ltd., 198, Gt. Portland, W.I.

A.C. Sociable, late model, new tyres, hood, sor lamps, generator, engine overhauled, fine on drive away; bargain.—Toyer, 166, Dunstable Luton.

PREMIER 3-wheel Runahout, water-cooled en hood wind screen, lamps, accessories, good of tion throughout; bargain, £68.—Garage, 97a, kii Lane, W.10.

CARDEN Monocar, just completely overhauled repainted inside and out, very comfortable speedy, and climbs like -; £87.-257, Cavendish Balham, S.W.12.

A.C. Sociable, hood, lamps, etc., in splendid of tion; 270; Bleriot Whippet cycle car, immed delivery: £280.—Cambridge Automobile Co., J Hobson St., Cambridge.

Hobson St., Cambridge.

1920 G.P. Morgan, electric side, tail, D.A guare chains, etc., discs, completely equader 500 miles: £270: 1.0.M. Rudge, Norton Beard, 32, Magdala Rd., Nottingham.

A.V. Monocar, for speed and comfort.—Order from J. Blake and Co., Liverpool and chester; authorised dealers for Lancashire (e) Fylde), Cheshire, and Islo of Man. M ORCAN, 1920, handsome sporting model, complete hood, screen, kmps, horn; and wheels, only driven a few miles; £250, or near apply after 6 p.m. -505, High St. North, East H

A.C. Sociable, late model, waterlight Bosch, wheel brakes, sweet running engine, front practically as new; 249/10.—Garage, 5, Eglon M Berkley Rd., Primrose Hill (near Chalk Farm T. N.W.1.

E ARL, 1920, electric lighting, horn, interchargine, very sporting, beautiful condition; £130; £150; hargain.—36, Brownlow Rd., Bowes Park, don, N.11.

D.E.W. Monocar, 1914, 8h.p. Precision twin, stored 3 years, just overhauled and painted; Saturday afternoon or Sunday morning.—60a, dale, Sydenham.

WAUCHOPE'S, 9, Shoe Lane, London, E engine, hood, screen, lamps, 1917, £250; also smodel, 1916, M.A.G. engine, £195; and another ing model, £150.

A36 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

RUNABOUTS AND CYCLE CARS.

TORGAN.—We are sole Wolverhampton agents; our allotment for this season is already budged, t trad us your old machine for repairs, dverhauls, repainting.—The Mohmeux Garage Co., Ltd., Wol-thampton. Tel: 1160

manucon. 14:1. Toolomb, disc wheels, repainted by, Inc. 2-seater, aluminium disc wheels, repainted that blue, dectylene head language, specimenter, een, dr. 15:1. The sea of the control of the control

[ORGAN Spotting Model (believed 1915), 8h.p. J.A.P. nifecoded engane, adjustable tappets, inside upon the lood, severe, par P. and II. brass head ps, mechanical horn, spare chains, tyre, tube, and ps, party, jack, tools, etc., a bragain, 2130.—135, ves, pump, juck, tool. hmilly Rd., Croydon.

IBBIONS Mark III. Cycle Car; £110. Send for descriptive Intenture. Trials can be arranged by colatment; for business men a demonstrator can be allable on Sunday mornings. A limited number of s can be delivered for the coming season.—(iibloms i Moore, Chadwell Heath, Essex. [1321]

919-20 Morgan de Luxe Model, water-cooled 8h.p. J.A.P., painted red, hood, serven, hamps, horn, dual tyres, milenge about 2,000; sell 2240, or act T.T. or countershaft Trumph (1919 or 1920), new t. Norton, new A.J.S., or Matcheles, in exchange and hadjustment.—Box 3,780, vio The Motor Cytes, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2019, 2

AMPLIN Cycle Cais; 2150, plus 10% fluest components; J.A.P. 8h.p. envine, consumption 60-102, a. Sturney-Archer 5-pseed gear box, sent stater, type bearings throughout, live axis, tandom scatteling the state of the component of the state of the component of the

CARS FOR SALE.

OTICE.—Whitsun will soon be here. Then the glorious summer. What's the matter with to-day fixing up about that car? What about sending r boy for a taxi, to run down to see our stock right y1-Cox (below).

vI-Cox (below).

OTICE-Super bargains every one, and all my advertised dates guaranteed accurate, as bys: Electric parcels Auto-carrier, late type, if 6h.p. Baby Peugeot 3-4-seater, mag., brass eccomb radiants, 25°C; nonther Baby Peugeot set via., run. selendidly, 25°C; 10°C; 10°C;

Below!

PICE Chapuis Dernier engined 2-seater, 4-cyl.
monoblec, enclosed valves, 3-speed, £185; smart
e11,9hp. 1915 Argo sperting 2-seater, streamline,
l. monoblec, enclosed valves, 3-speed, £185; smart
e11,9hp. 1915 Argo sperting 2-seater, streamline,
l. monoblec, enclosed valves, £280; 16-20h.p. Rover
udmilet, 4-speed gate, unit construction, cord uppetier; 5. detachable wheels, 4-cyl. monoblec, £285;
6hp. Opel landaulet, monoblec, gate, cord uppholto-bargain, £285; 40h.p. Panhard sporty torpedoto, Zenith, Besch, 4-speed, fast cer. bargain, £285;
1 tool truck to a gate of the speed of the control of the control

Trick.—Argyll 20th.p. streamline torpedo, 4-speed gate, Zenith, pulls spleadidly, £385; 15,9th.p. Scripped 5-scater, self-starter, dynamo lighting, detach. J. Scripped 5-scater, self-starter, dynamo lighting, detach. J. Knight-Dominer 4-scater, sleeve valve engine, babbe wire wheels, worm drive, smart, £450; bih.p. late type Sizaire-Naudin streamline torpedo, bih.p. late type Sizaire-Naudin streamline torpedo, is, amart, and rmis splendidly, £450; 15th.p. Vinot Adaulet, Vanden Plas coachwork, curved extension, 7, 15th.p. Napier landaulet, enclosed valves, worm drough the stream of th

's advertisement is continued in third column.)

Sidecars in Stock

Fitted in few hours.

	£ s.	d.
WATSONIAN, R. 34	30 10	0
" Model " G "		0
" ""Н"	20 16	0
" Touring	24 17	0
" Monarch	31 5	0
CANOELET, Minor	16 10	0
" ' Model "D 3 "	27 10	0
" " " " " " " " " " " " " " " " " " "	28 10	0.
" Military Model		
MILFORD, Skiff		
" Corvette	28 17	6
Cameo and Easing Screet	ens fi	tted

FRANK 139. NEW STREET

BIRMINGHAM

W. T. DUNN.

LTD.,

326, Euston Road, N.W.

'Phone: Museum 5391.

SOLOS.

1919 (late) TRIUMPH, 4 h.p., C.S., geat	
change, equipped, as new	-
1920 IVY, 2-stroke, 2-speed, hand clutch, kick-starter, full equipment. Mile	
age 100	_

COMBINATIONS.

1020 A.J.S., new		
1919 SUNBEAM, 8 b.p., equipped	. –	
1010 TRIUMPH and Gloria, equipped		
1010 TRIUMPH and sporting Sidecar, new	v	
last January, lamps, and speedometer		
Mileage 700		
IGIO ENFIELD, 6 h.p., equipped	*140	
IGIG ENFIELD, On.p., equipped	. –	
1919 ROVER, 31 h.p., and bulbous back	S.	
Sidecar, equipped	£145	0
1018 MATCHLESS, Victory Model		
equipped, re-enamelled	£155	0
TOTE POVER at him, and Rover Sidecar		
1917 ROVER, 31 h.p., and Rover Sidecar indistinguishable from new	£130	0
. Ilidistriguistable from M. W. C. C. C. C.	0100	
1016 ENFIELD, 6 h.p., lamps, etc	2137	
M.A.GMATCHLESS, 7-9 h.p., all on	£130	0
1018 TRIUMPH and C.B. Sidecar, all on .	6100	Ö
1918 I KIUMPH and C.D. Sidecar, all on .	2120	U

WANTED.

Still wanting good modern Machines, Solos or TRIUMPH, A J.S., NORTON, UNBEAM. Collect from any Combinations. MATCHLESS, SUNBEAM. Top prices paid for right machines. distance

CARS FOR SALE.

CARS FOR SALE.

NOTICE - Knight-Mineven 1th.p. cab idet, membles 2625; magnificent 33th.n. Metalluridgue liminaries handanitet, dynamo lightling, self-statter, large 24 windows, high jointed radiator, faper adminism bonnet, streamline dash, flush front, curved roof, extra roomy body, large 5; windows, round back, be autifully upstreamline dash, flush front, curved roof, extra roomy control of the control of

didmed, £700 coachwork, scates 5 m and 20.—Cox (below).

COMMERCIALS.—Bargains, all with solid typers, and self-state of the comment of the c

nms well, £650.—CoX (6e60%), DO DOUGLAS S. COX, the absolutely straight motor Hill man, The Motor Clearing House, 6, Langdowie actually in stock and on view. Please call, Hours 9-6.30, Saturdays 6; no business Sundays. Trams and 'huses pass. 17 mins. Victoria by J. B. and S.C. electric. Taxi fare from West End 7/6 return. Established 1902.

R OVER 6-8h.p. 2-seater, goes well; £65.—77, Acre Lane, S.W.2. [8870

SINGER 12h.p., 4-cyl., 5-seater touring car; £165. _-230, Brixton Rd., S.W.9. [8869] 2 SEATER, modern chassis; £80.—Seen, George and Dragon Garage, Thames Ditton. [7905]

A LLDAYS 2-seater, 10-12h.p., excellent condition, new tyres.—Tree, Edith Rd., Ramsgate. [7753 SERVICE'S, the mad motor magicians, 26, Page St., Westminster. Out with magic bargains.

SERVICE'S.—Scooter bargain pioneers. Genuine American Autoped motor scooter, free engine; hargain, £29/10.

SERVICE'S.—Bargain: 15h.p. 4-cyl. Bayard 15-cwt. van, 100my body, Zenith; bargain, £150.

SERVICE'S. 8-10h.p. 1915 streamline 2-seater, twin-cylinder, Ricardo 2-stroke engine, runs beauti-fully; £185.

SERVICE'S.—Bargain: Hupmobile 4-seated torpedu, low sporting type, particularly smart; snip; £225. SERVICE'S 12-15h.p. Jackson streamline torpedo, exceptionally smart lot, monobloc, enclosed valves; £285.

SERVICE'S.-10h.p. 2-seater coupe, opens, dickey, 4-cyl. Chapuis-Dornier monohioc, pointed radiator; £325.

SERVICES.-13 9h.p. 1914'2 Knight-B.S.A. 2-seater, sleeve valve, worm drive, detachable wheels, beautiful condition; £385.

SERVICE'S.-12-15h.p. Palladium coupe, dynamo, monoblec, enclosed valves, detachable wheels, smart; £485

SERVICE'S.-3-ton 1916 White petrol lorry, mono-bloc, 4-speed, Zenith, steel wheels; £485. SERVICE'S .- 50 cwt. 1916 Vinot lorry, worm drive, 4 speed, monobloc, Zenith, runs beautifully;

SERVICE'S.—Practically new Ross Eight, streamline torpedo, March, 1919, delivery, starter, dynamo; £585.

SERVICE'S.-1916 4-ton Bellport lorry, worm drive, monobloc, steel wheels, excellent order; £650.

SERVICE'S.-Prince Henry Vauxball streamline 4Seater, buthous back, dynamo, pointed radiator, 65 mp.hr. 2785.

SERVICE'S.—Above all on view and all ready to drive away; others coming through.—Please call, Service's, 26, Page St., Westminster. Service's. [3776] Service's, 26, Page St., Westminster, Service's

WILLIAMSON Sh.P., W.C., Osspeed, clutch, 3-senter
car, hood, screen; £150.-16, Church Rd., Erith.
[7771]

CARS FOR SALE.

PAXTON Car Depot, 228a, Gipsy Rd., West Norwood, have following exceptional bargains on

PAXTON!-12h.p. 4-cyl. Humber chassis, live axle, Bosch mag., 3-speed, runs splendidly; £95. PAXTON!-15h.p. Opel landaulet, monobloc, gate, Zenith, side doors, cord, smart; £285.

PANTON!-1916 8-cyl. King, streamline torpedo, beautiful condition, dynamo lighting, starter; £575. PAXTON Car Depot (Stanley J. Cook, Proprietor), 228a, Gipsy Rd., West Norwood (opposite Paxton Hotel. Service 3 'hus). [8775

1 2283, Gipsv RG., West Manney, 18775 Hotel. Service 3 hus). 18775 19 18 Vauxhall Limousine, 25h.p., dynamo lighting, condition like new; £875.—Palmer's Garage, 8856

[8856] SMART 2-seater Mass, W.C. twin, Bosch, sporting body, suip; £140; any trial.-84, Talbot St. Southport. Southport.

BLERIOT-WHIPPET Super Light Car, brand new; immediate delivery; list price; £280.—Roach, [X0506]

WHITING-GRANT Light Car, 2-seater, repainted fawn, lighting, starting; £265.—22, Heath Rd.,

MERCEDES 90h.p., Brooklands sporting model; £295, or accept lower power in part.—21, Villa Rd., Brixton, S.W.

HUMBERETTE, very smart, hood, screen, Stepney, lamps, etc., good condition; £145.-51, Byne Rd., Sydenham, S.E.26. [8212]

Sh.p. 2-cyl. 2-seater Light Car, £125, or exc late Douglas combination; London.—Box c/o The Motor Cycle. over-

HUMBERETTE, a.c., just repainted and offers Clarke, Mayfield, Guildfold. [79]

SEAL 2-seater, 8h.p., 3 speeds, all chain, hood, wind screen, etc., as new; price £140; accept solo part. -Box 3,626, e/o The Motor Cycle. [7641

HUMBERETTE Water-cooled Chassis, new tyres, speedometer, in perfect condition; £135.—Hawkins, 455, York Rd., Wandsworth. [7623 10^{-12h.p.} Humber, detachable landanlet, gate change, Bosch, Claudel, good tyres, excellent condition; £150.—Hammond, Queen's Rd., Wivenhoe. [7852

8 h.p. Rover 2-seater, very good order; and 8-10h.p. twin Singer coupe; £120 each.—Chauffeur, 4, Lyall Mews, Lyall St., Chesham Place, S.W.1. [8700

PHANOMOBILE 2-senter Car, £70, particulars stamp; also 10h.p. twin Wolseley engine, water-cooled, clutch, £10, bargain.—F. Smith, Thrupp, Strond. [X9405]

FOR Sale or Exchange, Sh.p. Pengeot, single, 2-seater, fully equipped, for cash or motor cycle; no reasonable offer refused.—Motor, 7, Carey St., Read-

K.R.I.T. 15h.p. 4-seater, detachable rins, etc.; also 1915 Ford 4-seater, any reasonable offer accepted; exchange motor evelo or combination.—Leweth, 6, Mount Pleasant Rd., Ealing.

19 17 Napier 15-20h.p. Chassis, cantilever springs, bevelled radiator; £450; can supply with 2-seater, 4-seater, or coupe body; moderate extra charge Exchanges-Palmer's Garage, Tooting. [8855]

Sh.p. Royer 2-seater, in sound condition, suitable for conversion to tradesman's vao, tyres nearly new, will climb anything; price 295; seen and tried by appointment—288, Barking Rd., East .Ham. 'Phone: East Ham 465.

East Ham 463.

B UCHET 10h.p. 4-seater Car, overhanded, repainted, new trees, new Zenith, Bosch mag., smart and in good running order; must seil, room wanted; gift at £100, or exchange good combination; photo.—Flowers, Myers Farm, Church Bronghton, Derby. (XO490)

10 Sh.p. Twin w.c. Coventry 2-3-seater Car, 40 m.p.s., Stepney, condition perfect; quick sale, gauge abroad, Stepney, condition perfect; quick sale, gauge abroad, £180, or order, 3-31, Hertford Rd., Ponders English, A RE You Requiring a good 2-seater? If so, cosmit

ARE You Requiring a good 2-senter? If so, consult
ARE You Requiring a good 2-senter? If so, consult
Oscar V. Cox, Waylett Place, West Nowood,
S.E.27. The following now in stock: 1916 Scripps
Booth, mag, dynamo, and statter, very snart, 2345;
1916 Trumbull, 4-vyl., electric lighting, 5 detachable
wheels, pulls well, 2210; 10hp, Metcorite, 4-vyl. nononbloc, dynamo lighting, double dickey, very snart, 2285,
1873.

M UST be Cleared Before Whiteun, Ready to Give mart, \$200 and the Cleared Before Whiteun, Ready to Give mart, dynamo, self-starter, detachable wheels, spare, \$2500, 1916 Trumbull, electric lighting, detachable \$2500, 1916 Trumbull, electric lighting, detachable condition, anywhere on \$2215, 1915 Additional Condition, anywhere on \$2215, 1915 Meteorite 2-seater, double dickey, Rotax dynamo, detachable wheels, extraordinary largan, \$295, Call 9 a.m.5 p.m.—Dscar V. Cox, Waylett Pince, West Norwood S.R.

COMMERCIAL VEHICLES.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4,— Sunbeam 1-ton lorry, 3-speed and reverse; £150. [8461] COMMERCIAL Box, with set of leaf springs: £3,-Palmer, 61, Commercial Rd., Waterloo Station

DAN GUY, WEYMOUTH.

AGENT FOR A.J.S. CLYNO ARIEL LEVIS JAMES WOOLER NORTON ZENITH INDIAN TRIUMPH -MOTOR CYCLES. MORGAN RUNABOUTS.

Early delivery dates open.

NEW 1920 MODELS IN STOCK TO-DAY AT ALEXANDER'S.

ENFIELD 2-stroke, 2-speed		£68
CLYNO 2-stroke, 2-speed		£75
INVICTA 2-stroke, single gear		£65
COVENTRY EAGLE 2-stroke		62 gns.
SPARKBROOK 2-stroke, 2-speed		£75
CLEVELAND 2-stroke, 2-speed		£85
24 h.p. INVICTA.JAP 2-speed	••	£81
23 h.p. FRANCIS-BARNETT		£84
23 h.p. CALTHORPE-JAP	٠.	71 gns.
$2\frac{3}{4}$ h.p. COVENTRY EAGLE JAP		76 gns.
24 h.p. COULSON B spring frame	٠.	95 gns.
32 b.p. T:T. B.S A., single gear	٠.	~ 0
POWERPLUS INDIAN T.T. BARS		
POWERPLUS INDIAN COM	SIN	ATION
· £	218	3 10s.

Carriage from works is extra to above prices Write or Wire immediately, as we cannot guarantee in stock to morrow,

ALEXANDER'S.

113-115, Lothian Rd., Edinburgh. and 272, Gt. Western Rd., Glasgow

COMMERCIAL VEHICLES.

DARRACQ, small converted lorry; £60; suital Bromwich, parcel carrying.—2, Whitehall Rd., Wo

£100 Down and 12 monthly payments of £25 secur a magnificent 3-ton lorry.—Details, Palmer's Ge age, Tooting. [78]

19¹⁸ Antocar 1-ton Truck, 12-16h.p., solids, prac-cally new; £225; exchanges entertained.—Palme Garage, Tooting. [29] A.C. Box 5 cet. Carrier, just overhauled, less carb retter and wings, snip; £45.—195, Stoechon St., Clapham Coumon. [87]

£85 Down and 12 monthly payments of £15 secures splendid 1-ton truck, twin solids, will carry cwt.—Details, Palmer's Garage, Tooting. [76] GIRLING Light Van, coachbuilt hody, 6h.p. enging Boach mag., lamps, spare wheel, excellent orders, 55.—Suiter, 13, Featherstone Buildings, Holborn, W.

KINGSBURY Scooters, £42; immediate delivery Sole distributer for county of Kent, N. G. O The Garage, Radnor Park Av., Folkestone. Ager Wanted. ENGINES.

REX 3½h.p., less mag., pulley, oil lamp; 28.

L 16HT Car Engine, clutch, gear box, radiator, et £35.—122, Bromyard Rd., Worcester. [81 RUDGE Eugine, C.A.V., Senspray, T.T. moo

5 6h.p. Rex Engine, Roc wheel, B. and B. good uew: £25, offer.—Sennett, Queen St., Learning [X06]

J.A.P. 4h.p. Magneto, fitted on-stand, pulle s.E.S.

2 h.p. Minerva Engine and Frame, good condition £4/10, or nearest.—Sharp, Oaklea, Point

19 17-18 4h.p. Douglas Engine, complete with condition as new; £26.-74, Millbrook Southampton.

£10.—Sound and complete, 214h.p. Humber unit, (Boech), B. and B., silencer, and plates.—10, coln St., Swindon.

AVON 6h.p. Single, w.c., perfect mechanical of mechanical valves, absolutely good; \$28,-Palm Garage, Peasedown, Buth.

M.M.C. 31/h.p. Engine, with radiator, coil, combreaker, brass petrol and oil tank, sound; Paul, Ambleside, Priory Park, St. Albans. ENGINE Sets, 3½h.p., air-cooled, cylinders a pistons finished, crank cases turned and cylin heds machined; £6 per set.—Hurst, Nook, St. Am

21h.p. Motor Cycle Engine Unit, including manted, any condition.—Parker, Woodcock St., San Wakefield.

4 h.p. Douglas Engine, induction pipe, Amac controls (unused), C.A.V. mag., inst oblanded, excellent condition; £29/10.—Taberner, Tylley, Manchester.

NEW 1920 8h.p. J.A.P. Air-cooled Engine, water-cooled ditto, with bevel drive for suit Morgan, £49: large stock of genuine J spares for 6 and 8h.p.—Tassell, 1a, Bloomfield Plumtead.

G hp. 1919 Twin-cyl, J.A.P. Engines, hrand new, c mg mechanism, union nuts for exhaust pipes, int tion pipes complete, compression taps, also nut-key for engine sprockets, and 2 oil feed unions, add able tappets, and special set of epanores and engine; 257/10.—Wauchopes, 9, Shos Lane, Long

ENFIELD.—A 3½h.p. Mag engine, with eirconformation of your old 2½h.p. engine (which could be smaking your machine a last and powerful mount capable of pulling a sidear. Only a few are able—M.A.G. Engine Co. Ltd., 339, Harrow (N.W.10. Phone: Willesden 1092.

IGNITION APPLIANCES:

BOSCH Type DAY Twin, perfect order; £5. Newby St., Ripon.

THOMSON-BENNETT Magneto, suit Douglas; post Iree.—3, Kildowan Rd., Goodmayes. BOSCII D.A.V. 180°, anti, twin, perfect; 25.— rows, 549, Chester Rd., Erdington, Birming

DIXIE Single, £3/10; twin for Douglas, £4/10; from £3/15.—Ashton, Thornbill Edge, Dews

MAGNETOS, best makes, clock and anti; to £5/10.-Box 3,740, c/o The Motor of FOR Sale, magneto (Dixie) Jor Harley-Day motor cycle, twin-cyl.—Apply, J. J. James, N

45 NEW C.A.V. Twin Magnetos, snit Don A B.C., etc.; 110/- each.—Gardam's, Engin

IGNITION APPLIANCES.

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WE work for and are recommended by some of the leading firms and garages in the country, and can supply every want.—Below.

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BOSCH Magneto, watertight, twin ZA2, off Douglas, good order; bargain, £7.-195, Stouchouse St., lapham, S.W. [8720

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A CUMULATORS—Brand new C.A.V. 2 voltages and the mulators, alout 20 mmp, hours capacity voltages of cases at voltage and the property of the control of the cases and the cases and the cases and the cases are cases as the cases and the cases are cases as the cases are cases are cases as the cases a

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3, New St., Birmingham. [8057] CONSULTING Patent Agency, 253, Gray's Inn Rd. Lendon.—Aero and aircrait engines, [6635

PATENTS Advice, handbook, free.—King, Registered Patent Agent, 146a, Queen Victoria St., E.C. 35 years references. [0129]

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Premium Hunting.

N our correspondence columns this week, we publish a letter from the president of the British Cycle and Motor Cycle Manufacturers' and Traders' Union, Ltd., drawing attention to the practice of "pseudo dealers," who take advantage of the present abnormal conditions to obtain premiums on new machines. Abnormal times always bring in their train undesirable conditions, and, while supply and demand are so far apart, much as it is to be deplored, present-day practices will prevail. So far as motor cycles are concerned, the purchaser who deals with the only appointed agent of the manufacturer is secure from the premium hunter, who generally is a "private purchaser" who has had the foresight to order early in order to resell at a premium to his fellows not so fortunate, and—to be perfectly candid—less enterprising. The remedy is in the hands of the genuine riding public. long as there are buyers ready to pay a premium, there will always be people to sell. The suggestion of the makers to withdraw guarantees from machines resold within a reasonable period is a good one, although it probably will have little effect, as the men who are ready to pay heavy premiums are those who rarely need to ask that the terms of the guarantee be fulfilled. the same, it is highly desirable that the manufacturers and their agents should do something

to alter the present position.

Most agents sell only at catalogue prices, and any general departure from this good rule may alter the whole foundation of their future business. At the present time there are excellent relations between the purchaser and his agent on the one hand and the agent and the manufacturer on the other.

Only increased production, a levelling up of supply and demand, can eliminate the psuedo dealer and premium hunter. There are signs that a more normal state of affairs is nearer than many suppose. Twelve months ago premiums

were paid on pedal bicycles, to-day the supply is greater than the demand; the purchaser can pick and choose and obtain what he desires at the catalogue price. In the lightweight motor cycle field the supply is almost level with demand, and the position regarding sidecar machines is becoming easier every week. Increased production is the only cure for present high prices, and this holds good in the motor cycle world just as it does elsewhere.

"The Motor Cycle"-41d.

ITH this issue, the price of The Motor Cycle is raised to 41/2d. The increase is mainly due to the very marked advance in the cost of paper. January 1st last, the price of paper has risen 2d, per pound, which represents an increase of over £35,000 in the annual paper bill of The Motor Cycle. Quite apart from the cost of printing and editing the journal, the paper used in each copy to-day costs over 334d. as compared to three farthings in prewar days. Add to this the general production and distribution charges, it will be apparent that the 41/2d. now charged does not cover the whole of the increased cost. Even at the new price of 41/2d., we shall still receive (after taking trade terms to newsagents into consideration) nearly rd. per copy less than the cost of the raw paper The popularity and wide circulation of this journal only complicate the position. Notwithstanding the increase, the journal will not bear a commercial profit, but, as we hope that the present high cost of paper is only temporary, we are content that this should be so. Readers, advertisers, and proprietors must all bear a portion of the increased cost, and we are sure that the step we have taken will be preferred to a curtailment of size or quality of the editorial matter. We sincerely hope that conditions will at a later date permit of a reduction in price, but, frankly, there are no prospects of any downward movement at the present time.



No Finality Yet.

THOSE jaundiced critics who thought at Olympia that our industry had got into a rut would rub their eyes when they saw the drawings of the new Pullin two-stroke; and behind the scenes there are other novelties still in the experimental stage. Frame, price, ignition, carburation, gear box, engine cycle, brake work, lighting—every solitary item, if not absolutely new, is instinct with elements of novelty. Even the silencer, contrary to the general run of two-strokes, contains two separate baffle plates, and all two-stroke enthusiasts will be anxious to hear the machine on the road, for an engine of this type, which claims to be practically immune from four-stroking and able to tone down the exuberance of its exhaust gases, has distinct attractions.

Nerves and Grease.

AST week I covered a particularly nasty piece of road six separate times, and on each occasion it was disgustingly greasy. Twice I rode it in daylight with a vertical breeze up, hating every yard of the way. Twice I covered it at night with rather an inefficient acetylene lamp, and my attention was so occupied with peering ahead that I completely forgot to be afraid of side-slip, except when the short-range lighting compelled me to watch the road too close to my front wheel, and the short-focus steering, as always, proved unsteady and set up a mild skid or two. Twice I rode it with excellent lamps, and, since my gaze was concentrated far enough ahead for me to steer steadily, and too far ahead for me to note the details of the road surface, I completed these two trips without fear and tail-wagging. It only shows that skidding is more a matter of nerves than of tyres, balance, or surface.

A Glorious Scrap.

MY week-end was enjoyed with the aid of a T.T. Norton. The main reflection which it inspired was that nobody can name a speed which in itself is dangerous. Given perfect steering, perfect brakes, and an engine which is game to push you along at anything between 5 m.p.h. and 65 m.p.h. on top gear, all questions of risk attach to the rider rather than to the speed of the machine. This 'bus can safely be driven over wet roads at an average figure which the correspondents of the daily papers "Paterfamilias," "Commonsense," and other gentlemen of that kidney, would consider formidable on Brooklands. If there is a fiercer 3½ h.p. than the Norton speed model, I should like to meet it; and yet it can amble along without pinking, like a mediaval abbot's palfrey.

Perhaps the sweetest thing about a very charming 'bus is the greedy way in which it can gobble up really steep hills on top. You must give it a rush, of course if you do not want the advanced ignition to breed a hammering; and, if there are bends ahead, you must be prepared to lie well-over. But set it at the straighter climbs of the Dashwood variety, and the speed it can register up 1 in 10 and worse is literally phenomenal.

Air Stranglers.

JILL somebody tell me why so many American makers fit shutters to the air intakes of their carbutetters, and yet the fitting remains a rare exception on carburetters of British manufacture? am lumping cars and cycles together in this statement bien entendu. During the last year or two I have had to grapple with the not uncommon combination of bac fuel and a cold garage in connection with every con ceivable type of petrol engine; and I have invariably found that an improvised air strangler ensured a firs time start with them all, if we except very multi cylinder aircraft engines, which often require rathe. special treatment. It is, of course, a fairly simple job for an amateur mechanic to rig up an air shutter, ever for a motor cycle engine, which demands a screen filter as well as a shutter, to prevent the sand-blasting effect of drawing grit-laden air past the valve. When I lack time to make a proper engineering fitting; I am driven to unscrew the gauze screen, insert a cork start up, withdraw the cork, and replace the gauze I fancy there would be a goodish sale for a blank spring-held cap to fit over the gauze of standard carburetters. Purchasers could drill air holes to suithemselves. Is the trade afraid that duffers will such pints of neat petrol into their engines, and scour the oil off the cylinder walls? Or why is so handy a fitting still so scarce? A colleague suggests that an adjacem exhaust pipe may be the cause of this hesitation, but I do not see that the universal habit of flooding is much less risky in such cases.

Fly-up Stands.

EADERS must be growing tired of this cross heading. Is there, or is there not, an undodgable master patent on fly-up stands? In this year of grace I have paid well over £100 for a comparatively low-powered solo mount. It chances to possess no substantial protrusion by which it can be propped against a kerb, and its bows bristle with so many fragile projections that it is not wise to lear the 'bus against a wall. Whenever I stop, wisdom suggests lowering the stand. It is not difficult to drop

Occasional Comments .--

the stand, but it is a filthy and laborious job to get it up again when I wish to proceed. When up, it stops up, which is more than can be said for many stands even in 1920. But to raise it I must compress the tail of the back mudguard with both thumbs, and use all the force my twin forefingers can exert to squeeze the stand past the guard. This part of

the machine is always filthy; naturally collects plenty of mud, and the fish-tailed exhaust pipe squirts a film of oil blobs over the neighbourhood. If I raise the stand with bare hands, I need a paraffin bath; if I first put on gloveswell, my dry-weather gloves cost two guineas, and my wet-weather gloves are a thirty shilling pair of irreplaceable Hun rubbers. How I sigh for my old Rudge, which automatically tucked up its own tail whenever you wheeled the 'bus forward!

A Good Compression Tap. NINDING that nobody seems able to start a Scott from cold on one kick without petrol injections, I am fitting compression taps to my engine, as a squirt of dope ensures an instant start, just as it generally does with four-stroke engines. Some Scotts are fitted with pipes

coupling the drain-cock of the petrol

tank to the inlet pipe; but I dislike

small screwed unions in inlet pipes. Presumably the Scott people refrain from fitting compression cocks, because air leaks are specially fatal to good running, and a twostroke already possesses sufficient possibilities of leakage without going out of one's way to add to them. But the Scott cylinder heads are fitted with screwed plugs of ordinary-s.p. thread, and Ripaults market an excellent compression tap of the right reach and thread. Its special merits are that it has a taper

seating to guard the compression, a priming hole which is shielded from carbon when the tap is shut, and an ebonite finger piece, which does not burn the fingers or break off after the manner of the ordinary brass tap handle. Let it be added that nobody can complain of the Scott starting: we must expect half a dozen kicks when a crank case requires charging with mixture as well as a cylinder. But the magnificent

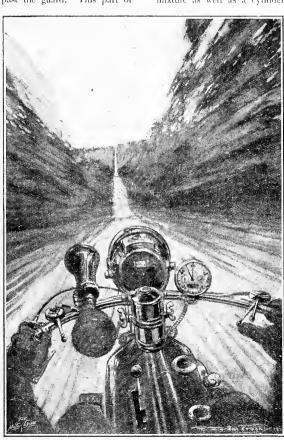
Scott steering and springing tempt me to use it for business purposes.
"Business" the other afternoon spelt six calls in three hours, each long enough to chill the radiator completely. The -original cold start, plus six stops on the road, made a total of seven cold starts in three hours. i.e., some forty-two digs at the starter. That is why I am fitting the Ripault



A Rocksteady Speedometer.

BOUT Armistice Day I heard rumours that a certain instrument merchant, ex R.A.F., was shortly to produce a new speedometer, positively accurate, with a dial no bigger than an Ingersoll, and selling at ten shillings or thereabouts. As this miracle has not vet materialised, I fitted a Bonniksen to my Scott, and am simply charmed with it. Not only is its drive dead silent, but its needles are rocksteady, and. what is still more instructive, it has taught me that all my previous speedo-

meters were untruthful. The standard Scott does not lay itself out for excessive speed, but the Bonniksen's record of its paces was always some 10 m.p.h. below my own estimates, and at last I got nettled, and made careful tests. There is no question that the Bonniksen is accurate, and I am driven to conclude that the instruments which I have previously used exaggerated the actual speed rather markedly at speeds in excess of 30 m.p.h.



THE OPEN ROAD. What fascination there is in watching the road_aheadespecially if it be a route with which one is not acquainted? To reach the horizon, to guess what lies beyond is a never-ending source of pleasure. On a road such as is depicted, the motor cyclist enjoys an exhilaration unknown to the rest of his fellows.

Duplex Frames,-

Scott.

Of all those duplex frames at present before the public, the Scott has been longest on the market, and is an exception which proves the rule that flat twins and duplex frames are generally found together. This frame is designed from end to end upon scientific principles. It is triangulated, and radiates from the



engine as a centre, upwards to the head, and backwards to the rear hub and seat pillar; thus it needs no top tube, as usually seen, to complete its rigidity. It is duplex throughout, with the exception of the seat pillar tube, which is surrounded by the tank, the head, and the tube, which passes above the engine. The frame is complete in itself, and, although the engine stiffens it.

when in position, it does not form a frame member, but rather a frame centre.

Indian Scout.

In this machine twin tubes extend from the head to the rear These run side by side until they pass the lug to which the lower tank tube is attached; they then separate sharply to the point where they take a turn to the rear, whence they run nearly parallel on each side of the

engine and gear box to the rear hub. The least attractive part of this design lies in the method of fitting the tube from the saddle to the lower part of the frame.

The Cotton.

The frame designed by Mr. Willoughby Cotton is duplex to a large degree, as well as triangular throughout. Two pairs of duplex tubes extend from the head to the rear axle, and the tank is mounted between

them. Another pair of tubes are placed between the rear axle and the lower part of the engine, while a fourth pair connect the rear axle with the gear box. Thus it will be seen that the rear wheel is most rigidly fixed, having no fewer than four tubes on each side of it-double the usual number. The single tubes in this machine are those which extend to the engine from the saddle and the steering head.

Partly Duplex Frames.

The Velocette makes no pretence to a duplex frame throughout, but the down tube is double, and extends below the engine to the gear box: a very sound combination of a duplex and loop frame. The Diamond also has a duplex down tube, which is detachable: .: but in this case does not extend below the engine, but is attached to an engine plate of The Cotton duplex and triangulated frame. the usual design. In the Ivy design the front down tubes are duplex, and the bar below the

flat metal instead. of the usual tube. The 4 h.p. Douglas has a down tube which divides at a lug below the tank, and straddles the front cylinder. The Henderson four-cylinder machine has a frame which is slightly less duplex than the corresponding F.N., and another peculiarity

tank consists of a piece of

is that there is no down tube from the seat. Many flat twins are mounted on double tubes where the duplex principle is not carried any further. The Wooler, Humber, and 23 h.p. Douglas are examples of this method of construction.

Notes on Motor Cycle Legislation.

The Anomalous Position of the Motor Cyclist. What is a Motor Cycle?

CAR in the future may have two 7in, head lamps of 24 c.p. each. A motor cycle one 5in. lamp of 12 c.p. Such are the recommendations of the Parliamentary Committee on Lights on Vehicles.

According to the law, a motor cycle is a vehicle under 7 cwt. on three wheels. A tricycle with an Auto-wheel attached is a car.

If the above two anomalies are not altered we may see an old tricycle with a motor wheel sporting two great head

lights and subject to a tax of £6.

Surely a motor cycle is any form of motor vehicle under a certain weight?

Many motor cyclists only use their machines for the best six months of the year, but the suggestion to give them the option of quarterly payments was "turned down" because the sums were so small.

Unless motor cyclists are given this option quite a number will give up riding, with the result that the Treasury wills obtain nothing. Half a loaf is better than no bread.

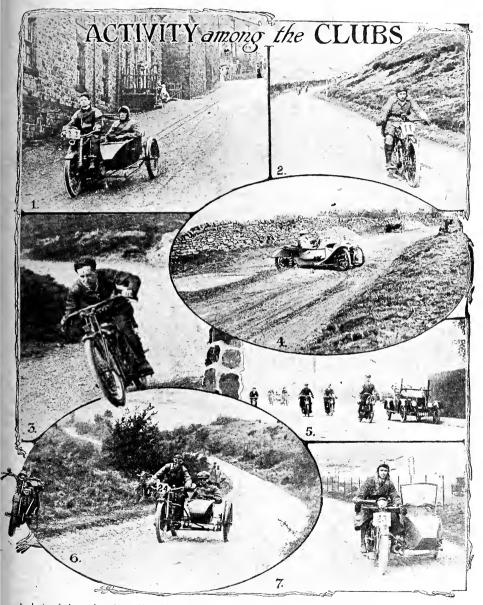
The proposed taxation may help develop the real light-weight motor cycle so long urged by The Motor Cycle.

But it will also retard development of the light four-wheeler of which there are several promising designs.

There are some three-wheelers which are cars on three wheels, and there are some four-wheelers that are nothing more than motor cycles.

A tax that influences design is a tax on progress, and retards development in directions other than those suited to the taxation basis.

All modern cars have long-stroke engines, because the Treasury rating takes only bore into account.



A selection of pictures from this week's mail bag: (1) Usua'ly hills are included in trials to test the power of the engine; this steep hill in Stocksbridge was used in the Sheffield Sporting Team Trial to test driving skill and brakes. R. Stacey (7-9 Harley-Davidson sc.) (2) A lady competitor in the Cumberland M.C.C.'s recent trial over Shap and Kirkstone Pass. Miss Rutherford (3½ Sunbeam). (3) A.L. Downie (2½ A.J.S.) at the Edinburgh M.C.'s Hill-climb, Redstone Rig. (4) W. James, sen. (8 Morgan) on one of the hairpins in the Sheffield Team Trial. (5) En route during the Southend-on-Sea and District A.C.'s Paperchase. (6) The Ealing and District M.C.'s Hill-climb on Kop Hill. I. W. Wright (7-9 Indian sc.) (7) Starting the climb of Shap. A competitor on a 4 h.p. Douglas sidecar in the Cumberland Club's recent trial.

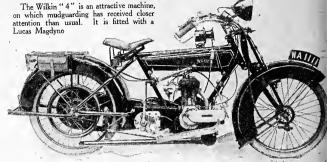
A NEW DE LUXE "SINGLE."

The Wilkin 4 h p. Model—a Sheffield Production of Attractive Design.

REALLY high - class single - cylinder machines are few and far between among the new comers to the market, and for this reason the Wilkin 4 h.p. machine will attract its full share of attention. It is the product of Mr. G. W. Wilkin, of Sheffield, who for several years has been selling motor cycles besides riding them both privately and in competitions.

In deciding to market a machine under his own name, Mr. Wilkin very wisely refrained from taking the line of least resistance by merely assembling standard units in a standard frame. True, the engine, gear, and forks are standard units, but he has succeeded in making a most distinctive machine by the manner in which he has used them in the attractive frame of his own design.

The engine is the well-known Black-burne "4," and the gear hox a Sturmey-Archer with all chain transmission totally enclosed in well-proportioned cases.



Having a sloping top tube, the frame has distinctive lines, and is rather longer than would have been necessary on a machine intended for solo work.

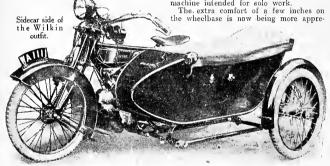
ciated by designers, but in the Wilkin this is not carried to a degree to make the machine ungainly in appearance. As will be seen from the Illustrations, the Lucas Magdyno combined lighting and ignition set forms part of the equipment, and the black finish is relieved by neat gold lining on the tank and a plated handle-bar.



The mudguards are of good width, and in the case of the front wheel guards extend ontside the fork members, while the valances on both are deep.

At every point the design and construc At every point the design and construc-tion appear to be sound, and we should not be surprised to see the Wilkin become very popular, not only in the districts adjacent to its birthplace, but among motor cyclists generally. We congratulate Mr. Wilkin on a splendid machine, which comes as a welcome addition to a type of which there are not too many representatives.

A three-wheeler of an exceptionally



A SIDECAR ALTERNATIVE.

HERE are certain ex-motor cyclists who believe that the present day de luxe sidecar will eventually be replaced by a form of three-wheeler providing protected accommodation for the driver. The illustration depicts what may be termed a redesigned sidecar may be termed a recessioned succar outfit, and although the bodywork apparently errs on the side of elaboration, the mechanics follow motor cycle practice. The engine is an air-cooled 8 h.p. Jap V twin, the genr box a Sturmey-Archer, and the transmission is by § x §in. chain from engine to gear box, by 1 in. belt from gear box to countershaft beneath the seat and finally by single 3 × 7 in. chain to the driving wheel.

All wheels are readily detachable, and are shod with 700 x 80in. tyres. Enclosed coil springs are used for the front

Car Type Body-Motor Cycle Mechanism. pleasing design.

> suspension and quarter-elliptics at the rear. The steering is direct, and stands are fitted to each wheel.

> Having a wheelbase of 6ft. 9in. and a track of 3ft. 9in., the weight is 6½ cwt., equipped with a four gallon petrol

tank, one gallon oil tank, six volt dynamo lighting set, speedometer, etc. Mr. W. G. Topham, of 17, Poplar Avenue, King's Heath, Birmingham, is the designer, and the machine seems to has a five-taless prediction. be a first-class production.



HINTS TO THE NOVICE.



Notes on Sparking Plug Faults and Others for which the Plug is Often Blamed.

THE modern petrol engine embodies several component parts, each of which is made by a manufacturer who specialises purely in this one part; and, while the manufacturer is responsible for the satisfaction given by his production, the various parts of an engine are so related that a fault in one part often affects one or more of the others. The sparking plug is one such small but vital part, and when misfiring occurs this part is always suspected first. Often when ignition trouble is localised at the plug, and temporarily remedied by fitting a new plug, the cause of the trouble is in some other part of the engine. The cooling, lubrication, carburation, timing of valves, and ignition, can all affect the sparking plug.

The responsibility of the sparking plug maker begins at the terminal of the plug, and ends at the spark

gap: that is to say, the sequence of events that occur before the spark reaches the terminal and after the spark occurs at the gap is quite befond his control.

In setting out the faults that may occur,

in the sparking plug, it is, therefore, assumed that there is a suitable electric pressure of 8,000 volts or so at the sparking plug terminal, and that the spark gap is surrounded with a suitable explosive mixture.

The magneto is responsible for the supply of the electric current or spark to the terminal, and this spark can be tested by disconnecting the high-tension cable

and holding it about \(\frac{1}{16}\) in. away, from the plug terminal or the metal of the engine, while the engine is either running or being turned round at a sufficient speed. The spark should easily be able to jump that distance in air. If no spark is produced, there may be several reasons, but the three most common causes are that the low-tension-insulated terminal of the magneto is "earthed," the rocking arm of the contact breaker is stuck with the contact points apart owing to the fibre bearing swelling, or that there is a fault in the high-tension cable. The timing of the spark is correctly adjusted when, with the ignition lever fully retarded, the spark occurs when the piston is just over the compression dead centre. Advancing the ignition lever will then cause the spark to occur before the piston reaches the full compression position.

Mixture Variations.

The setting of the carburetter which gives the best power at all speeds is the correct setting. As a rule, misfiring indicates too weak a mixture: sooting up of the sparking plug represents too rich a mixture. If the carburetter is producing too weak a mixture, the effect may either be simple misfiring, or may result in firing in the inlet pipe (popping in the carburetter)

caused by the mixture burning slowly and igniting the incoming gas. Too rich a mixture may cause simple misfiring, owing to the deposit of soot over the insulation of the sparking plug, or may cause pre-ignition due to the overheating of the engine and sparking plug. Pre-ignition is caused by some piece of metal or carbon (usually the central electrode of the sparking plug) being red-hot. The most noticeable effect of pre-ignition is to cause "knocking," and occasionally the symptoms are similar to seizure. Both too weak and too rich a mixture cause overheating of the engine.

Assuming, however, that the magneto is supplying a proper spark at the correct moment to the terminal of the sparking plug, and that the carburetter is supplying an ignitable mixture at all speeds, there

remain the various possible faults that may be caused by a faulty sparking plug.



Fig. 1.

Misfiring.

The spark gap may be closed up or joined across by a thin thread of metal, or the spark gap may be too wide for the spark to jump. The correct width of gap is ½ mm., or the thickness of a stout visiting-card. The insulator may be cracked if of the porcélain type, or punctured if of the mica type; the spark then jumps straight from the insulated centre pin to the metal body of the plug instead of occurring at the spark gap.

The only remedy is new insulation or a new plug. The surface of the insulation at the sparking end of the plug may be covered with soot, caused either by too rich a mixture or by burnt lubricating oil. This is the most common fault, but the plug cannot be blamed for this trouble. When the soot is caused by burnt lubricating oil, it has a rough coarse-grained appearance; when it is caused by too rich a mixture, it has a very fine, smooth appearance. The remedy, of course, lies in improving the lubricating arrangements or the carburetter. Sparking plugs can be designed to continue to fire despite a considerable amount of soot on the insulator, but the more plugs are designed with this point in view, the worse they are as a rule in other respects. Soot on the insulator caused by too rich a mixture is a sign of imperfect combustion, and anybody in charge of a petrol engine should not be satisfied with such a state of affairs. Besides the trouble caused by misfiring, there is a considerable loss of power and waste of petrol. If sooting cannot be cured, the most suitable plug is one with the most open end and longest exposed insulating surface, as shown in fig. 1.

Another cause of misfiring is the use of a poor quality insulator of the porcelain type in a sparking

Hints to the Novice .-

plug, such that when this insulator is heated up it gradually loses its insulating qualities, and allows the spark to leak away. This effect is usually noticed on an air-cooled motor cycle during a long climb, the symptoms being that the firing gradually gets weaker and weaker, and, finally, the engine stops; but it should always be borne in mind that failure of the petrol supply can give very similar symptoms.

Back Firing.

When this is caused by the sparking plug, it is due to the central electrode or the tip of the insulator remaining red-hot when the inlet valve opens. This usually happens with a plug having a long thin central electrode and a long thin insulating sleeve round the central electrode, as indicated in fig. 1. The remedy is to use a plug having a thicker central electrode and a shorter insulating sleeve, or the type of insulator called the solid-ended, as indicated in fig. 2; but here again it must be borne in mind that popping in the carburetter is much more often caused by the mixture being too weak. The petrol supply may be exhausted, or dirt or water may be choking the carburetter jet, or there may be a bad air leak into the combustion chamber. Another cause is the setting of

the ignition timing too late for the speed of the engine.

Pre-ignition.

If heat continues to be supplied to the sparking plug faster than the plug can get rid of it, at a certain stage a temperature will be reached when the central electrode of the sparking plug will be at a dull red heat during the compression stroke. The mixture will be fired by this red-hot metal, and the engine will knock badly. The remedy is either to reduce the load on the engine, and so supply less heat to the plug or else to fit a better design of sparking plug.

It is difficult to describe briefly the kind of plug that is required, but the chief feature is a thick centre pin. Anything in the nature of a thin diameter centre pin with a large metal surface at the sparking end usually causes pre-ignition. The type of plug indicated in fig. 1, if it does not cause back-firing, may cause pre-ignition, whereas the type of plug shown in fig. 2 will certainly not cause back-firing, and will only cause pre-ignition on a very hot engine. In the case of pre-ignition, it should always be remembered that the engine may be getting excessively hot, due to faulty carburation or, of course, insufficient cooling. Pre-ignition can also occur by the ignition timing being advanced too far for the speed of the engine.

The Late Mr. A. W. Torkington.

Well-known Personality in the Trade, N.M.C.F.U. and A.C.U.

A S recorded in the major portion of our last week's issue, the death of Mr. A. W. Torkington comes as a severe shock to those motor cyclists who, even though they did not know him personally, knew of him and his excellent work for the movement. Those who knew him well were aware that he was suffering from a serious complaint, which was bound sooner or later to terminate fatally, but the end came very suddenly on the 3rd inst.

Mr. Torkington took an interest in automobile matters from the very early days. He was associated with a tyre which bore his name, and later with the Stelastic tyre which was by no means unknown among

motor cyclists.

It was in 1912, however, that he first took an active part in motor cycle matters, as it was in that year that he joined the committee of the Auto Cycle Union as a representative of the Royal Automobile Club. In the following year he became treasurer to the Union, and devoted himself most assiduously to the financial side of the organisation, showing remarkable ability in this office until 1919, when, on the death of Mr. J. R. Nisbet, he took over the chairmanship.

It is not only as an official of the Auto Cycle Union that Mr. Torkington's name will be remembered by motor cyclists. He was founder and chairman of the National

Motor Cyclists' Fuel Union, a body organised during the war, which clearly placed before the authorities the



Mr. A. W. 7 orkington at the last Six Days Trial

claims of motor cyclists, especially manual workers, for a small dole of petrol to enable them either to get to their work on their motor cycles or to enjoy a week-end run in the open country. Under the able organisation of Mr. Torkington the National Motor Cyclists' Fuel Union grew and prospered, and many hard workers employed at high pressure on war work during the week in a sometimes stuffy and badly ventilated factory were able to enjoy the delights of the open road on Saturdays and Sundays. Mr. Torkington was well aware of the importance of helping the worker to get ample relaxation, and his devoted efforts certainly bore fruit.

Mr. Torkington not only interested himself in motor cycles but in automobilism as well. He was a member of the Royal Automobile Club Committee, a member of the General Sub-committee, and several other sub-committees, among them the Financial Committee.

He served in the Territorials (R.A.), and held the rank of colonel.

The Auto Cycle Union has been sorely stricken in the loss of two chairmen within but a few months of one another, and the vacant post will be exceedingly hard to fill. The late Mr. Torkington had the welfare of motor cyclists always at heart, and he will be greatly missed by all those who knew him. The funeral took place at noon

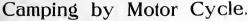
on Friday last at the Paddington Cemetery, the service being taken by the Rev. E. P. Greenhill. candle lantern.

Ballard's camp-

ing outfit stowed

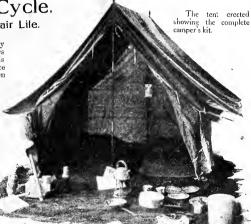
away on a Black-

burne sidecar.



Compact Equipment for the Open-air Life. M UCH enjoyment and a considerable saving of money can be effected by the motor cyclist who carries his house-with him, and is thus independent of botels and high hotel charges. Both in this country and in France many pleasant tours at a very small cost can be undertaken

Messrs. Ballard's Motors, 92, Gloncester Road, London, S.W.7, have thoroughly studied the question tion, and have erected in their showrooms a capital (with fly sheet and ground sheet) which will comfortably accommodate two people, and can be supplied with two blankets or one sleeping bag. The equipment consists not only of the tent com-The equipment consists not only of the tent couplete, pegs, and the bag to store it in, but the complete camping outfit, including a Primus stove, kettle, a cantecu, a saucepan, a frying pan, plates, cups, knives and forks, a Thermos flask, a trenching tool (a very useful accessory for camping), and a



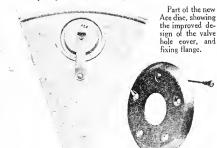
REFINEMENTS IN DISC WHEELS.

A LTHOUGH the Ace disc wheel has established a reputation for its refinements, chief among which being "the flange fixing, eliminating small bolts and nuts, the manufacturers have not been content to rest on their laurels. They have improved both the appearance of the discs (which are now made of aluminiam exclusively) by spinning them in one piece without a joint, and by an improved valye hole joint, and by an improved valve hole cover.

The latter takes the form of a small circular flanged cap fixed to the disc by a flat spring, which holds it in position in the orifice of

the circular valve hole. Another improvement in the Ace disc is the flange, which now a neat stamping recessed to take the special bolts.

Those riders who favour disc wheels (and there is little to be said against their use on sidecar machines at any to be said against their use on sidecar machines at any rate) will undoubtedly find that the Ace discs are as nearly an ideal fitting as it is possible to obtain. The method of fixing renders them quite rattle-proof, and the sizes are planned to be an accurate fit on several standard machines. The makers have now changed the title of the firm from the Disc Engineering Co. to Cornercroft, Ltd., with works at Vecqueray Street, Coventry.



AN EFFECTIVE REAR STAND CLIP.

T is a common spectacle, even in these days, to see trailing motor cycle stands. The average clip is so designed that it either holds the stand so firmly that it requires a great effort to free it, or, on the contrary, allows it to drop immediately bumpy

roads are traversed. Recognising these faults, the Arden Motor Co., Ltd., of Balsall, Berkswell,

A neat rear stand clip.

near Coventry, have produced a new rear stand clip, the Klipitite, which they claim will hold the rear stand up quite firmly, even over the roughest roads.

A glance at the illustration will reveal the fact that the whole clip is simplicity itsel, and that the mechanism, which consists of a strong spring pressing on to a hardened steel ball of ample dimensions, is totally enclosed.

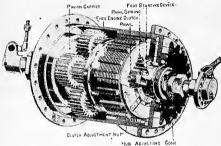
A Popular Handbook for Motor Cyclists.

The Twenty-first Edition of "Motor Cycles and How to Manage Them." Revised and Largely Rewritten.

A LTHOUGH many manufacturers supply very complete instruction booklets with new motor cycles, others do not do so, and often a rider is at a loss to know how he may get the best results from his machine. In the case of second-hand motor cycles also, the novice may purchase a machine with very little knowledge of its management and control, and to riders in such a class, the

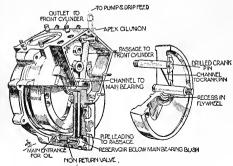
In the case of second-hand motor cycles also, the novice may purchase a machine with very little knowledge of its management and control, and to riders in such a class, the need of a handbook, describing the working and running of a motor cycle, is decidedly real. This need has been filled by the various book publications issued from the offices of The Motor Cycle, chief amongst them being "Motor Cycles and How to Manage Them" (Iliffe and Sons Ltd., 20, Tudor Street, London, E.C.4, price 2s. 6d., by post 2s. 10d.).

A new edition (the 21st) of the latter has recently been prepared, and it is now out of the printers' hands. The revision of the matter and illustrations has been very com-

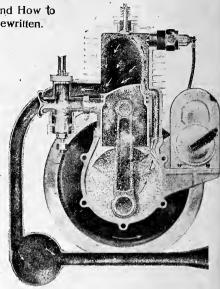


The Armstrong three-speed hub gear fitted to many 1914 machines. An illustration showing a mechanism usually puzzling to the rider.

plete, and much obsolete material deleted. The object of the book is not only to, give the motor cyclist a review of current motor cycle practice, but also to instruct him in obtaining the best results from his machine. Three hundred and fifty illustrations, in both line and half-tone, show not only complete machines, but also the chief components and accessory details. Carefully prepared sectional illustrations are shown of typical engines, gear boxes, and magnetos, and two sets of very clear explanatory diagrams are included, showing respectively the operation of engines of both the four-stroke and two-stroke pattern.



Diagrammatic arrangements of lubrication systems are clearly shown; this illustration is of the J.A.P. twin-cylinder engine



A specimen illustration. The action of two and four stroke engines is explained very fully, and specially prepared diagrams illustrate the complete cycles of operations.

The Magneto Explained.

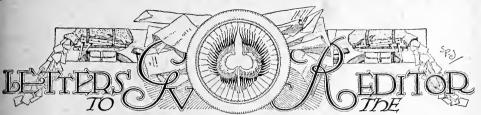
The reliability of the modern magneto is such that a motor cyclist may easily ride throughout the whole season without either understanding or in any way caring for the ignition apparatus. At the same time, however, there are many who desire to understand the working of the magneto in order that they may be able to effect minor adjustments if the need for them ever arises. With this end in view, the chapter devoted to the high-tension magneto has been entirely rewritten, and in clear and simple language it now gives a sound and practical explanation of all that need be known about this very interesting component part of the machine. It may be confidently asserted that no better article on the magneto has ever been published other than in text books particularly devoted to the subject of ignition.

particularly devoted to the subject of ignition. Separate chapters are devoted to multi-cylinder engines, the action of two-strokes, and also to carburation, lubrication, and cooling systems. There is a great deal of information on transmission and gearing, the internal arrangements of most well-known gear boxes heing illustrated. The latest development in spring frames and sidecar construction are also reviewed. Ladies and those who are interested in light openframed motor cycles and machines in the scooter class will find that the most popular models are dealt with. Lighting-equipment, tyres, and speed meters are also discussed in its 275 pages.

Practical Instruction.

In addition to a chapter on the choice of a machine, there are two sections devoted respectively to instruction on the management of the machine on the road and to its care in the motor house, and many practical hints are embodied therein. A new section on Continental touring has been embodied, and a collection of useful tables giving calculation for speed, horse-power, and gearing has been added.

The existing law with regard to motor cycles is also reviewed, and a copious index will prove of great assistance to the rider who wishes to trace information regarding any definite defect of running or detail of mechanism



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address,

LENSES IN GOGGLES.

Sir,-I am one of those poor unfortunate people who have to wear glasses at all times, and although I can, and do, wear them underneath my goggles it struck me that it would be very much more comfortable to have one's own

lenses incorporated in the goggles.

I wonder whether any of your readers could tell me the "Twonder whether any or your readers could tell me ale name of a good and enterprising optician who could undertake such a job. I think if any optician of good standing were to take this up, and to advertise the fact, he would find there was quite a lot of money in it.

E. R. TOYSTER.

SINGLE-LEVER CARBURETTERS.

-Now that several leading motor cycle manufacturers are fitting single lever carburetters, it would interest many of your readers to know the experience of those drivers who have them fitted to their respective machines. Personally, I have ridden motor cycles since 1903, and have now a 1920 Enfield combination fitted with an Amac single lever. I have not yet tested my consumption, but feel satisfied

that I am getting good results, have no difficulty in starting, and acceleration is excellent, but I still think that my carburetter could do with more air at half throttle, though if I fitted some means of giving more air, I should possibly find I am wrong. I still have a sneaking regard for the two levers.

D. C. WILLIAMS.

SOPWITH MOTOR CYCLES.

Sir,-Announcements have recently been appearing offering for sale Sopwith two-stroke motor cycles. In order to avoid any confusion it seems desirable to state that these machines are not built by the Sopwith Aviation and Engineering Co., Ltd., Kingston-on-Thames, and 65, South Molton Street, W.1, who have no connection with any other company, nor with the manufacture of any motor cycle other than the A.B.C.

If at any future time there should be a change in this company's policy, whereby any other motor cycle is marketed by them, an announcement of the fact will be made.

THE SOPWITH AVIATION AND ENGINEERING CO., LTD. H. B. MUSGRAVE, Secretary.

PREMIUM HUNTING IN MOTOR CYCLES.

Sir,-Manufacturers of motor cycles and their accredited agents have lately suffered from the operations of certain individuals who do not wish to become the bona-fide owners of a motor cycle, but rather desire to obtain possession of a machine for the purpose of resale at a substantial and entirely unmerited premium, and I shall be grateful for the privilege of your columns to draw the attention of the public to two important facts.

First, the premium hunter is rarely, if ever, legitimately connected with the industry, and is not in the least concerned with the interests of manufacturer, agent, or user. For his own private gain he exploits the large demand in evidence

at the opening of the season.

In the second place, as general industrial conditions con-

tinue to improve, ample supplies of machines will pass into the hands of the agents without undue delay. Machines are now being despatched from the works much more rapidly than was the case during the first quarter of the year.

Active measures are now being undertaken to check the evil, and manufacturers reserve the right to withdraw, in respect of motor cycles bargained for in this fashion, any guarantee or other advantages which might otherwise attach.

Purchasers should consult the nearest agent of the machine he or she desires, so that their interests and their purse may be safeguarded.

Safeguarded.

President British Cycle and Motor Cycle Mannfacturers' and Traders' Union, Ltd.

T.T. ENTRY FEES.

Sir,-Your interesting paragraph about the T.T. races and the entries for this year's event prompt me to urge your journal to use its influence to obtain some remission of the heavy entry fee of £21 for the genuine private owner riding his own machine. In the Six Days Trials this is done without any marked deterioration of the standard of riding. In my opinion, the reduction of the T.T. entry fee to, say, 28 8s. or £10, would not give rise to any incursion of careless riders on dud machines.

Swansea.

ACETYLENE GENERATORS.

Sir,-I recently purchased a Low generator. I ordered "small car" size with attachment for a sidecar, and when it was delivered it was quite easily fixed on the frame of the chassis. At first, I had trouble with it, but returned it to the makers, who found out the error and corrected it. I am now satisfied with it. Prior to using this, I had to fill my generator every night. I now have a powerful head lamp on the cycle and side-I now have a powerful head lamp on the cycle and side-car, and the rear light on the cycle gives a purer and steadier light, and I have had no trouble whatever with my rear light going out. Personally, I prefer the Low generator to electricity. With the exception that it requires a match to light the lamp, it can be turned on and off in the same way as electric light. I should like to add I have no interest in the makers. E. HARRIS.

SPEED WOBBLE.

Sir,—The other day I was rushing a 1 in 5 gradient, and at the foot of it I was touching the 45 m.p.h. I was partly baulked by a car at this spot, and had to ride close in the kerb, where I struck a No. 1 pot-hole. This gave my front wheel a violent jerk to the left, and it at once swing a contract of the contract of over to the right and started the famous wobble. Half closing the throttle, I exercised the whole of my strength to counteract the increasing period of the swerves, and was successful, and straightened out suddenly with quite a jerk. There were about eight to ten complete oscillations, and the sensation of it to my hands and arms was identical to that of trying to push a gyroscope out of its precession. I know of no other sensation with which to compare it, leaving out, of course, the sensations at the pit of the stomach, which is not of the gyroscopic order, except at sea.

One must assume that the small weight of the rims and One must assume that the small weight of the rims and that the spokes is sufficient to produce gyroscopic action, and that the front wheel being suddenly put out of its plane, would at once set up gyrations on its own axis, which would increase in period unless checked by sheer force, which I did on this occasion. The back wheel being in a fixed plane would certainly influence the front wheel, which everyone knows

who has to make an awkward turn at speed

It appears to me that were there no gyroscopic action, after my first swerve to the left I should have continued thus until I fetched the left bank of the road, nnless I had a sufficiently wide space to make a big sweep and work round to the straight ahead again. The machine is a 5 h.p. J A.P. twin with a big rake on the front forks.

STARTING TIPS.

Sir,—In reply to "J.M.M." re easy starting of B.S.A., I notice he says that it requires a "40 h.p. depression." The trouble, I take it, is one of two things—either too heavy engine oil or sticking clutch plates. If B.S.A. gear lubricant is used, the latter trouble is practically non-existent, provided that the maximum amount of push is available on the clutch rod.

As to the first named, if the engine oil is as advised by manufacturers, the only method of releasing is to prime; but

in any but cold weather this should not be necessary.

If "J.M.M." will open up his jet half a turn or so more than normal with air control at about a quarter open and the throttle at about half open he should be started up after say a couple of "smart depressions." I encountered just the same trouble on a 1915 B.S.A. chain-cum-belt, but after thoroughly washing out the gear box and taking up excessive clearance in operating rod, afterwards using correct gear box lubricant, I had no further trouble.

DERBY.

Derby.

Sir,—I notice that "J.M.M.," Tenterden, is asking for starting tips on a B.S.A. model. The following may be useful as found from experience on my model:
1. Only slight injection on starting from cold.

2. Air lever as well as petrol lever opened about one-third of an inch, as in the B.S.A. adjustable carburetter one seems to get a better mixture.

Magneto fully retarded. Work the piston to the top of the stroke before giving

vigorous kick.

Open adjustable jet on B.S.A. 'carburetter about three turns (complete turns) and close again to required position when the engine is running.

J. A. FREEMAN. when the engine is running.

INTER-CLUB COMPETITIONS.

Sir,-As the hon, trials sec, for the Maudes Challenge Shield for the inter-club team competition confined entirely to private owners, being promoted by the Surbiton and District M.C.C. to be held on Saturday, June 5th, the letter from your correspondent S. W. Phillpott is particularly interesting to me, and I think he will agree that the competition proposed entirely meets his suggestions, and the committee of the promoting club hope that the support from the affiliated clubs will warrant them making the event an annual one. The committee have endeavoured to eliminate the trade entrant by their definition of a private owner, and they hope that clubs entering will cudeavour to make their teams as "amateurish" as possible.

Furthermore, the trade members of the club are gladly giving their assistance, and any other assistance by the trade

will be gladly welcomed.

May I add that should any affiliated club secretary not have received particulars of this competition I shall be happy to forward them.

W. PRATT, S. and D.M.C.C., Hon. Trials Sec. Inter-club Team Trial for Private Owners. 100, Great Portland Street, W.

INFLATED PRICES.

Sir,-We should suggest that your correspondent at once write to the manufacturers, and call their attention to the overcharges, when, if the agent offering the goods is a recognised agent of the firm concerned, we think that future supplies will be stopped.

In perhaps the case of every motor cycle manufacturer of repute, it is a breach of the Agency Agreement for recognised agent to offer to sell a new machine at a higher price than that ruling at the date of sale; and if any readers of your paper should meet with such a case they would be rendering a service both to the manufacturers and to their

reputable agents if they at once report it.

Unfortunately, there is a certain class of trader, although not a recognised agent, who manages to obtain new machines by paying the full retail price, or even more, and who is selling these machines at a figure considerably in advance of the manufacturers' list price, probably making a bigger profit in this way than the respectable agent.

THE SERVICE CO. (LONDON), LTD.

Sir,-W.th reference to the letter on inflated prices from "E.J.L.," in your issue of April 15th, I had a very similar experience myself.

A dealer in North-west London, who advertises in your paper each week, asked me £125 for a 4 h.p. Triumph motor cycle, at a time, some months ago, when the makers' list price was £92.

I think the Triumph Cycle Co., or one of the associations who profess to look after the interests of motor cyclists, ought to do something in such a case.

F. A. HUDSON, M.A., A.M.I.C.E.

CARBURETTER DESIGN.

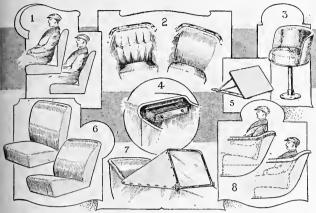
Sir,—Regarding Mr. Holland's letter of April 15th, and the reply of Mr. Parr on April 20th, I would like to say that I think there can be no doubt that variation in tem-perature has a good deal to do with carburation, and that the warmer the temperature the less petrol must be used. To anyone in doubt, I would suggest this experiment.

Obtain access to an engine fitted with a dynamometer so that the exact power can be ascertained, get this engine running at its best, fitted with a carburetter that has either a variable choke tube like the Binks, or with an extra air a variable choice tools has been running for some time, and is thoroughly warmed up, observe the power given out, then gradually heat up the float chamber, and you will

then gradually near up the noar champer, and you will observe the power drop; but this can be regained either by expanding the choke tube or admitting extra air. "Clericus," in the issue of April 29th, says that a disadvantage of the Binks carburetter on the Scott is that it is exposed to the cold draught. I do not think this is any disadvantage, provided a hot air pipe is supplied. We always advise Scott riders to use a hot air pipe, and make a special hot air set which consists of an elbow, length of flexible pipe, and a muff which fits on the cylinder top. flexible pipe, and a man which has on the cylinder cope. This supplies the carburetter with warm air practically at once. I cannot conceive why manufacturers of two-stroke



All riders do not view these huge road vehicles with the apparent amusement of the motor cyclist shown, who evidently has not been making vain endeavours to pass the char-a-banc on a narrow road. Both The Motor Cycle and The Autocar have continually urged the adoption of mirrors on lorries and slow-moving traffic, or some other means of notifying the driver that a vehicle wishes to pass.



STUDYING THE SIDECAR PASSENGERS' COMFORT.

Some minor faults of the modern sidecar and means to remove them: (1) The average Some minor taults of the modern sidecar and means to remove them: (1) The average back cushion is either too upright or has the thickest part of the upholstering too high; the small of the back has no support. (2) A plain back cushion is more comfortable than one which is "buttoned," a type difficult to clean. (3) Adequate accommodation is not provided for the juvenile passenger. (4) A small drawer or locker is a great convenience to the lady passenger, but it should not be so low that it restricts leg room. (5) Adjustable footrests are desirable in long sidecars. (6) Seat cushions should slope to the rear. (7) A side curtain is a necessity with windscreens. (8) Seat cushions are usually too high. Passengers like to si "in," rather than "on," sidecars.

BLACK FINISH.

Sir,—In your issue of April 8th, "Ixion" says in his "Occasional Comments," "It is a mistake to suppose that all the commercial 'black finishes' for handle-bars and suchike are preferable to nickel-plating." I am quite sure he would agree with me that if there were some simple means of restoring the black finish to the damaged parts black finish would be infinitely preferable to nickel-plating. May I therefore quote a method which was given to a reader some weeks ago in your sister journal, The Amateur Photographer and Photography? It was as follows:

"Apply a coating of Brunswick black, and as soon as this coating is tacky cover it thickly with a fine black

this coating is tacky cover it thickly with a fine black powder—lamp black, vegetable black, or ivory black will do. This powder should be left for a few days for the Brunswick black to become quite hard, and can then be

dusted off.

This, I think, is far better than returning the bars to the factory. . Hove.

TAXATION.

Sir,-I consider the proposed tax on motor cycles most unjust. I, as a motor cyclist, do not grumble at paying my full share, but I think the proposed £4 on a combination is out of all reason; and as the motor cycle is the poor man's is out of all reason; and as the motor cycle is the poor man's bus, and is in fact the first thing bought by not only the poor man, but also the rich, it will greatly hamper trade, and I predict a great falling off in the motor cycle industry. This tax will in a short time kill the motor engineering trade. I think a fair tax, seeing we have to pay more, would be £1 10s. under 200 lb., £2 for over 200 lb., say up to 4 h.p., or solo 44 h.p., and £2 10s. for combination. I don't think anyone would grumble.

If the authorities cannot come to this, I propose that all motor cyclists, who are not dependent on their machines for a living, should start a scheme and hold the machines for always a patter January 1921, till such time as the tax be modified.

up after January 1921, till such time as the tax be modified.
Will someone start this at once?

I will give him my word that I will not touch my machine until the tax is at least reasonably modified.

Sir,-I quite fail to see that the new taxes involve any hardships to motor cyclists. It is agreed that we must pay more, to help to meet the greatly increased cost of road

repair and to help to provide better roads. Though motor cycles do far less damage to roads than cars, good roads are of more importance to the motor cyclist than to any other class of road user, and if we have them we shall save more than the value of the extra taxes. It is absurd to say that an annual tax of £4 is going to ruin a man who can afford to buy and maintain a combination costing over £200. Many spend more than that every year

in quite minecessary gadgets.

The only people who will have to pay appreciably more are those who seldom use their machine, and if they can afford to keep a motor cycle for occasional joy-rides they can afford to pay the tax. The owner of a light-weight will actually pay less than before unless he uses less than twenty gallons of petrol in a year. When rationing was introduced, there was an outcry that two gallons a month was utterly useless!

Another whine is that there should be a rebate on machines made before 1913. As nearly all these must weigh under 200 lb., this is quite unjustified.

The only class who are really taxed more are the sidecar owners, and they will only have to pay £1 more if they use 80 gallons a year-a very moderate allowance.

My opinion is that there is absolutely nothing to complain about, and the motoring organisations might save their energies for some more useful object.

The question whether it is wise to take the tax off imported spirit is political, and does not concern us as motorist

H. C. WYLEY.

SLEEVE VALVE ENGINES.

Sir,-I note, in your remarks on sleeve valve engines in your description of the Allison sleeve valve engine in *The Motor Cycle* of April 22nd, that you do not think that this type of engine always holds compression well.

This does not agree with my engine testing experience on the Burt single sleeve valve engine. In this type of engine, a ring used to be fitted in the detachable head, in order to a ring used to be intend in the detachable head, in order reduce gas leakage from the combustion chamber past the inside of the sleeve. But I found on test that by leaving out the ring there was a gain of 3 b.h.p. at 1,900 r.p.m., even after prolonged tests at full load, and that the compression pressure was slightly higher at the end of the test, when measured under running conditions with an Okill pressure indicator. There should be no trouble with distortion in the sleeves if they are heat treated after rough machining and before grinding.

I am afraid that Mr. Allison will experience some trouble, due to pre-ignition, with the bevelled edges of the inner sleeve, and that his mechanical efficiency will be low, owing to the use of two sleeves. He will probably also experience some trouble in getting his patent through, owing to its similarity to the Knight and Burt engines.

D. P. MUIRHEAD, A.M.I.A.E.

PETROL CARRIERS. Sir,-There is one point I desire to call attention to in sidecar construction, and that is the fitting of luggage or petrol carriers. When one buys a new sidecar it is about the first thing one thinks about, and I have been through this experience again for about the umpteenth time. Obviously, the carrier must be sprung, or both chassis and carrier contents suffer. In the present instance the fitting involved removal of the body, dismounting certain of the upholstery and internal woodwork in order to secure suitable points for attachment. I would urge manufacturers either to fit carriers as part of the standard equipment or to market a carrier as an extra, but, in all cases, to incorporate in the design of the sidecar bolts or plates or some other points to which a person of average intelligence can fix either a standard or personally designed carrier attachment

Huntingdon.

NEW MACHINES AND AN OLD NAME.

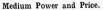
Three Attractive Models of the British Excelsion

A BLACKBURNE-ENGINED lightweight, a two-stroke with flywheel magneto, and a new big single for

sidecar work are to be added to the range of models manufactured by Messrs. Bayliss, Thomas and Co.

Commencing with the simplest form of two-stroke, and ending with an 8 hp. de luxe sidecar outfit, British Excelsiors will soon be made in three distinct types, instead of two as at present. Two of the new machines coming into the existing lightweight group, and the third is an entirely new model to meet the demand for a medium-powered utilitarian type of sidecar machine for those who do not feel justified in invest-

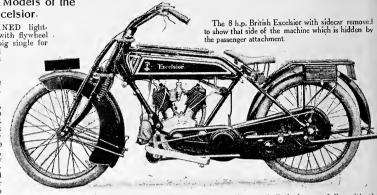
not feel justified in investing in a de luxe motor cycle such as the present-day big twin.



This medium powered machine will have a specification similar to that of the pre-war outfit modified to suit present-day conditions, but sans such items as interchangeable and quickly detachable wheels, spare wheel, dynamo lighting, enclosed all-chain drive, hood and screen, and the many other refinements which have helped to raise prices to figures in the neighbourhood of £200.

A 650 c.c. Single.

It is intended to make this model essentially a sidecar outfit, and the machine we inspected last week in course of erection was distinctly promising. A particularly heavy head was fitted—an essential with all sidecar machines which was not fully appreciated by pre-war designers. The engine is a moderate compression single of 650 c.c., and is of the same design as the engine fitted in the 4½ h.p. single before the war. For the benefit of those who are comparatively new to motor cycle matters, we remind readers that those responsible for the

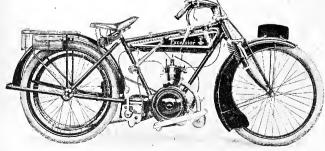


Excelsior have had considerable experience with "big singles"; one of the 1914 models which was sold in large numbers had a single cylinder of no less than



The new tapered head, which has ½in. ba!ls on the bottom race.

800 c.c. capacity, and proved to be a very powerful machine, much smoother in its running than would be imagined from the size of its cylinders.



The first flywheel magneto Villiers engine to be illustrated in a machine—the latest two-stroke Excelsior.

As we shall deal more fully with this model at a later date, we will say no more at the moment, except that in our opinion Messrs. Bayliss, Thomas and Co. are acting wisely in reintroducing this type.

New Lightweights.

The two new lightweights have frames of practically the same type as that used for the present two-stroke and 2½ h.p. J.A.P. models. They are fitted with the new Villiens engine, with flywheel magneto and the 2½ h.p. Blackhurne engine respectively.

The first-mentioned presents a quite attractive appearance, and at a glance one is impressed by the general "cleaning up" in design which results from embodying the magneto in the flywheel. From reports, and also from our own impressions of this engine, the new Villiers appears to be a great advance on the usual two-stroke engine. We know that the improvements embodied in the new engine are the result of several years' experimental work, and have not been obtained by mere guesswork, therefore a great deal is expected from the new engine.

We have often urged manufacturers to remember the requirements of the short rider, who requires a small machine with an engine larger than the average lightweight, and we were glad to avail ourselves of the opportunity to try the Excelsior makers' conception of this type of machine. The frame is low, and compact enough for the shortest rider, and the 2\frac{3}{2} h.p. Blackburne engine has earned for itself a reputation as a desirable power unit for serious solo work.

A Handy Model.

On the miniature testing track at the Excelsior works the little machine proved exceptionally tractable and most comfortable to ride, and we have no hesitation in prophesying that it will become one of the most popular models of the Excelsior range.

The 8 h.p. sidecar machine has undergone several modifications since we last described it in the autumn of last year. The wheelbase has been shortened con-

New Machines and an Old Name .-

siderably and an entirely new steering head embodied. This is of rather unsiderany and an entirely new steering head embodied. This is of rather unusual design, is in one piece, somewhat larger than the average, and having 4in, balls in the botom race and 75 in. at the top.

As will be seen from one of the illustra-

tions, the head tapers and has no projections such as give many heads the appearance of having been built up. There are strengthening webs above and below the front down tube which combines a lug for the sidecar connection,

Equipment.

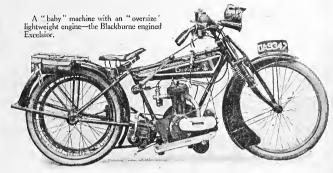
All chain transmission, totally enclosed All chain transmission, totally enclosed in substantial metal cases, quick detachable and interchangeable wheels (with a spare on the back of the sidecar), Magdyno combined lighting and ignition set, and leg shields are all points tending to make the machine of the de luxe type, while the sidecar is very roomy, and is fitted with folding grid, a neat V screen, side shield, hinged dash, adjustable spring footrest, and hood. footrest, and hood.



The standard finish of all Excelsiors is now black, relieved with light blue lines.

Messrs, Bayliss-Thomas have only been installed in their new works at Tyseley,

Birmingham, about six months, and as the output is now about eighty machines per week, the value of a new and wellequipped works may be appreciated.



A Simple Four-stroke Engine.

Inlet and Exhaust Periods controlled by One Double-purpose Valve.

Many inventors have become attracted by the simplicity of the single valve system of controlling the inlet and exhaust gas flow, and the practice is to be commended if efficiency is not sacrificed.

The Jarvis engine, with a single combined poppet and piston valve controlling inlet and exhaust periods

An experimental model has recently been brought to our notice by Mr. J. Jarvis. of 729, Ormskirk Road, Pember-ton, Wigan, which embodies a dual-purpose valve of decidedly simple con-

No unconventional layout of the engine is necessary; in fact, the appearance of the one under test is reminiscent of the early a.i.v. models of our younger days. eany a.i.v. models of our younger days. The diagram of the valve chest, which lies to one side of the cylinder, shows that a single poppet valve carries a piston valve on its stem. The poppet valve is lifted through the agency of a cam and warming your throughout. rocker, and remains open throughout exhaust and inlet periods.

Valve Action.

During the exhaust stroke the valve is lifted off its seating, and the piston is litted off its seating, and the piston valve covers the lower annular port (inlet) in the valve chamber, and the gases pass through the upper annular port as the piston rises. Immediately before the induction stroke commences, a further raised portion of the cam lifts the valve still higher, and the cylindrical restien was constrained. portion now covers the exhaust orifice and unseals the one leading from the inlet pipe. The new charge passes through the hollow piston valve, over the poppet valve seating, and so flows into the cylinder. When the crank reaches the

limit of its downward travel, the valve closes completely, and compression and firing strokes take place in the ordi-

nary way.

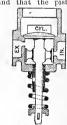
It will be seen that the poppet valve holds compression and that the piston

valve is not sub-jected to any pressure, its function being merely that of a distri-buter. Amongst other advantages claimed for this construction, it is said that the engine has parti-cularly good pulling powers, especi-ally at low speeds, and that it does not suffer from overheating.

We are hoping to have a road test of this inter-

esting little engine in the near future. In the meantime it is interesting to observe the tendency at the present time for designers to depart from the conventional in valve type and mechanism.

There have probably been hundreds of attempts to eliminate the poppet valve by introducing sleeves of various types.



Section through the valve chamber, showing the ports and the double-purpose valve.

"OVERSEAS" TRIAL IN YORKSHIRE.

On Saturday, June 5th, the Ilkley M.C. and L.C.C. will hold a sporting one-day reliability trial over a strenuous course, including the foot-hills of the Pennines. This event is one of the twenty officially sanctioned by the A.C.U., and entrants will be assured of a thoroughly good run with a minimum of irksome regulations to worry them. Some hint as to the "Overseas" nature of the route selected may be gleaned from the fact that a

third-class certificate will be awarded to all who finish the course and are not more than thirty minutes late at any control.

There are twelve classes for machines

of various capacities—solo and passenger— and the following awards are offered: The Ilkley trophy and gold medal for best individual performance; the Palmer trophy and gold medal for best trade performance; the Scott trophy for best amateur performance; gold medals for best performance in each class; and first, second, and third-class certificates. In order that strangers to the district may have a fair chance of qualifying for the Ilkley trophy, no one who is or has been on the membership list of the club during 1919-20 will be eligible for this award. Entries close on Saturday, May 29th (first post), and full particulars are obtainable from the hon. sec. Mr. H. W. Sellers, Langley Avenue, Bingley, Yorks.



Gimes to Light Lamps.

May	13th			9.10	p.m.
,,	15th			9.13	
,,	17th	•••		9.16	,,
,,,	19th		•••	9.18	,,

"The Motor Cycle" 42d.

With this issue the price of The Motor Cycle is raised to 41d., for reasons which have already been stated.

Timing Hill-climbs by Wireless.

In a lecture given to the Newcastle and District M.C., Mr. F. Steven, a wireless expert, stated that he hoped shortly to time a hill-climb by wireless.

Consumption in Rel:ability Trials.

J. E. Greenwood, the winner of the Midland Challenge cup in the Victory cup trial, and one of the victorious Sunbeam team, gives some interesting information with regard to his outfit. Using a 3½ h.p. Sunbeam sidecar weighing 450 lb., and carrying 30 st. over the hilly Midland course, he averaged 75 miles to the gallon. The carburetter was a Binks.

Results of Open Scottish Hill-climb.

The official results of the recent hillclimb on Redstone Rig, organised by the Edinburgh M.C. are as follow:

HANDIOAPS.

350 c.c. (open).—I. B. Alexander (2% Douglas).
361-600 c.c. (open).—I. B. Alexander (2% Douglas).
361-600 c.c. (open).—J. B. Sanderson (3 A.B.C.).
361-1,100 c.c. (open).—A. H. Alexander (7 Indian).
395-600 c.c. (sidecars, open).—C. R. Duncan (3% Norton sc.). 335-600 c.c. (sidecars, open).—C. R. Duncan (3½ Norton sc.). (601-1,100 c.c. (sidecars, open).—J. R. Alexander (7 Indian). (601-1,100 c.c. (sidecars, amateur).—F. J. Hutchison (7 Indian).

chison (7 Indian).

SORATCH EVENTS.

550 c.c. (open).—J. R. Alexander (2½ Douglas).

551-600 c.c. (open).—C. R. Duncan (3½ Norton).

Sol-600 c.c. (amasteur).—C. R. Duncan (3½ Norton).

Onton).

Gol-1,100 c.c. (open).—Russell Boyack (8 Bat-601-1,100 c.c. (open).—Russia wyo. A. Japh. 305-800 c.c. (sidecars, amateurs).—C. R. Duncan (355, Norton sc.). (sidecars, open).—A. H. Alexander (7 Indian). (601-1,100 c.c. (sidecars, amateur).—F. J. Hutchison (7 Indian).

The fastest time of the day was made by Russell Boyack (8 Bat-Jap), and the award for the best figure of merit by a private owner was given to J. R. Sanderson (3 A.B.C.).

Special Features.

DUPLEX FRAMES. HINIS TO THE NOVICE. NEW MODELS.

Accommodating the Tools.

The American Ace motor cycle-a new four-cylinder proposition-has its tool-box in the tank.

Present-day Tendencies.

Some manufacturers are now hesitating between further developing the passenger machine into a runabout or to introduce cheaper types.

Reunion of Ex-D.R.'s 10th Corps.

Ex-Despatch Riders of the 10th Corps are holding a reunion at the Red Horse and Golden Lion Hotels, Stratford-on-Avon, during the week-end, June 5th-to 7th. Mr. O. H. Davis, 578, Coventry Road, Small Heath, Birmingham, will be glad to hear at once from those with whom he is "out of touch."

> structure and to straighten out the bend where more than one fatal accident has

occurred.

BRITISH "OILFIELDS," 1920. This land, near Newark, Notts, has been acquired by the Oilfields of England, Ltd. What will the scene look like in a few years' time if the expectations of the shareholders, and motor cyclists in genera', are fulfilled? A MAIN ROAD DANGER SPOT London-Edinburgh competitors will recollect the old wooden trestle bridge a few miles north of Newark, and the bad bend shown in the photograph. It has now been decided to replace the ancient

С6

MOTOR (YCLE

Alms Hill again.

Last Saturday afternoon the Junior Car Club organised a hill-climb at Alms Hill, near Henley-on-Thames. Many motor eyelists assembled to watch the proceedings.

Tredegar Open Hill-climb.

The recent Tredegar open hill-climb proved, as will be seen by the list below, to be a "day out" for the 3 h.p. A.B.C., for E. P. Fowler won no fewer than five of the six events.

of the six events.

CLASS 1,—1, T. P., Lewis (2)/, Levis); 2, T. J.,

Barfitz (2)/, Douglas),

CLASS 2,—1, E. P., Fowler (3 A.B.C.); 2, Capt.,

A. Lindsay (3)/, Norton),

A. Lindsay (3)/, Fowler (3 A.B.C.); 2, F. J.,

CLASS 2,—1, E. P., Fowler (3 A.B.C.); 2, F. J.,

CLASS 4 (only two entries)—1, E. P. Fowler (3

A.B.C.); 2, W. Price (4 Triumph),

CLASS 5,—1, E. P., Fowler (3 A.B.C.); 2, A.

Matthews (3)/, Norton),

CLASS 6,—1, E. P., Fowler (3 A.B.C.); 2, F.

DLASS 6,—1, E. P., Fowler (3 A.B.C.); 2, F.

DLASS 6,—1, E. P., Fowler (3 A.B.C.); 2, F.

Second-hand Prices.

A general summary of current secondhand prices will appear fortnightly in this column, thus enabling readers to follow the trend of the second-hand market. The figures given show the highest and lowest prices asked by advertisers.

Highest and Lowest.
A. J.S., 6 h.p., sidecar, 1016-18 f105-f175
, b n.p., Sidecar, 1919-20 f175-f255
Allen, 24 h.p., 2-stroke, 2-speed, 1919-20
Ariel, 31 h.p., sidecar, 1919-20
Bradbury, 4 h.p., fixed gear, 1013-14
B.S.A., 41 h.p., 3-speed, sidecar, 1016-15, 108-1110
, 4 h.p. 3-speed, sidecar, 1919-20 (135-/165
Calthorpe-Jap, 23 h.p., 2-speed, 1916 £40-£50
Ilvno, 6 h.p., sidecar, 1915-18
Joulson-B., 27 h.p., 2-speed. 1919-20 £85-£95
Diamond-Jap, 27 h.p., 2-speed, 1920 £75-£85
Douglas, 21 b.p., 2-speed, 1911-16
, -2 h.p., 2-speed, 1917-19 £60-£85
4 h.p., sidecar, 1918-20 £110-£170
Infield, 6 h.p., sidecar, 1914-16
Harley-Davidson, 7-9 h.p., sidecar, 1919-20 £170-£225
indian, 7-9 h.p., 2-speed, sidecar, 1914-15. £05-£135
Powerplus, sidecar, 1919-20
fatchless, sidecar, Victory Model
Vew Hudson, 21 h.p., 2-speed, 2-stroke, 1920 [68-f70
Vew Imperial, 24 h.p., 2-speed, 1919-20 . £65-£75
2 & M , 3 h.p., 2 speed, sidecar, 1916 18 . 195-115
lover, 3 h.p., T.T. model, 1919-20 £80-£114
3 h.p., 3-speed, sidecar, 1011-15 f75-f05
ludge-Multi, 31 h.p., 1914-16
35 h.p., 1919-20 fos-fres
Cott, 37 h.p., sidecar, 1914-16
unbeam, 31 h.p., 3-speed, 1919-20 /140-/160
n 35 h.p., sidecar, 1010-20 [180-[220]
numph, 4 h.p., 3-speed, sidecar 1914-16. \$80-\$115
" 4 h.p., 3-speed, sidecar, 1919-20 . £130-£170
11

he N.II T

The price of the N.U.T. motor cycle as been increased to £165.

Our Isle of Man correspondent tells us hat the Norton riders, under the comsland recently, for the purpose of testig their machines generally, especially ears. They expressed themselves quite stisfied with the condition of the course ith the exception of the stretch from ulby to Ramsey, which is particularly ad, but which is now being rapidly paired. The Nortons are said to possess wonderful turn of speed, and, given reasonable amount of luck, the riders e no reason why they do not stand an cellent chance of carrying off the ophy. Amongst the nine Korton comittions entered, which includes a team compete for the special trophy, is Douglas Brown, who rode a Rover in 1914. The Norton riders approved of the alteration in the course which cuts off the corner at the top of Bray Hill, and expect this will enable them to get a high speed out of the machines going down Bray Hill, which will now be considered one of the fastest parts of the This alteration in the course also affords a much smoother surface than the one formerly employed, and this is, of course, a point in its favour.

Additional Entrants.

In addition to the list of entrants for the T.T. given in last week's issue, the the T.T. given in last week's issue, the following have entered the contest: Junior race—N. C. Sclatcr (3 h.p. Aurora), A. H. Alexander (23 h.p. Douglas), E. Greenwood (23 h.p. Douglas), and R. O. Clark (24 h.p. Levis). Senior race—N. C. Sclater, jun. (3½ h.p. Norton), A. H. Alexander (3½ h.p. Douglas), R. Lucas (—), and A. J. Moffatt (3½ h.p. Norton).

It should be pointed out that the six entries by A. J. Stevens, Ltd., as given in last week's issue, are for the Junior race. The one in the Senior class (a 23 h.p. machine) has been entered as a sporting chance among the bigger machines. The Ivy rider will be P. G.

R. Loughton, mounted on a 23 h.p. Douglas, will represent the Newcastle and District Motor Club.

"The Motor Cycle" Telegram Service.

Following our practice during former T.T. races, it is our intention to telegraph the lap results to every important town in England. These telegrams will be dis-played in the windows of the most important agents, and those who have suitable means to exhibit them and wish to do so should communicate with us at once. Thus, a large number of our readers who are nnable to witness the blue riband event of the motor cycle world may be able to follow the racing lap by lap.

Victory Cup Trial.

The following additional awards have now been made:

SILVER MEDALS.

A. Woodfield (5.6 James 8c.).
H. Burley (4 Verus-Blackburne).
G. F. Baragwanath (4 Triumph).
H. Glendinning (8 Blackburne 8c.).
G. G. Barnard (32§ Simbeam).
H. Wood (45§ B.S.A.).
E. R. Wintle (44§ James).

In addition to the above, we wish to add the name of A. F. Selby (4 Blackburne), who was inadvertently omitted from our list in the issue of May 6th.

Scottish Speed Championships.

Owing to the practice for the Tourist Trophy Races commencing on May 31st, and the probability that some riders who would otherwise be entrants for the Scottish Meeting will be in the Isle of Man on June 5th, it has been decided to postpone the Scottish Meeting to Saturday, September 4tb.

A.C.U. East Midland Centre.'

The following notice, which contains an element of mystery, has been issued by the East Midland Centre of the A.C.U.: "A meeting of representatives of motor cycling clubs in the East Midlands division will be held at the Red Lion Hotel, Cambridge Street, Sheffield,

on the 15th inst. at 4.30 p.m.
"Vital matter arising out of the organised opposition of the Auto Cycle Union to the Ilkley M.C.C., whose open trial is arranged for June 5th, will be discussed. As the matter affects the life of established clubs and those in process of fermation in the Midlands and North, it is essential that every club be represented at the meeting.

Tea will be provided for all visitors. Notification of attendance in order to provide the necessary accommodation must be sent to the hon, secretary, J. Simmonds, 10, Cranmer Street, Notting-ham, not later than the 14th inst.



A cheering sight for prospective owners of Bleriot-Whippet cycle cars. This is the first large batch ready for delivery, and would indicate that the motor industry as a whole is doing its utmost to meet the public demand. This little runabout is fitted with an air-cooled engine and final belt drive.

The Single-cylinder Holds its Own.

Fast Speeds in the Bristol M.C.C. Speed Trials at Weston-super-Mare.



An animated scene at the starting point of the Bristol M.C.C. Speed Trials on the beach at Weston-super-Mare.

BEACH racing is a form of motor cycle activity much more closely supported in America than it is in this country.

This state of affairs may be accounted for by the fact that here we have only comparatively few places which lend themselves to the occasion. The sands at Weston-super-Mare are admirable for the purpose, and the Bristol M.C.C. are fortunate in having the co-operation of the Weston Urban District Council in running the now famous annual speed trials there.

Despite slight rain in the morning, the surface of the sand last Saturday was reasonably firm and dry, and some quite high speeds were attained over the mile

Another Day Out for Dance.

In a quiet, unostentatious way, G. Dance, the Sunbeam expert, put up some excellent riding. His methods are not nearly so spectacular as those of many who achieve only considerably slower

speeds. He made the fastest time of the day on a 3½ h.p. Sunbeam with side-by-side valves, covering a mile in 56s. (64.28 m.ph.)—a truly fine performance from a standing start.

The event was rather a field day for the Sunbeam, but E. Kickham, riding Douglas and Diamond machines, and the

A.B.C. team did exceedingly well.

The scooter events were cancelled, owing to lack of support, and the first event was one for 250 c.c. solo machines. Three riders faced the start, these being G. F. Tozer (24 O.K.-M.A.G.), E. Kickham (2½ Diamond), and H. Newey (2½ Levis).

The latter made an excellent start, and led down quite a third of the course. Kickham's little overhead-valve Diamond was rather difficult to start, but he eventually gained on Newey and finished a winner in 1m. 24s. (42.8 m.p.h.).

Kickham was not troubled with had starting in the subsequent classes, in which he rode the yellow overhead-valve 350 c.c. Douglas. This machine was in splendid tune and started instantly, and gathered speed in a few yards. Racing against Dance (23 o.h.v. Sunbeam), he was much quicker with the running mount than the Sunbeam exponent was with the clutch start, but he was slightly slower was the surgest.

than the Sunteau expectations are the course. The 500 c.c. class presented an opportunity for the speedmen to show their form, and the first heat felt to Dance, who covered the mile in under the minute, being followed 3\(^2\)s. late by E. Colmer, who made a splendid get-away on his 3\(^2\) h.p. Norton. In the second heat E. Kickham (2\(^2\) Douglas) was only \(^2\)s. slower than J. Emerson (5 A.B.C.). C. Sgonina, of whom much was expected, had trouble with his steel cylinder o.h.v. \(^3\)\$\(^4\) h.p. Norton only a few yards from the start. The third heat was won by F. J. Boshier-Jones (5 A.B.C.), who easily got ahead of G. F. Tozer, the second man, who rode a \(^3\)\$\(^4\) h.p. Rudge Multi.

Dance bettered his time by \$s. in the final, and was followed at an interval by Kickham.

31 Single Wins Unlimited Class.

Fastest time of the day was touched in the "unlimited" class by Dance, who played with entry by streaking the mile in 56s. Porter (3 A.B.C.) was second in the final.

Sidecar Performances.

Single-cylinder machines proved all-conquering in the passenger classes as in solo. The 23 h.p. Sunbeam, piloted by Dance, easily won from Bailey (23 Douglas sc.), while Sunbeam and Norton were first and second in the 500 c.c. event, being ridden by Dance and Colmer respectively.

Undoubtedly the most exciting race of the day was the final of the unlimited sidecar class, when Dance (3½ Sunbeam



A variety of starting methods. G. Dance (in white jersey) uses the clutch of his 2\frac{3}{4} h.p. Sunbeam, while the Douglas riders push off.



Four Reasons Why

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- 1. The Rubber is a mixing decided by exhaustive and lengthy tests. It resists wear and does not cut easily.
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An Important Work for every Motor Cyclist.

The time is past when it required an expert engineer to drive a car, but a working knowledge of the various parts of a car and their functions is still essential to really successful driving, and the importance of this work to every owner and driver of a

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"The Book of the Motor Car" is the first really comprehensive work on motor cars, cycle cars, and motor cycles ever published.

It is full of invaluable information on all problems of driving

and repairing, instructions being given for all possible difficulties in language that can be understood even by the most un-mechanical mind. The following are a few of the subjects dealt with: Cylinders, valves of all kinds, different types of engines, carburcters, ignition, silencers, gear and elutches, radiators, cooling systems, brakes, lubrication, lighting systems, wheels, tyres, fuels and how to use them, tools, and repair appliances, etc., etc.

appinances, etc., etc.

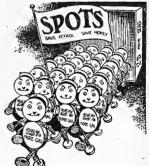
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You may be Satisfied with the way your Car is running, but until you have used "SPOTS" you will not know of what your Car is capable.

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The COAL BY-PRODUCTS COMPANY (Proprietors: PRESTON, HULL & Co., Ltd.)

90, Holborn House, High Holborn, LONDON, W.C. 1.

Sunbeam Motor Cycles with Perfect Power Transmission

The Single-cylinder Sunbeam possesses many Innovations and Improvements which cannot be obtained on any other Motor Cycle, and it is the Best Machine for all-round purposes.

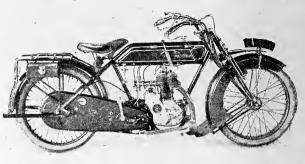
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The Transmission is Weatherproof and Trouble Free.

The Leaf Spring front fork is of Sunbeam patented design and manufacture.

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REVISION OF PRICES

CEDOS begs to inform the Public that owing to increases varying from 15% to 20% on all materials employed in manufacture, it has been necessary to increase the prices as under:-

GENT'S MODEL - 70 Gns. LADY'S MODEL - 72 Gns.

This is necessary to maintain

OUALITY ONLY OUALITY

CEDOS MOTORS (HANWELL & SONS) NORTHAMPTON

The Single-eylinder Holds its Own .-

sc.) and J. A. Masters (7.9 Harley-Davidson sc.) thundered down the course wheel to wheel, and the victory was gained by the former, who crossed the line one-lifth of a second before the hig American machine.

Only two three-wheelers started, both 8 h.p. Morgans, and B. Alan Hill was an easy winner, covering the mile in 1m. 32's. This performance was especially good, as his machine has a standard on which he covered the Scottish Six Days Trials of 1919.

Days Trials of 1915.

There was a ladies' handicap, in which
Miss A. V. Tozer (24 O.K.-Mag.), with
150 yds start easily heat Mrs. Violet
Longden (3 A.B.C.). The latter lady Longden (3 A.B.C.). The latter lady seemed unfamiliar with her mount, and unfortunately stopped her engine.

Club events closed the proceedings late in the evening, as rain began to fall. A tremendous crowd of spectators watched the races, and the meeting was a great success. The organisation was good, if somewhat cumbersome, but the enjoyment of future events would be enhanced if less time were lost between the running of the heats.

EVENTS I, AND IL-CANCELLED.

EVENT III,-Solo (NOT ENCEE		
E. Kickham (23 Diamond)	Time.	m.p.h.
H. Newey (23 Levis)	1m. 24s.	= 42.8

EVENTS IV.—Solo (NOT EXCEEDING 275 c.c.).
-E. Kickham (2½ Diamond) ... Im. 22% = 43.7
H. Newey (2½ Levis) Im. 26% = 41.6

EVENT V.—Solo (NOT EXCEEDING 350 C.C.). Heat 1. G. Dance (2\frac{3}{4} Sunbeam) 1m. 3\frac{3}{5}s. = 56.7 E. Kickham (2\frac{3}{4} Douglas) 1m. 6\frac{1}{2}s. = 54

Heat 2.

Mrs. V. Longden (2\frac{3}{2} Douglas). rm. 22\frac{4}{2}s. = 43.5

C. R. Roper (2\frac{3}{4} Douglas) . . . rm. 28\frac{1}{2}s. = 40.8 Final.

EVENT VII,-UNLIMITED SOLO, Heat r.

J. Emerson (3 A.B.C.) 1m. 7\frac{1}{3}s. = 53.6 C. Sgonina (3\frac{1}{2} Norton) 1m. 12s. = 50 Heat 2.

Final. G. Dance $(3\frac{1}{2}$ Sunbeam) Im. $1\frac{1}{6}$ s. = 58.8 J. Emerson (3 A.B.C.) Im. $3\frac{1}{6}$ s. = 57

MOTOR (YCLE

EVENT VIII .- 350 c.c. SIDECARS,

G. Dance (23 Sunbeam sc.) ... im. 1235. = 49.6
 S. L. Bailey (23 Douglas sc.) . . im. 2715. = 41.2

EVENT IX .-- 500 C.C. SIDECARS.

Heat 1.

1. E. Colmer (3½ Norton sc.) Im. 18½s. = 46
2. G. Dance (3½ Sunbeam sc.) . . . Im. 33½s. = 38 Heat 2.

Heat 2. S. L. Bailey (3½ Douglas sc.) . . rm. 33½s. = 38.5 E. Porter (3 A.B.C. sc.) rm. 37%s. = 37 Final.

G. Dance (31 Sunbeam sc.) ... Im. 1185. = 50.3 E. Colmer (31 Norton sc.) ... Im. 501s. = 32.5

ONE MILE LAD ES' HANDICAP.

EVENT X .- SIDECARS, UNLIMITED. Heat I.

 E. Colmer (3½ Norton sc.) Im. 21½s. = 44.I
 J. A. Masters (7-9 Harley-D. sc.) Im. 22½s. = 43.5 Heat 2.

1. A. King-Smith (7-9 Harley-D.

sc.) Im. 21\frac{1}{8}s. = 44

2. A. Cook (8 Zenith sc.) Im. 31s. = 39.6 Heat 3.

G. Dance (3½ Sunbeam sc.) ... im. 11½8. = 49.9 P. King-Smith (7-9 Harley-D. sc.) 1m. 222s. = 43.3

Final. G. Dance (3! Sunbeam sc.) . . . im. 13s. = 49.3
 J. A. Masters (7-9 Harley-D. sc.) im. 13s. = 49.2

EVENT XI.-THREE-WHEELED CYCLE CARS. 1. B. Alan Hill (8 Morgan) 1m. 3235. = 39 2. E. Longden (8 Morgan) 1m. 5955. = 30.7

EVENT XIII.—CLUB CLASS, 350 c.c., Solo. E. Kickham (2) Douglas) Im. 78s. = 53.6

Heat 2. F. J. Boshier Jones (3 A.B.C.) . 1m. 1038 = 51 G. F. Tozer (3½ Rudge) 1m. 25½s = 42.2

Final. E. Kickham (23 Douglas) . . . m. 53s. = 54.9 F. J. Boshier Jones (3 A.P.C.) . m. 113s. = 43.5

EVENT XV.—CLUB CLASS, PASSENGER MACHINES, UNLIMITED, CHAMPIONSHIP ON TIME, AND A SEALED HANDICAP.

Heat 1.

 1. E. Colmer (3½ Norton sc.)
 1m. 30%s.

 2. P. Whale (7-9 Harley-D. sc.)
 1m. 31%s.

 3. G. Tucker (4 Norton sc.)
 1m. 32%s.

Heat 2 and Final.

r. A. King-Smith (7-9 Harley-D.



H. Newey (2½ Levis), E. Kickham (2½ Diamond), and G. F. Tozer (2½ O.K.-M.A.G.) at the start of the 250 c.c. race.

EVENT XVI.-INTER-CLUB MATCH, BRISTOL M.C.C v. BATH AND WEST OF ENGLAND M.C.C. Heat I.

1. E. Kickham (2³ Douglas) . . . m. 12⁴/₄s. = 49.4 2. E. Horstmann (2³ Douglas) . . m. 46³/₄s. = 33.9 Heat 2.

G. F. Tozer (31 Rudge) 1m. 404s. = 35.9

EVENT XVII.-Club Novice Class, 500 c.c., Solo. F. J. Boshier Jones (3 A.B.C.) . 1m. 9½s. = 51.2
 F. W. Wiltshiro (3½ Rudge) . . . 1m. 42s. = 35.3 EVENT XX.-750 c.c. Solo.

E. Kickham (27 Douglas) ... Im. 65s. = 53.9 V. II. Smith (4 Norton) Im. 125s. = 19.2

EVENT XXI.—750 c.c., Sidecars.

1. W. F. Baxter (4 Douglas sc.), walk over.

* Fastest time of day.

WHITSUNTIDE RUN TO LAND'S END AND BACK.

The fact that most long-distance trials always attract a good entry shows the popularity of this class of sport. The London-Exeter and London-Land's End are events which have become classics entirely on account of the support they have received, while Midland riders also favour the Land's End trial organised by the Birmingham M.C.C. This latter event takes place at Whitsuntide, starting from the Maypole Hotel, Alcester Road (six miles from Birmingham), at 3.30 a.m. on Saturday, the 22nd inst. As the route includes Porlock, Lynton, and Countisbury hills (the latter on the return journey), competitors are not only promised a sporting trial, but a picturesque run also. Owing to the limiting of open events this year, the 1920 trial is for members only, but as the club boasts a very large membership, a good entry is assured. The chief award in this competition is the Lycett trophy, and entries close to-morrow (Friday, the 14th).

CAR IMPORTS INTO FRANCE PROHIBITED.

With a view to improving her very unfavourable rate of exchange, France has prohibited the importation of about 200 articles, among them being automobiles of less than 2½ ton weight. Some doubt existed as to whether this general term comprised motor cycles, but according to a ruling given by the competent authority, these machines will continue to be admitted as heretofore. This matter is of some importance to the home industry, for British machines are popular on the French market. The new French makers, whose machines attracted considerable attention

at the last Salon, by reason of their original and pleasing design, are not yet making deliveries. In all cases, however, work has been pushed on rapidly and stock rooms are well filled with parts, so that when assembly commences, so that were assembly commences, deliveries ought to be made in important quantities. It is expected that by the month of July such firms as Blériot, Louis Clément, Janoir, and the French A.B.C. Company will be in a section to addition the such company will be in a position to deliver many machines to the nublic.

FORTHCOMING TRIALS.

650 Entrants in two Whitsuntide Eyents. The Popularity of the Long-distance Trial.

350 Entrants for this Year's London-Edinburgh Run.

Entries for the London-Edinburgh run surpass ali previous records, no fewer than 550 having been received. Com-petitors are especially warned, in view of the number taking part in the event, to drive with as much consideration as possible, and to be particularly careful in the hotels on the road as regards demeanour, dress, and general behaviour.

Any breach of good conduct on the part of competitors might seriously endanger the possibility of holding the run on future occasions.

Supper for competitors will be supplied by the proprietor of Ye Olde Gate House Hotel at 3s. 6d. a head between the hours of 6 and 8.45 p.m. on Friday, the 21st inst. Notice that supper is required should be received by the proprietor not later than May 15th. Tele-

phone number, Hornsey, 2154.
Mr. L. W. R. Morley, proprietor of
the North Road Garage and Motor Works, Great Ponton, four miles south of Grantham, informs us that he will keep his garage open all night on the occasion of the London-Edinburgh run, so that he can assist any competitors who may require repairs, fuel, tyres, tubes, etc. He also has a 1 ton box van which may be of service.

Cycle Car Racing at Whitsuntide.

SEVERAL cycle car and light car events are arranged for the Whitsuntide meeting at Brooklands, which is being organised by the Brooklands Automobile Racing Club. The clerk of the course, Col. F. Lindsay Lloyd, Brooklands Motor Course, Weybridge, will send announcement sheets to intending competitors of this or future events on receipt of application.

Cork Open Trial on Whit-Monday.

A really sporting event over a pic-turesque course (including Killarney, Waterville, Kenmare, and Glengarriff) has been planned by the Cork and District M.C.C. for their Whitsuntide open trial. There will be several formidable test hills and a flexibility test, the latter being in the form of a fast climb of 220 yards. Figures of merit will be found by The Motor Cycle formula.

The prize list includes the Hutchinson Cup, the Novices' Cup, two prizes for sidecars, one each for best performance by a rider of a lightweight and a lady competitor respectively, a team prize, and a special award for fastest time in the flexibility test.

M.C.U.I. or A.C.U. licences are ecessary. Entry forms and particulars necessary. may be obtained from the hon. sec., Mr. R. S. Russell, 4, Princes Street, Cork. The entry fees are: Members 20s., nonmembers 25s., and teams 15s.

Liverpool M.C. Open Speed Trials.

Over 300 entries have been received for the above event, which will be held on a private road at Storeton, near Birkenhead,

on Saturday, May 15th.
Commencing at 1 p.m., there are thirty
classes to be run off, and it is expected
that some of the new models prepared for the T.T. will make their first public appearance. Many well-known riders are competing.

Trial in South Wales.

On Whit-Monday the first reliability trial organised by the Eastern Group of the Welsh motor cycle clubs will take place. All motor cyclists in South Wales are cordially invited to enter. close on the 20th inst.

Full particulars can be obtained from the hon, trials sec., B. R. Evans, 22, Glantorvaen Terrace, Blaenavon.

Racing at Brooklands.

On July 10th the Motor Cycling Club will hold a race meeting at Brooklauds. will hold a race meeting at Brookiatus. A special cup in memory of the late Sir R. K. Arbuthnot, to be called the Arbuthnot Cup, has been presented by the club, and is open to riders of motor cycles of 350 c.c., the size of machine on which the late Admiral used to race on Brooklands track. The cup is not a challenge trophy.

Next Brooklands Meeting.

The following programme has been arranged for the race meeting organised by the B.M.C.R.C., which will take place on the 29th inst. Racing will commence at 2 p.m.

neuce at 2 p.m.

Event 1.-Novices Scratch Sprint, 2 laps. Solo (350 c.c. and under).

Event 2.-Novices Scratch Sprint, 2 laps. Solo 500 c.c. and under).

Event 2.-Novices Scratch Sprint, 2 laps. Solo (1,000 c.c. and under).

Event 3.-Novices Scratch Sprint, 2 laps. Motor cycles and sidecares (500 c.c. and under).

Passenger to be carried.

Event 5.-Novices Scratch Sprint, 2 laps. Motor cycles and sidecares and three-wheeled card.

Event 5.-Novices Scratch Sprint, 2 laps. Motor cycles and sidecares and three-wheeled card.

Event 5.-The Junitor One Hour T.T. Trial Race. Solo, stripped (350 c.c. and under).

Event 7.-The Senior One Hour T.T. Trial Race. Solo, stripped (500 c.c. and under).

Event 7.-The Senior One Hour T.T. Trial Race Solo, stripped (500 c.c. and under).

All particulars as at the event No. 8 may All particulars as at the event. No. 8 may

All particulars as to event No. 8 may be obtained from Mr. F. W. Barnes, Zenith Motors, Ltd., Hampton Court, and for other events from the hon. sec., Mr. T. W. Loughborough, The Mill House, Warlingham, Surrey.

CONTINENTAL EVENTS.

International Six Days in France. The Grand Prix.

THE detailed rules of the 1920 French 1 Six Days Alpine Trials are expected shortly. These trials, which are organised by the Union Motocycliste de France, are for motor cycles of 350, 500, 750, and 1,000 c.c., for sidecars of 500, 750, and 1,000 c.c., and for cycle cars of not more than 1,100 c.c. The competitors will meet at Grenoble, where weighing-in and sealing of the machines will take place on July 24th and 25th, the actual competition beginning on the following day,

There will be four stages around Grenoble, on the 26th, 27th, 28th, and 29th of July respectively, each day's run being approximately 135 miles in length, and comprising the most difficult mountain roads to be found in this region. On July 30th the machines will be on exhibition in Grenoble, and the two following days will be spent in a regularity trip to Paris, the trials thus finishing in the French capital on the evening of August 1st.

The average speed to be maintained is 183 m.p.h., except for the sidecars, during

the four mountain stages, when the average is reduced to 17% m.p.b. All the machines will be sealed, and the number of spare parts carried will be officially controlled. At the start 1,000 points will be given to each rider, and deductions will be made according to an official list. For each spare part used five points will be lost. One point per minute will be deducted for late or early arrival at the different controls, with a tolerance of five minutes each way. In view of the mountainous nature of the roads, it will be a very difficult matter to complete the trials with a clean score.

Circuit de Paris Abandoned.

The touring competition from Paris to La Baule and back, which was fixed for the first few days of May, has had to be abandoned, owing to various reasons, among them being the petrol shortage and the lack of entries. French motor cycle events have so far been very unfortunate. After the Paris-Nice, the results of which were annulled, the Circuit de Paris trials had to be abandoned, and now the Paris-La Baule has suffered from a similar fate.

The Grand Prix.

Preparations for the Grand Prix of the Motor Cycle Club of France are apparently in an advanced stage. The weighing, sealing, and verification of machines will take place on May 29th at M. F. Gobel's garage at 21, Boulevard Magenta, Fontainebleau.

The machines on arriving must be furnished with two discs, one on each side, and also a plate in front carrying the competitor's number. The frames, cylinders, head, and discs on all machines will he sealed, and the same remarks apply to the sidecar outfits; but in the case of these the sidecar connections will also be sealed. Cycle cars must be provided with number-plates painted white on a black ground on each side of the vehicle. Engines, cylinders, and change-speed boxes will be sealed.

Entries cost 230 frs. per machine. Competitors will be insured against accidents which they may cause to third parties.



AN INTER-CLUB MEET AT HOWDEN.

Some of the 130 members of the Hull, Howden, and York clubs, who took part in a recent outing to the Royal Airship Station in the neighbourhood.

Sutton M.C.C.

It is proposed to form a motor cycle ub in Sutton, Surrey, and any motor clist who is interested should communite with Mr. W. A. Coe, Hylton, The idgway, Sutton.

North Wales M.C.C.

The opening run will take place on the th inst. to Birkenhead, meeting at On Whit-. a.m. outside Denbigh. On Whit-onday a run has been arranged to which y Gross Hill, where it is intended have a hill-climb. Application forms r membership may be obtained from e hon sec. S. V. R. Jones, 1, Ruthin oad, Denbigh.

South Birmingham M.C.C.

Some very good performances were put in the recent sixty miles novices' trial, ich resulted in a win for R. Cooper Allon), with A. Cave (7-9 Indian) ond, and E. Bastock (2½ Enfield) third.
e main obstacle was a watersplash,
uch proved very trying to some of the lers. An excellent tea was provided the "Golden Cross," Henley-in-Arden.

York and District M.C.

Owing to the wet weather, the course ected for the club's reliability trial, ld on the 5th inst., proved very difficult.
imerous hills and watersplashes were luded, and in some parts the course lay ing grass tracks with deep ruts. Of ; fifteen competitors who started only en finished, including three cars, sults: 1, E. Wailing (3\frac{3}{2} \text{ Scott}); 2, A. Reed (3\frac{3}{2} \text{ Scott}); 3, R. B. Russell Triumph); 4, G. Hannon (8 Harley-videon calls) vidson solo).

nb will be held at Garrowby on the h inst. All types of motors, from the oter to the big car, will be represented the twelve classes.

A well organised fast and slow hill-

Leicester and District M.C.C.

Twenty-three competitors started in the reliability trial held on the 2nd inst. The course, which was fifty-seven miles in length, was quite interesting, includ-ing the Leicester Beacon Hill and an exceptionally deep watersplash. This latter obstacle proved the undoing of several of the riders; in fact, nearly all belt-driven machines experienced trouble after getting through the water. Ladkin Green (Douglas), Strong (Sunbeam), (Norton), and two A.J.S. sidecars showed up well. Thirteen competitors finished the course.

TRADING WITH FORMER ENEMY COUNTRIES.

The following resolution has been passed by the Council of the British Association of Trade and Technical Journals, Limited:

"In view of the expression of opinion by Sir Auckland Geddes, as President of the Board of Trade, regarding the acceptance of advertisements of goods manufactured in late enemy countries. the Council have carefully considered the whole position. They now recommend members to adhere to the adopted policy of the Association not to accept such advertisements for the present, in order to enable British manufacturers to recover their normal working conditions, At the end of the present year (1920) the subject will again be considered, with a view to further advising members on the subject."

The publishers of "The Motor Cycle" readily accept this recommendation, and have, in fact, constantly refused offers of advertisements of German goods.

Hastings, St. Leonard's and Bexhill M.C.C.

The first official run will be held on the 15th inst., and will include a hill-climb. Hon. secretary: Mr. W. F. Thomas, 16, Havelock Road, Hastings.

Bedford and District M.C. and L.C.C.

A reliability trial for the Rudge-Whitworth Cup, over a hundred-mice course, has been arranged for Whit-Monday. Full particulars and entry forms can be obtained from the hon. sec., Mr. H. H. Berrie, Goldington, Bedford.

Stalvbridge and District M.C.

Starting from Bower Fold, Stalybridge, at 10 a.m. on the 16th inst., a reliabilit trial will be held to compete for the Blake Challenge Cup and gold medal. Silver and bronze medals will also be awarded, including a special silver medal for the best performance on a single-geared machine. Full particulars can be obtained from the hou. sec., Mr. G. E. Watts, Balmoral House, Mottram Road, Stalybridge. Entrance fee to date of start, 6s.

Manchester M.C.

The above club held a very well attended and highly successful speed trial at Bill o' Jack's, Greenfield, on the 2nd. The weather was fine, but a strong adverse wind was blowing, and this, coupled with a bad road surface, made the times accomplished very good. Each class was well supported.

Mr. Harry Reed gave an exhibition ride on his 8 Dot J.A.P., being timed over the course at 82 m.p.b.

The results were as follow:

Class 1 (350 c.c.)—1, O. E. Carter; 2, G. Cowley, 3, W. Cottred,—1, E. Bottomley; 2, N. B. Newton; 3, O. E. Najtor, C. Lass 3 (Unlimited)—1, E. Bottomley; 2, O. E. Carter; 3, N. B. Newton, 3, C. E. Najtor, C. Cass 4 (Sidecars, unlimited)—1, E. Smith; 2, H. Taylor; 3, J. Bullought,)—1, E. Smith; 2, H. Taylor; 3, J. Bullought,

N.M.C.F.U. (Coventry).

Starting from Swan Lane, Gosford Green, at 2 p.m., on the 16th inst., a run will be made to Edge Hill.

West Kent M.C.

This club is now on a sound footing, and an interesting programme has been drawn up. On the 15th inst. a hill-climb will be held, competitors meeting at the Bull Hotel, Chiselhurst at 3 p.m.

Luton and South Beds. A.C.

Recently a reliability trial was run from Luton to Cambridge and back, resulting in a win for G. S. Davidson (3½ P. and M. sc.), gold medal, with N. Allbon (2½ Levis) second, silver medal. Thirteen riders won bronze medals for non-stop runs within five minutes of schedule time.

Newcastle and District M.C.C.

This club held a most successful flexibility hill-climb on the 2nd inst. on the main road between Rothbury and Aln-Results-350 c.c, class, Robb (N.U.T.); 600 c.c. class, Armstrong (A.B.C.); unlimited solo, G. Watson (Triumph); sidecar, Baker (Harley-Davidson).

Dorchester M.C.C.

The results of the hill-climb, hold over a 600-yard course on the 4th inst., were as follow: Class I., C. B. Brudenell (8 Enfield sc.), 31½s. Class II., J. Cars-lake (7-9 Indian), 25½s. Class III., W. G. Churchill (4 Verus), 29½s. Class IV., F. J. Blackwell (23 Douglas), 334s.

Wakefield and District M.C.C.

Nineteen competitors started from club headquarters in the 120-mile reliability trial held on the 2nd inst. The results were as follow: 1, E. H. Kitchen (8 Sunbeam sc.), full marks; 2, B. Townend (8 Sunbeam sc.), lost 1 mark; 3, H. Gooder (6 A.J.S. sc.), lost 2 marks.

Week-end Club Events.

MAY 15.—LIVERPOOL M.C. OPEN SPEED
The MAY ISLANDESTERN M.C.O. OPEN HILL
May 15.—WESTERN M.C.O. Run to Birkenhead.
May 15.—Keighley M.C.C. Hill-climb.
May 15.—Keighley M.C.C. Hill-climb.
Club Meeting.
Club Meeting.
May 15.—Bromsgrove M.C.O. Run to Malvern.
May 15.—Bromsgrove M.C.O. Fun to Malvern.
May 15.—Erokasand District M.C.C. Jerrard Cup
May 15.—Lecds and District M.G. G.

May 15.—Bromsprove M.C.C. Run to Malvern.
May 15.—Brost Lancahire M.C.C. Jerrard Cup
May 15.—Locds and District M.C.C. Gymkhana.
May 15.—Plymaith and District M.C. and L.C.C.
May 15.—Brigweller and District M.C. and L.C.C.
May 15.—Stripweller and District M.C. and L.C.C.
May 15.—North London M.C.C. Slow Flat Race.
May 15.—North London M.C.C. Slow Flat Race.
May 15.—Yerk and District M.C. Run to Bridlington.
May 15.—Banbury and District M.C.C. Speed Trials.
May 15.—Banbury and District M.C.C. Speed Trials.
May 15.—Banbury and District M.C.C. Rent to
May 15.—Bridway And District M.C. Rally.
May 15.—Edinburgh and District M.C.C. GymMay 15.—Middlesbrough and District M.C.C.
May 15.—Middlesbrough and District M.C.C.
May 16.—Middlesbrough and District M.C.C.
May 16.—Middlesbrough and District M.C.C.
May 16.—Riddlesbrough and District M.C.C.
May 16.—Riddlesbrough and District M.C.C.
May 16.—Riddlesbrough and District M.C.C.
May 16.—Rockester, Chatham and District M.C.
May 16.—Reckester, Chatham and District M.C.
May 16.—Reckester, Chatham and District M.C.
May 16.—Newcogstle and District M.C.C. Surprise
May 15.—Krecogstle and District M.C. Surprise

6.—Newcastle and District M.C. Surprise

Alport.

Alport.

—Newcostle and District M.C. Surprise
Competition

Alportion

District M.C. and L.C.C.

Run to Teipmouth.

6—Loicester and District M.C.C. Run to

Kirby House.

6—Stalybridge and District M.C. Oneday

Trial.

May 16.—Stulpridge and District M.C. One-day Tradecter M.C. and J.C.C. Run to Wide-May 16.—M.C.F.U. (Portsmouth). Run to Wide-May 16.—N.M.C.F.U. (Portsmouth). Run to May 16.—N.M.C.F.U. (Wolverhampton). Run to May 16.—N.M.C.F.U. (Leeds). Sneed Test. May 16.—Ealing and District M.C.C. Gymkhana. May 16.—Hilley M.C. and L.C.C. Team Trial. May 16.—Varrington M.C. Surprise Trial. May 16.—Varrington M.C. Surprise Trial. May 16.—Start on thow H.M. Surprise Trial. May 16.—Start on the M.M. Surprise M.C.C. Surprise Run.

May 16.—Eastbourne and District M.C.C. Surprise Run.
May 16.—N.M.C.F.U. (Barrow-in-Furness).—Hill-climb.

Southend-on-Sea and District A.C.

A very exciting paperchase was held over a forty-mile course on the 1st inst

Keighley M.C.

A hill-climb has been arranged fo Saturday for the Coulton Trophy. contour of the hill has been placed of the notice board at the club, and th hill will be declared to-morrow.

Dunheved (Launceston) and District M.C.

Two interesting competitions recently held by this club. The first too the form of a 15 m.p.h. speed-judgin competition, in which thirty-two compet tors participated. The prize winner were: 1, S. G. Carter; 2, E. J. Johnston 3, J. Philp.

Loughborough and District M.C.C.

A hill-climb is arranged for the 15t inst. on Beacon Hill, Woodhouse Eave All intending competitors should commun cate with the hon, sec., Mr. K. S. Toping, 64, Frederick Street, Loughborough Entrance fee 2s. 6d. Entries close fir.

post Saturday morning.
On the following day most of the Micland clubs will meet in the Loughboroug Market Place at 3 p.m.

Wombwell and District M.C.C.

The results of the inter-club hil climb, recently held in conjunction wit the Wath and District M.C.C., were the Wath and District M.C.C., were ifollow: 275 c.c. class, H. Massey (£ Levis); 550 c.c. class, H. Hincliffe (£ Douglas); 500 c.c. class, J. E. Bellis (£ Rover); 650 c.c. class, C. Diggles Triumph); 750 c.c. class, C. Diggles Triumph); 1.000 c.c. class, M. Cart (8 Imperial-Jap); 650 c.c. class (sid cars), A. J. Haywood (4½ B.S.A. sc. 1,000 c.c. class (sidecars), E. Sayles Enfield sc.): fastest time of the day (Enfield sc.); fastest time of the day, (Diggles (4 Triumph).



HILL-CLIMBING ON A DISUSED ROMAN ROAD.

A scene at the Sheffield and Hallamshire M.C.C. "special" hill-climb held last Saturday on the old road between Chesterfield and Brough. Swamp and flood water caused a good deal of fun, the back wheels of sidecar machines refusing to grip the slimy "road" surface.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," so, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed anvelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Jet Size.

Can you please tell me the most suitable size of jet for an old 23 h.p. Bradbury (about 1908) with a.i.v. and Senspray carburetter —H.D.

The jet size might be anything between 28 and 36. You will have to find the most suitable size by experiment.

Two-stroke Port Timing.

Will you kindly state the correct opening of ports for two-stroke engines? Does the exhaust open fully before the inlet port opens?—E.F.H.

It is impossible to lay down any hard and last figures for the port timing of a two-stroke engine, as so much depends upon the shape of the cylinder ports. The inlet port opens about 40° before the top of the stroke, and the exhaust port opens as the piston nears the bottom of the stroke, usually commencing to open when the crank is about 55° from bottom dead centre. The transfer port is uncovered ew degrees after the exhaust port opens.

Lack of Power.

I have a 1919 5-6 h.p. big single Rudge-Multi, but cannot get enough power out of it to take a sidecar without passenger up the slightest incline, and yet when on the stand it seems to be running well. The magneto is in good order, as I only had it back from the makers the other day. The carburetter (Senspray) is in good order, and I have tried 38, 40, and 42 jets, and find that the 40 answers best. Would it be the magneto timing? I have it timed: Piston the least bit on the down stroke, spark fully retarded, and the points just about to break. The valve timing I have not touched, so that should be in order, and the machine has only done 300 miles since I decarbonised it.—W.A.C.

he details given do not permit a very contact diagnosis to be made. Excessive learance at the exhaust valve tappet legatance at the exhaust valve tappet light have some bearing on the trouble, the ignition timing appears to be in rder, but you can verify it by ascertaing whether the spark occurs when the iston is about 10 to 12 mm. from the top t the compression stroke with the control ally advanced. Do not attempt to climb ills on too high a gear. Pull the gear wer back before the engine commences of slow down, as the great secret with its machine is to keep up the engine evolutions.

Gear Trouble.

I have had my machine stored for two years, and now I cannot get the free engine position of the N.S.U. gear. I can get it into top gear and low gear without trouble, but it will not give free engine. I have tried oil. Can you tell me how to remedy this?—G.H.M.

If you can get both high and low gear with the N.S.U. pulley you must get the free engine position, as this is midway between the two gears, and the high gear must be disengaged before the low gear comes into operation. Try the effect of flushing out with paraffin and relubricating.

Fitting Piston Rings.

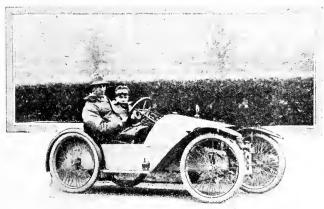
I have a 1913 23 h.p. Douglas motor cycle, which has covered about 15,000 miles. On taking it down for general overhaul, I found the piston rings rather badly worn. I have ordered a set of oversize rings from the makers, and shall be glad if you will enlighten me on the following points: (1.) What gap should the ring have when it is in position on the cylinder? (2.) Would it be sufficient if I make them a dead tight fit in the bottom (i.e., unworn part of the cylinder), as their working position is slightly larger owing to wear?—Mick.

(1.) The piston ring should be fitted in the working part of the cylinder bore, and when in position the gap should not exceed 4-1000ths. (2.) Without knowing the amount of wear in the cylinder it is impossible to say whether it will be satisfactory to make them a dead tight fit in the unworn part.

Running a Scott on Benzole.

In a recent issue I noticed an article on starting the Scott. The writer mentions that he uses benzole, whereas in my experience of this make I find that benzole appears to attack the rubber rings at the base of the cylinders, and new rings have to be fitted after about a fortnight's running. Would, you inform me whether he has had any difficulty with the rubber base rings in the cylinders of his machine from this cause? The makers inform me that they use benzole exclusively at their works, but when I have tried it the results have been as stated.—M.W.W.

The writer of the article in question informs us that he has not experienced the trouble you mention, despite the fact that his machine has now covered well over 3,000 miles, running entirely on benzole. No special preparation has Leen used to protect the cylinder hase rubber rungs, and the cylinders have not yet been renowed.



The Black Prince buckboard in its latest form. The small Union two-stroke engine is now fitted in front instead of on the "running board," as in the early model

A Pillion Riding Difficulty.

1 nave a 1913-1914 Premier 23 h.p. motor cycle. It is quite powerful enough to take a carrier I have a 1913-1914 Premier passenger, but whenever I try
to do so, the cycle immediately
"rears up" on its back wheel. The

saddle is as far forward as possible. Will you please tell me if anything can be done to make "carrier riding" on my machine possible ?-K4.

We have never experienced the trouble to which you refer on any make of machine whatsoever. As the saddle is as far forward as it will go, we can only suggest that you instruct your passenger to sit well forward upon the passenger to sit wen forward upon the carrier, thus bringing the weight as much as possible within the wheelbase. The fitting of T.T. bars might also help matters, as your weight would then be thrown still further towards the front. It is, however, risky to carry a pillion passenger on a machine so balanced.

An Impossible Scheme.

A motor cycle being at present beyond my financial reach, I propose building a motor scooter, or more correctly, a light motor cycle. As my monetary resources are not great, I desire to accomplish this as cheaply as possible. It was my intention to use a gentle-man's 24in, cycle frame and rebraze it so as to drop the down tube to give a lower riding position. The cross-bar will also be dropped, and the engine carried above the bottom bracket. (1.) What would be the cost of the rebrazing involved? (2.) What borse-power engine would you advise me to get (a 2½ to 2½ h.p. two-stroke), and what make? Would a good second-hand engine be preferable? (3.) Would 26 × 1½ in. pedal cycle wheels be strong enough for my purses as the wheels are cheen and the wheels be strong enough for his purpose, as the wheels are cheap and the tyres easily procured (28in. wheels were used in this frame previously, but the 26in. wheels would give a lower riding position). (4.) What would be the characteristics of the cha be the best means of transmission?

I am afraid that the back stays are not wide enough for a belt rim to be bolted on to the back wheel, therefore, in that case, I must confine myself to chain drive. Would it suit to drive from engine to a countershaft, which could be housed in bottom bracket by chain, and thence from countershaft by chain to driving wheel. Is a cush drive essential? (5.) What speed would it be advisable to gear down to, owing to the bad roads in the Midlands, and on account of the h.p. of the engine used; and what number of teeth in the gear wheels should I require? (6.) Would a good pedal cycle chain do for the drive? SCOOTERITE.

Under no circumstances would we recommend that you endeavour to construct a machine such as you describe. Pedal a machine such as you describe. Penal cycle frame fittings and transmission are not strong enough to withstand the strain imposed by a 2\frac{3}{2} h.p. engine. Moreover, you would require wheels fitted with tyres of at least 2in. section, and preferably of 2\frac{1}{2}in. You would probably find it cheaper to obtain a second-hand 24 or 23 h.p. motor cycle.

RECOMMENDED ROUTES.

LEICESTER TO HUNSTANTON.-G.H.K. Leicester, Uppingham, Wansford, eterborough, Wisbech, King's Lynn, Peterborough, Wisbech, Castle Rising, Hunstanton.

COLCHESTER TO UCKFIELD .- R.B.

Colchester, Chelmsford, Brentwood, East Horndon, Orsett, Tilbury (ferry), Graves-end, Meopham, Wrotham, Toubridge, Tunbridge Wells, Crowborough, Uckfield.

LIVERPOOL TO LEICESTER. G.J. H. Liverpool, Roby, Warrington, Knutsford, Macclesfield, Leek, Ashbourne, Derby, Kegworth, Loughborough, Leicester. Approximately, 120 miles.

Ibstock, To Barton-on-Humber.—G.J.S.
Ibstock, Hugglestone, Loughborough,
Burton, Wartnaby, Melton Mowbray, Waltham, Grantham, Belton, Lincoln, Brigg, Elsham, Barton-on-Humber. Approximately 100 miles.

Newport (Mon.) to Northampton.— S.V.

Newport, Chepstow, Newnham, Gloucester, Cheltenham, Andoversford, Stow-on-the-Wold, Chipping Norton, Banbury, Moreton Pinkney, Maidiord, Litchborough, Northampton.

LITTLEHAMPTON TO BIRMINGHAM.—R.F. Littlehampton, Arundel, Petworth, Littuenampion, Artinites, Letwician, Haslemere, Milford, Farnham, Odiham, Reading, Pangbourne, Wallingford, Dorchester, Oxford, Woodstock, Enstone, Shipston-on-Stour, Stratford, Wootton Shipston-on-Stour, Stratford, Wootton Wawen, Birmingham. An alternative route, avoiding Reading-Oxford section, is: Petworth, Midhurst, Petersfield, Alton, Basingstoke, Kingsclere, Newbury, East Ilsley, Abingdon, Oxford.

IMPORTANT DATES:

Sat., May 15th— Liverpool M.C. Open Speed Trials.

Junior Car Club Brooks'ands Meeting. Fri. and Sat., May 21st and 22nd— M.C.C. London-Edinburgh Run. Whit-Monday, May 24th— Brookands Meeting.

Sun., May 30th— Motocycle Club de France Grand Prix Race

Sat , June 5th-Ilkley Open Reliability Trial.

Tues., June 15th— Junior T.T. Race, Isle of Man. Thurs., June 17th— Senior T.T. Race, Isle of Man.

Fri. June 18th— S eed Tria s on Douglas Promenade.

Fri, and Sat. June 25th-26th—
Dublin and District M C.C. Open Twentyfour Hou's Reliability Trial

four Hou's Relishility Trial
Sat. June 26th—
M.C.C. Team Trial for Motor Cycle Cup.
Men. July Sth, to Sat. July 10th—
Sectish Six Days Trial.
Wed. and Thurs, July 7th and 8th—
Arbuthnot Trophy Trial.
Thurs, July 15th—
Ever. July 15th—
Live Citifon Son.
Thurs, July 15th—
There July 15th—

Thurs., July 15th, and Fri., July 16th-Irish End-to-end Trial

Irish End-to-end Irial
Sun., July 25th, to Aug. 1st International Six Days Trial in France.
Sun., Aug. 1st, to Wed., Aug. 4th—
Anglo-Dutch Trial.

Sat , Aug. 7th— S.A C.U. Inter club Meet at Callander. Mon., Aug 23rd, to Sat., Aug. 28th A.C.U. Six Days Trial.

Sat., Sept. 4th-Scottish Speed Championships at St. Andrews.



A.B.C. Motor Cycles.

In future the price of the A.B.C. motor cycle will be £150, the specification being the same as heretofore, with the addition of an extra pannier bag.

Combined Footboard and Mudshield.

We recently published particulars of We recently published particulars of a combined footboard and mudshield, marketed by Messrs. Henry, Duke' and Co., and have since been informed by them that Messrs. C. W. Motor Co., 209, Broadway, Edgware Road, West Hendon, N.W., have been appointed sole selling agents for this accessory.

Sunbeam Repairs in London.

Messrs. John Marston, Ltd., manufacturers of the Sunbeam motor cycles, inform us that their repairs department at 57, Holborn Viaduct, London, E.C.I, has recently been developed and is now able to deal with the repair, overhaul, and renovation of Sunbeam motor cycles and sidecar outfits promptly and satisfactorily.

Brico Piston Rings.

An interesting little leaflet, dealing with the question of piston rings generally, and the Brico in particular, has recently come to hand. These rings are made to suit all requirements, and the makers, The British Piston Ring Co., Ltd., of Coventry, will be pleased to supply them to garages and dealers who handle motor cycle repairs.

Dunhill Sidecars.

A correspondent writes that he took his Scott through the recent London-Land's End Trial fitted with a Dunhill lightweight sporting sidecar, and though he quite expected "something to go," the latter survived the ordeal satisfactorily. This speaks well for the springing and chassis, considering the condition of the roads traversed.

Salvage.

A Palmer landing wheel has recently been picked up at Clacton. It is believed to be part of a Bristol Fighter lost at sea during the war. Apparently the machine had been in the water many months, as the spokes of the wheel had rusted through, separating the rim from the hub. The tyre, being still inflated, rose to the surface, and was washed ashore.

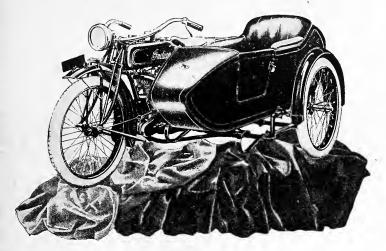
G.W.K. (1919), Ltd.

Messrs. G.W.K., Ltd., Cordwalles Works, Maidenhead, have recently been taken over by a new company—G.W.K. (1919), Ltd. The original company has therefore been finally wound up, the usual notices to this effect having already been published. As often happens in these cases, the notice has been misunderstood by some people, and the new company is anxious to point out that the notice in question referred to the old company, and not to the present one.





On Velvet



You are "on velvet" when you ride the Spring Frame Powerplus Indian.

Your first sensation is that the roads are strangely smooth and even, and that you are gliding along without fuss or effort.

You will find, too, that you are "on velvet" as regards economical running and freedom from mechanical troubles.

You have, in fact, the refinements and comfort of a high-powered car with an equal range of speeds.

POWERPLUS COMBINATION, Complete with Dynamo Lighting and Speedometer, £223 14 O. Delivery in about three weeks.

SOLE LONDON AGENTS-

GODFREY'S LTD.,

7091 Mayfair (2 lines)

208, Gt. Portland St., LONDON, W.1.



Guaranteed DOUGLAS 23 W.D. models, 2speed, maker's colours, 65 guineas, or £34 10s. down and 11 payments of £3 4s, 8d.

Be Sure for Whitsun

LAMB'S

Practically 'unuse W.D. DOUGLAS 2 maker's colours 72 guineas, or £40 10: and 11 payments c £3 14s. 2d.

NEW (at maker's prices).

- 1920 O.K. Junior, 23 h.p., 2-speed.
- 1920 NEW HUDSON, 23 h.p., 2-speed.
- 1920 ALLON, hand clutch, 23 h.p., 2-speed.
- 1920 BRADBURY, 6 h.p., 3-speed.
- 1920 DIAMOND, 21 h.p., 2-speed.
- 1920 HARLEY-DAVIDSON, sports, 41 h.p., 3-speed.
- 1920 BLACKBURNE, 4 h.p., 3-speed.
- 1920 COULSON "B," 23 h.p., 2-speed.

NEARLY NEW.

- 1920 HARLEY, solo, 7-9 h.p., 3-speed. 1920 TRIUMPH, semi T.T., 4 h.p., 3-speed.
- 1920 TRIUMPH and sidecar, 4 h.p., 3-speed.
- 1920 JANUMPH and sidecar, 4 h.p., 3-speed.
 1920 JAMES and sidecar, 5-6 h.p., 3-speed.
 1920 INDIAN and sidecar, 7-9 h.p., 3-speed.
 1920 DOUGLAS and sidecar, 4 h.p., 3-speed.
 1920 ENFIELD and sidecar, 6 h.p.,
 1920 I.O.M. RUDGE, 3\frac{1}{2}\text{h.p.}, T.T., Gradua.
 1920 CLYNO, hand clutch, 2\frac{1}{2}\text{h.p.}, 2-speed.

- 1920 B.S.A. and B.S.A. sidecar.
- 1918 SUNBEAM, semi T.T., 31 h.p.
- DEFERRED TERMS: 1 down and 11 instalments.

151, High Street, Walthamstow. 'Phone: r69 W'stow. 'Grams: "Cyclotomo, Phone, London."

50, High Road, Wood Green, N.22. Phone: 1956 Hornsey.

387, Euston Road, N.W.1. 'Phone: 4978 Museum.

B.S.A. 41 W.D., maker colours and new side car, 124 guineas, c £65 2s. down and 1 payments of £6 16s. 1



MODEL A.

Solo Machine de Luxe. 2-speed countershaft gear, K.S. handle-bar control.

Standard Finish, Blue and Red, or All Black to choice.

Price £83-7-0 Retail (at Works) Plus 5%. The advance in price is due to increase in cost of labour and material. Our prices have remained stationary since the end of last year.

osioned by riders for rider

MODEL B.

PRELIMINARY ANNOUNCEMENT.

Combination £125-0-0 Plus 5%

This is our New Model. Frame made specially to do Sidecar work, fitted with heavy forks. Will shortly be ready for delivery.

CASHMORE BROS., Alecto Motor Cycle Works, Grove Road, Balham, London, S.W.12. Telephones: Battersea 415: Streatham 2140.

Ariel.

10 Ariel, done 500 miles, &3 Cameo, Lucos horn; £153.—Donkin, 35, Bishop St., Shrewsbury. [1359] p. Ariel Motor Cycle; trial run given; in g order; .¢50.—Taylor, 140, High St., Chatte

to Ariel 4-stroke, B.B., mag., dropped frame, low, fast; £28.—Tredenham, Bute Rd. (lower). [7384] agton. [7384]
. Twin Ariel, wants assembling, T.T. Rudge bars, spring forks; £25.—Hudson, 14, Conway Rd., dead, S.E.18.

dend, S.N.18,

p. Ariel 4-stroke, B.B., mag., dropped frame, low, fast; £23.—Trodenhum, Bute Rd. (Lower), Iton, Surrey, Chrolind, Chromato, Chroma

EL Motor Cycle for Sale, 6-7h.p. twin, with conch-ult sidecar, splendid order: £130.—Apply, Jewell, Archway Rd., Highgate, N. [9156]

UCHOPE'S, 9, Shoe Lane, London, E.C.4.— Early delivery of Ariel machines anticipated; now for 31/h.p. and 6h.p. twins. [6352

EL Combination, brand new, fitted Lucas dy-amo lighting, spring scat-pillar, perfect £180.— l, Leckhampton Rd., Cheltenham. [X1169] tarter, Brown and Barlow, U.H. mag.; £98.—8°, 100, 6it. Portland St., London, [1386]

ELS.—Longman Bros., Ealing. 'Phone: 689. special agents.—We can book orders for early ies; good second-hand machines in stock. [1376 Ariel, Binks carburetter, splendid machine, guaranteed mechanically perfect; £87/10.—and Son, St. Ives, Hunts. 'Phone: 15. [148]

SL 1915 3½h.p., 3-speed, clutch, decompresor, ew Dunlops, brass exhaust, overhauled and enl royal blue: £75.—A. E. Sex, Sead, Woking. 2L 31/2h.p. Late 1919 Combination, with Sandam sporting sidecar, new condition: £145; quipped.—Calder, 50, High St., Shepton Malle

quipped.—Camer, oo, Light C., [1342] M. 1914 7h.p. Combination, C.B. sidecar, screen, id, 3 lamps, horn, Enfield gears, good tyres, partial; 85 gas.—Rose, 70, Whitton Rd., Hounelow, [9539]

IL 1920 6-7h.p. Combination, Montgomery side, t, lamps, horn, lnggage grid, complete; £150.— t, Heather Rd., Small Heath, Birmingham.

t, Heather Rd., Small Heath, Birmingham.

Z. 1919 31/2h.p. Combination, 3-speed counterhaft, electric lights, and spares, good condi2140.—Communicate. Bolton, 154, Chase Side.
tte, Lendon, N.14.

Ariel 35/h.p., smart wicker sidecar, Bowden, 2 speeds, free engine, and kick starter, very res good as new, just been done up, cost in good going order; any trial; run anywhere the start of the speed of the start of the speed of the start of the speed of the speed

H. have a 1919 Ariel 3½h.p. Combination, etrically equipped, excellent order.—Fair Offer use, 5. Heath St., Hampstead (in: Hampstead itation). 'Phone: Hampstead 3752. Hours duding Saturdays. [6640]

L 4h.p. Combination, 3-speed, clutch, kick arter, new August, 1919, engine and magneto-transled, new back tube and tyre, lamps, lug-tree, excellent condition; £140.—Baines, Beck-ramball Lane, Stockport. [9437]

tamini Line, Stockpott.

Lilio (Aug.) 6-7h.p., driven 1,532 miles, 3ted, spring seat pillar, purple Gloria spring idecar, luggage grid, very fast and handsome n new and perfect order, any trial; £155.—60. Park Gardens, Chiswick. Phone: Chiswick

S 3/h.p., 2-stroke, brand new machine; £85.— . A. Saunders, 31, High St., Hampstead, N.W.3. [1595]

Arno

4h.p., T.T., 1914, special Brooklands model, a hearings; £38.—Dalkeith, Albion Rd., Sutton, [9396]

Auto-Wheels

WHEEL, complete, little used; £10.—14, cenix St., Euston, N.W. [9699 5 Ante-Wheel, perfect condition; £13/10.—nett, 79, Upton Lanc, Forest Gate. [9522 WHEEL and Bicycle, good condition through: £20.—79, South Norwood Hill, S.E. [9422 Wheel, 1920 Model de Luxe, in stock, brand f; £25.—Wilkins, Simpson, opposite Olympia,

WHEEL De Luxe, used demonstration only, leet condition; £15.—Maguire, 24, St. Peter's untham. [9409] WHEEL Model de Luxe, little used, perfect-rest £16, or with 24in. frame Swift, £22.—111, Rd., Colchester. [9384

ALLEN-BENNETT MOTOR Co

in every respect, heand new langs and horn.

TRIUMPH 19:0 Combination, 4 h.p., run under 50 miles, unscratched, and indistinguishable from new £175
ENFIELD 1915 Combination, Lucas dynamo lighting, unscratched, and indistinguishable from new £215
A.B.C., 19:20 model, run under too miles, unscratched, and indistinguishable from new £200
new throughout. This machine has been specially tuned for speed, and fitted with long copper exhaust pipes, Hunt's electric outfit, Cowey born, Bonniksen speedometer, etc., etc., immediate delivery. List price

outht

NEW IMPERIAL-J.A.P., 1919 model, 2\(\frac{1}{2}\)h.p.,
2-speed, all lamps and born, run under
250 miles, unscratched, and indistinguish-

able from new

NEW HUDSON 1919 Combination, 4 h.p.,
all lamps and horn, new condition throughout, splendid bill-climber

DOT-J.A.P., 1920 model, 2⁷/₄ h.p., 2-speed, as

N.U.T., 1914 sports model, 3½ h.p., 2-speed, as new in every respect

N.U.T., 1914 sports model, 3½ h.p., twin, o.h.v., loog nickel exhaust pipes, lamps and hom, very fast, and in new condition

DOUGLAS, 1918, 4 h.p., solo, new condition

DOUGLASS of Special value (1975) and condition of the con

The Motor Cycle Specialists. 9, 10, 11, Royal Parade, London Rd., WEST CROYDON.

Phone: Croydon 2450.

'Grams: "Track, Croydon."

MOTOR CYCLES FOR SALE.

Auto-Wheels.

B.S.A. Auto-wheel do Jage, 1916 model, rm about 750 miles, perfect condition; £15,—II.M., 111, Aldersgate St., London, E.C.

GENEINE Wall Auto-wheel, splendid condition, bivele and tricycle attachments; 17 gus.—70, West Side, Wandsworth Common.

A UTO-WHIELES, Modele de Luxe; cash £25, or £5 deposit and 37/6 monthly; descriptive cutalogue post tree.—M.Y. Hept., The Mettopolitam Machinists Co., Ltd., 248, Bishopsgate, EC.2. [1515

WALL Autowheel (1916-1917), been stored 3 years, original tyre (Avon), engine in new condition, very little need, complete with attachment; £10—The Woking Lodge, Ottershaw Park, Chestey. [9293

Rat

BATS for early delivery, apply, Bedford Garag Walsall, 'Phone: 270. [536

BATJA.P. Solo, 6h.p.; at list price, £160,— Grimes, Bruton Place, Bond St., W.1. [1388] BATS, 1920.—We have commenced deliveries.—The Rochester Auto and Supply Co., Rochester. [0198]

BATJ.A.P. Combination, 6h.p. twin, 2 speeds, clutch, running order. — Granville, Minster, [1225] Thanet.

19¹³ Bat-Jap 8h.p. Solo, 2-speed countershaft, ex-cellent order: £80, or near offer. Jaques, Hollin-side Hall, Lanchester, Durham. [9076

8 h.p. Bat-Jap Combination, speeds and clutch, n tyre and tubes, go anywhere; £55, or offer Police Station, Billericay, Essex. [11]

BAT-J.A.P. 6h.p. Solo, 3-speed, free, excellent tion, ride 15 miles to purchaser; bargain, 55 -152, Union St., Dunstable, Beds.

8 h.p. But-Jap, cane sidecat, 2 speeds, handle starting, good running order, sparcs, and accessories; £75 -Pine Lodge, Byfleet Rd., Weybridge. [9418

-Pine Louge, Byncet An, Heynong.

2 Lin.p. Bat-Jap Combination, Seaspray, Bosch, 22 speed. P. and M. F.E. \$50, offer.—Stone, 52,
Finsbury Rd., Wood Green, N.22. [9368

BAT-J.A.P. 8h.p., C.B. sidecar, 3-speed, clutch, speed-ometer, 3 lamps, hora, enamel, plating new; £75. -Marshall, 88, Church Rd., Burnet, S.W. [1076

BAT-J.A.P. 8-10h.p. Combination, 2-speed, K.S. chutch, Bosch, spring flame, lamps, good condition. 270.—Trevett, 1, Charsley Rd, Catford. [933] 1930 Sh.p. Bat.Jan Combination, screen, accessories, insurance, mileage 500; £190, or near offer.—Surrey. Green, 19826

19 3 (late) Sporting Model Bat-Jap, 6h.p., Armstrong hub gear, kick start, Cowey, lamp, bora, unused for 5 years, splendid condition; £58.—Guyatt, 90, Natal Rd., Streatham.

190, Natar Rd., Streaman.

192 Bat, just delivered, 6b.p. K.S., clutch, 5-speed, complete with large Lucas lamps and horn, tools, what offers? also Iadian touring bars, cleap, 30, perfect.—Box 5,982, do The Motor Cycle. [945]

19 14 Bat 6h.p. Twin, 3-speed countershaft, sidecar, hamps, Low generator, Cameo wind screen, replated and painted: price £100.—The Widstan Henney Motor Co., 63, South End, Croydon. 'Phone: 2431. [9443]

4 h.p. BatJan, pring frame, 2-speed and clutch, dyamo lighting set, a fast machine, ready for immediate use; £60, or offer.—Talhot Garage, Moss Landwest, Manchester.

West, Manchester.

BAT Combination, 1915, countershirt 3-speed, chitch, Ducas lamps and hora, Bounksen speedometer, Luminium polished diese; the whole outfit in splendid condition, and appearance as new; £130.-Cane, 17, Frook St., Kidderninster en en en et al. (2065)

BATJA.P. 6-8h.p., late 1914, Bosch, Binks, new handle-bars and lamps, 2, horas, trues perfect, Palmer cord Light Car on back; a really fast sporting Just, ticks over at walking pace and accelerates to 60 m.p.h. (a real 60 m.p.h., and it speedometer 50 m.p.h., the plant polymer of the control of the control

Beardmore

BEARDMORE-PRECISION, mileage 200, as new; hest offer over £95.—Grove Cottage, King's End, Ruislip, Middlesex. [9490]

SOUTH Lancashire, North and West Cheshire.—Beard more-Precision, the most advanced and practical motor cycle yet designed.—Enquiries invited by J. Blake and Co., 110, Bold St., Liverpool.

WAUCHOPE'S, 9, Shoe Lane, London.—Early de-livery of 4h.p. and 8h.p. Blackburoe machines.

19 20 8h.p. Blackburne Combination, delivery promised middle June; what offers?—Box 4.013.

clo The Motor Cycle.

BLACKBURNE 4h.p., delivered February, new lamps, Klaxon, etc., mileage 200; £120.—Bromley, Broadway, Welliagtoa, Salop. 23h.p. Blackburne H.B., 2-speed gear, kick start and 4 hend clutch, new unridden; 90 gns.; plus carriage.—Box 3,967, c/o The Motor Cycle. [9369

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the Issue. 227

Blackburne.

BLACKBURNE 1920 4b.p. Combination, all accessories, spares, small unlieage, perfect condition; £155.—29, Duriston Rd., Upper Clapton. '[9421]
EARLY Delivery or the Celebrated Blackburne machines from the accredited genera.—The Lankester Engineering Co. Motor Cycle Dept., 55, Brighton Rd., Sarbiton.

1 920 Blackburne 4h.p., semi T.T., just received from makers, unridden: listed £125 at works: what offers -Dowson, Post Office, Sinnington, Yorkshire. Tel.: No. 1. 19 22 4h.p. Blackburne, just delivered, 3-speed, kick start, lamps rear and front, ideal sidecar machine; £125, near offer.—Sultun, Butchers, South St., West Worthing.

B LACKBURNE 4h.p. 1920, coach sidecar, hood, Cameo, sparo chains, valves, etc., lamps, horn, as new; £150; consider lightweight.—27, Holmsdale Av., East Sheen, S.W. [9432

A. h.p. Blackburne, late 1919, mileage negligible, condition as new, 3-speed gear box, h.h.c. clutch, all-chain drive; price £115; seen South Hants.—Box 3,896, c/o The Motor Cycle. [9110

Blumfield.

19¹⁴ Bloomfield ⁴¹/₂h.p., clutch, kick starter, new lamps, horn, only wants seeing; £48, near offer.

-3 Dartmouth Row, Blackheath, S.E.10. [1015]

Bown.

10 20 Bown-Villiers, 2½h.p., 2-speed, kick starter, and clutch, in stock.—Frank Whitworth, Ltd., 139, New St., Birmingham. [X1181]

Bradbury.

Bradbury.

Brandbury Motor Cycle, in periect order; £55.—
[1263]

Bradbury 4h.p. Combination, good order, spares, etc.; £50.—Shrulbands, Kempsey.

BRADBURY.—Order now to avoid disappointment.—
The Walsall Garage, Wolverhampton St., Walsall.
[7217

D The Wulsan Gauge, non-dition, fast, long copper 4 th.p. Bradbury, good condition, fast, long copper ex exhaust; cheap. -22, Bovington Rd., S.W.6. [9727]

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—New 1920 4h.p. Bradhury, 2-speed, kick start, from stock; £96/10. [8456

19456 1920 4h.p. Bradbury, all chain, 3-speed, K.S., hand clutch, new, in stock; £128.—Southgate Garage, Gloncester. [X933]

BRADBURY 4h.p. 3-speed, free, wicker sidecar, all accessories, perfect running; £55.—Dowsett, Beehive Lane, Hford. [136]

DEADBURY 1912 4h.p., Brampton gear, new Dun-lop tyre and belty £48; exchanges.—R. D. Varty, Thundersley, Essex.

NEW 1920 4h.p., 3-speed Bradbury, just delivered; makers' price, £123.—Parker and Son, St. Ives, Hunts. Phone: 15, 223.—Parker and Son, St. Ives, Hunts. Phone: 2, 225.—Parker and Son, St. Ves, Hunts. Phone: 2, 348.—Parker and Son, St. Ves, Grove, E. Dhiwich, 650, or near offer.—19, Ashbourd Grove, E. Dhiwich, 250.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—2, 248.—

DRADBURY, 3h.p., good condition, coil ignition,

Dradbury, 3h.p., good condition, coil ignition,

Drate 214, or nearest; going abroad—14, Mountain, Atterdiffe, Sheffield,

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Rd., Caterham Valley, Surrey.

BRADBURY Combination, £65: 2-speed, F.E., Bosch,
B. and B., just overhauled, perfect; any trial,
Saturday afternoon or appointment.—16, Portland Rd.,
The state of the st

W.11.

BRADBURY 4h.p., 1915, 2 speeds, kick start, h.b.e., clutch; this machine is a special, and can be given a sever test; £68.—Hole, 129, Paik Lanc, Cars-

9 1h.p. Bradhury, Grado gear, free engine, M.L. mag., 22 new tyres and belt, excellent running condition, ride away: £24.—Yew Tree Cottage, Burnt Common. Ripley, Surrey.

BRADBURY 4h.p., luxurious coachbuilt sidear, 5-speed, clutch, speedometer, accessories, excellent maning; £78; lightweight part.—36, King David Lane, Stepney, E.

BRADBURY 4h.p., sidecar, Grado variable pulley, K.S., F.E., good condition, new tyres, lamps, spares; £50, or offer.—Spilsbury, 20, Whatman Rd., Forest Hull, S.E.25.

6 h., Bredbury Combination, 3-speed, all-chain, com-plete with bood, wind screen and Tan Sad, good condition; £95.—Apply Victor Engineering Co., Chilingworth, Bradford. BRADHUHY 4%,h.p., 2-speed N.S.U., Dunlop tyres, belt, Besch, B. and B., hmps, hurn, very good con-

Bobb, Bosch, B. and B., lamps, norn, very grous condition; any trial; 40 gns.—23, Montpeller Rd., Queen's Rd., Peckham, S.E.15.

Rd., Peckham, S.E.15.

RRAIBURY 45h.p., 1915, guaranteed, 3-speed conditionalt, kick starter, hand controlled chutch, new conclibulit sideour, new tyres, kunps, horn, splendid condition; £110.—G. Hearse, West Leigh, Pensedown, 19275

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"All machines quoted below tor immediate delivery and at fixed prices. Do not be disappointed at the prices going up. We can quote you the machine you require, for immediate delivery, at a price that will suit you."

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1920 H Model MATCHLESS Combination, Lucas Magdyno, complete with horn, as new.
1920 H Model MATCHLESS Combination, Lucas acetylene lamps, Lucas horn, been ridden

10 miles.

200 A.J.S. Combination, complete with bood, windscreen, 3 lamp sets, and horn; all ready for the road; never been ridden.

1200 6 h.p. A.J.S. Combination, screen, no accessories, as new.

1201 8 h.p. ENFIELD Combination, Lucas Magdyn, all complete, as new.

dyno, all complete, as new.

1920 AMERICAN EXCELSIOR, fitted Henderson
Elite Sidecar, dynamo lighting, electric horn,

Brand New.

1920 INDIAN Combination, fitted with Swan
sporting Sidecar, disc wheels all round, TT.
bars, dynamo lighting, indistinguishable from
new Very smart lot.

1920 34 h.p. RUNEAM, fitted with Dinky Sidecar,
black and gold to match bike, not done zom.

1920 34 h.p. ROVER Combination. Brand New
In stock.

1920 47 h.p. B.S.A. Combination, all chain drive,

not registered.

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Solo Machines.

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19.00 3] b.p. SUNBEAM, not been idden.
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We have in stock at the time of going to press.
8 brand new, unused, countershaft Triumphs, fitted with W.D. T.T. bars, for immediate Advisor.

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All models in stock.

We are London Agents for CASTLE 3-wheelers. Deliveries commence soon,

First-class Combinations Wanted for spot cash High prices paid for good machines.

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MOTOR CYCLES FOR SALE, Bradbury.

BRADBURY 1920 6h.p. Twin, 3-speed counter kick starter, chain drive, and hest quality car, brand new, just arrived from works; imm delivery; a fine combination at makers' price.—Wi Simpson, opposite Olympia, London'

1 913 4h.p. Bradbury, Grado gear, belt drive, F order, just been overhauled, new Dunlop belt and horn, tool kit; £40, cash down; inspection; every ing after 6 p.m.—Wallace, 11, Cinsoe Rd., Erith,

Rrough.

BROUGH 1920 Combination, like new; £165 A. Sannders, 31, High St., Hampstead, N

SOUTH Stationdshire Agents for Broughs, earl livery gnaranteed. Bedford Garage. Withone: 270.

1916 31/h.p. 3-speed Brough, lamps, rebushed chain and tyre; best offer over £85.-2, st., Sunderland.

SOUTH Lancashire, North Cheshire, and is Man only.—Brough enquiries.—J. Blake and Official Dealers, Liverpool and Manchester.

BROUGH 35/h.p. flat twin, overhauled, 2 countershaft, chain-cum-belt, lamps, tools, and reliable; £80.—Turnill and North, Peterbo

10¹⁹ 5-6h.p. Brough Combination, Lucas lam round, Cameo wind screen, Klaxon h E180, or nearest.—Poole, 149, Derby Rd., Stap Notts.

3-SPEED Countershaft Brough, overhead valve cently overhauled, complete with lamps and perfect order, very fast; £100, or nearest.—Soke Cush's Lane, Coventry.

B.S.A.

B.S.A.-The Walsali Garage, Walsali. Booking for all models; rotation deliveries.

3th.p. B.S.A., fixed engine, fine going order; King, Egrove Farm, Oxford.

2 1h.p. B.S.A., 2-speed, perfect condition; Edwards, Alpha House, Station Rd., Ely.

19¹⁶ B.S.A., 3-speed; countershaft, K.S., as £85.—150, Camberwell Grove, S.E.5.

19¹³ 3½h.p. B.S.A., splendid condition, tyres new; £50. Christie, Milford-on-Sea, Hants. B.S.A. Combination, 1920 model, never been 1 £165.—Millen, 50, Bath St., City Rd., E.C.

B.S.A. 1919 Combination, fully equipped, low m bargain, £135.-15, Acacia Rd., Wood Gre

B.S.A. Combination, good condition, fast and ful; £75.—Edwards, Alpha, Station Rd., 1

B.S.A. H Model, all chain, 3-speed, all acce as new; £90.-23, Stokechurch St., S.W 19 16 B.S.A. 41/h.p., all-chain, coachbuilt s lamps, Klaxon; 115 gns.—Green, 43, Arle

Bristol. 19¹⁷⁻¹⁸ 4½b.p. B.S.A. Combination, excellen dition, fully equipped; £122.—15, Warwic

B.S.A. Combination, 3 speeds, clutch, etc., condition.—Rhind and Co., Stone Place, Ru-Manchester. B.S.A. 1919 4½h.p., 3-speed countershaft, kick clutch, inst as new; £87.—Dempsey, 69, Side, Clapham.

B.S.A. 1917 44h.p., 3-speed, K.S., torpedo s and accessories; £98/10.-35, Stafford Rd. lington. Croydon 1643.

B.S.A. 1919 Combination, Mudel K, lamp st chanical horn; £135.—Grove House, Ble Rd., Raynes Park, S.W.

B.S.A., 1914, 31/h.p., fixed engine, mecha sound, Dunlops nearly new; £50, offers—I son, 99, Park Rd., Peterborough.

19 15 4/4h.p. B.S.A., clutch model, nearly new lops and belt, lamps, horn, etc., excellent tion; £60.—18, Saffron Rd., Biggleswade. (D)

B.S.A. 1917 44h.p. Coachbuilt Combination, kick starter, excellent condition; 110 gaston, 2, King Edward Parade, Norbury, S.W.

101. 4. Anni Lowert Relace viceolity, or 11 1917 B.S.A. 44/hp. Combination, bood, screet lamps, etc., just overhauted, 3 new tyres, etc., just overhauted, 4 new tyres, etc., br. 11 1918 C. Errit, Kest.

B.S.A. 1914 (late) 4/hp., 3-speed All-shain bination, overhauted, re-canautelle, smart, 1 unust sell; £30.—30, Charmock Rd., Clapton, E.S.

B.S.A. Combination (B.S.A. sidecar, C.B.), all countershaft, 3-speed, kick start, Lucas II set, speedometer, etc.; 96 gns.—160, High St.,

B.S.A.—Several. 1920 models, as new; from Chifford Wilson Manufacturing Co., 70, Hospital Rd., Chelsea, S.W.3. Kensington 7.

B.S.A. 1916 Combination, July equipred screen, speedometer, ctc.; any trial; only eeeing; £115.—W. Rake, 207, Summer Rd., Pos. E.

SON Model R., 4hn, Blackburne engine, spring une, Albien 2-speed countershult gear, a ther-reliable meant; £1105; cash, or on case par-ce extra. Many other muchines in stock, Laftest & extra. Many other muchines in stock, Laftest de principals of Harrist's cose payment system fleation—Harrist Morr "Moverconic, £1105; and Rd. (opposite Man Building), London, S.W.I. 18927.

Coventry Engle.

2\(\frac{1}{2}\)h.p. Coventry Eagle, J.A.P., 2-speed, clutch, and kick start: \(\pm\)75.—Graham, 10edge, 19171

[9171]

me. (9471)
imtrav EAGLE, 1919 (Sept.), Villiers 2½h.p., peed, lamps, horn, spare belt, accessories, xhaust, guaranteed perfect, absolutely new, 250; bouglas wanted; £65,—Pigott, 11, Hill, Cambridge.

Despatch-Rider,

ATCH RIDER, 2%hp, Precision 2-stroke, kie mag. Anac carburetter, Dunlop studded aew belt, complete with Jamps and born, perfect order throughout, unscratched, as rain, 247, must sell.—Wight, Poice Station. Companion are Alfredon Derbyshire. 1922

Diamond.

ONDS, all models from stock.—A. J. Young 1 Co., l.td., Newmarket. 'Phone: 214. [0192] L WILLIAMS for early delivery of all model amonds.—Chapel Ash, Wolverhampton. [X8622 'ORD Garage, Walsall, official agents for amonds; delivery from stock; makers' prices prices (5303 Diamond-Villiers, 2-speed, 2-stroke, lamps, born, 457/10; 1920 Diamond-Villiers, single-1 stock; 1920 Diamond-Jap, Enfield, early delaylor's Garage, Wedoesbury. [9995]

Dot

bA.P. 8h.p. Combination. 1915, new Starmey r box, wind screen, tully equipped, excellent t: £120, or near offer, 16, Cavendish Rd., [9320]

Douglas.

N HARDIE and Lane, Ltd., Douglas Special-

Compination, 1920 model; £170.

Solo, 3-speed Model W.; £100.

itcek Everything you require for your Douglas.

Woodstock St. loff Oxford St.), Bond St., W.1. Phone: Mayrair 6559.

LAS 1913 234h.p., lamps, speedometer, excel-t condition; 50 gns.; also

Douglas, practically new; 80 gns.—King Edward arage, Church End, Finchley. [9052] LAS 1917, 2-speed; any trial; 57 gns.-4. The are. Carshalton. [1148

LAS, 25(h.p., 1915, 2-speed, equal new; £57, cacia, Centre Av., Acton. [1277]

LAS, 2%h.p., 1916. 2-speed, excellent order; 1.-21, Newton Av., Acton. [1276 Douglas, equal new, equipped: £65.—Henry cks. 121, Acton Lane, Chiswick. [9459]

LAS 1915 254h.p., 2-speed; £47.—18, Marlough Rd., Old Kent Rd., S.E.1. [1321 AS 1919 4b.p. Combination, fully equipped: gns.-Knipe, Wolsey Hall, Oxford. [8514

LAS, 254h.p., W.D. model, just uncrated, unlen; £65.-135, Edgware Rd., W.2. [9208

Douglus, not an army machine: £74; wanted, jumph.-37, Arlington Rd., Surbiton. [8973 LAŠ, 25/h.p., 2 speeds, semi-T.T., very fast: 3.—Albion Villa, Minster, Thanet. [1227

h.p. Douglas, sidecar, Saxe blue, unused; offers. Treloar, Crahan, Wendron, Helston. [9449] Donglas, 1915, 2 speeds, fine condition; £55, 199, King's Cross Rd., London, W.C.1. [1571

louglas, W.D., all accessories and speedometer, endid; £75.-16, Howard Rd., Penge. [0190 HOPE'S, 9, Shoe Lane, London, E.C.4.— h.p. Douglas and sidecar, 1914; £88. [1597 AS 2%h.p., 2-speed, W.D. model, perfect con-n; £60.-123, High Rd., Tottenham, N. [1145

AS 25th.p., single speed, good condition: ride; £28.-22, Bonar Rd., Peckbam, S.E. [8972 Jonglas, 2 speeds, new tyres; £65, or exchange her power.-80, Corrance Rd., Brixton. [9036 AS 254h.p., 2-speed, 1913; £45.-59, Palfrey e, Dorset Rd., Clapham Rd., S.W.8. [8943

AS 25th.p., 1916, W.D. model, equal new; gus.—Myrtles, Woodland Rd., Camberley. Telephone: Victoria 6553. 19504



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		Bates No. 2 Rub. Nskid Bates No. 2 Plain Heavy	50/S 50/3	91/6
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MOTOR CYCLES FOR SALE.

Douglas.

Ah.p. Douglases, new disc wheels; £60, or near offer; 4 after 7 p.m. 10, Stockwell Park Rd., Clapham. [9428

19 % Douglas, 2 % Lp., merated 1919, perfect; £56.— 20, Treen Av., Hogger's Corner, Barnes, Sw. D 01 GLAS 2 % Lp., 1913, free ensine, teatbondist, £55.—Magaire, 24, St. Peter's Hill, Grantiann, [9408]

19 555.—Anguite, 24, e. 1940s

19 19 Douglas 25/h.p., 2-speed, mileage about 300, condition as new; £80.—144, Ladbooks Grove, W. 1940s

O'NE 25/h.p. Douglas, 1917 model, in perfect condition; what offens?—Walpele's Ganage, Gransly, (XO91)

DOUGLAS 25th.p., new, just uncrated, lamps, tool bags, etc.; £70.—15, Mervan Rd., Brixton, S.W.2.

DOUGLAS 25th.p., 1916, condition guaranteed; £6 -8a, Blueball Yard, St. James's St., Piccadilly

DOUGLAS, 1912, 25th.p., 2-speed, splendid condi-tion; £40.—Fuller, 19, Tralalgar Sq. Chelses, DOUGLAS, 25th.p., clutch kick starter

OUGLAS, 25th.p., clutch, kick starter, as £72.—A. Holden, Wohurn Place, Addlestone

9664.

2 3.h.p. 2-speed Douglas, good condition: £55, or sear.—Boston Cottage, Hatfield Peverel, F-sex.

DOUGLAS 254h.p., 2-speed, uncrated November, 1919, condition as new; 62 gns.—144, Ludbroke throng.

DOUGLAS 4h.p., 3-speed, C.B. outfit, 1916 hanled, perfect; £100.—Derby Arms Garage, [X0863

19 18-19 Donglas Combination, 4h.pr., lamps, perfect; E115.-20, Treen Av., Hogger's Corner, Barnes, S.W.

S.W. DOUGLASES, 25th.p., 1916 and 1917, equal to new, from £59.—Owen, 59, Scholefield Rd., Upper Hol-[X1010] loway.

DOUGLAS 1919 4h.p. and sidecar, wind so Tan-Sad, speedometer; £160.-5, Museum screen.

23.hp. Douglas, 1916, new, guaranteed perfect,
Douglas colonrs! £72.-207, Blackshaw Rd.,
[1093]

DougLAS 2%h.p., 2-speed, kick-starter, lamps, horn, reshort.

MOFFAT, Douglas Agent, Yeovil.—A few new 1 models for quick delivery. Write us.—'Phi

DOUGLAS (late 1915) 234h.p., 2-speed, splendid condition; £60.-G G. Williams, Crewland, Peterborough. borough.

DougLAS, new, 2³,h.p., 2 speeds, run 400 miles, on-Thames.

DOUGLAS 25th.p., new 1918, equipped, guaranteed perfect; 70 gns.; after 6.-387, High St. N., Munor Patk, E.12.

£28.—Deuglas, 1911, completely overhanded, good running order.—Abbott, Garthorpe, Goole, Carriage paid.

DOUGLASES, W.D., just delivered, guaranteed perfect; from 60 gns.—89, Crescent Lane, Claplam Park, S.W.4.

19 17 4h.p. Douglas Combination, lamps, speedo-meter, tools, spares; £115.—Hudson, Brook Rd., Redhill.

Rd., Redhill. [9775]

D'UGLAS.—We have 6 machines, guaranteed as new: 58 gns. each.—Longman Bros., Ealing. Phone: 639. [1377]

19 20 Donglas Combination, 4h.p., just deliverage of the unused; what offers.—31, Julius Rd., Bishopston, Bristol. ston, Bristol.

10 16 Douglas, 25/h.p., replated and enam makers' colours; £63.-374, Grove Green Leytonstone.

19 d Douglas Combunation, 4b.p., lamps, horn, Laytonstone, 287/10.—374, Grove Orem Rd., Leytonstone, 200 CleLAS 4b.p., late 1915, new sideent, electropic launes, horn; 100 gns.—15, Enmore Rd., 8, Norwood, S.E.25.

wood, S.E.25. DOUGLAS 1916, makers' colouts, new tyres and tubes, lamns; bargain, £65.-26, Loidship Lane. [9550

£30.—Douglas, 25th.p., new crankshaft, niston rings, carburetter, good order, believed 1911.—42, Lavington Rd., Ealing. [9738]

DOUGLAS 2%h.p., 2-speed, kick start, fine condi-tion, lamps, etc.; £55; offers.—87, Truro Rd., Wood Green, N. [9637

DOUGLAS 23th.p., single speed, nice condition, runs well; £25/10.—A. J. Young and Co., Ltd., Newnarket. 'Phone: 214.

DOUGLAS 4h.p. Combination, 3-spend, K.S., and clutch, just overhauled; any trial; 90 gns.-1. The Square, Carshalton.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue c31

Douglas.

19 d Douglas, lurge electric head lamp, lovely condition, guaranteed perfect; £62. — Reynolds, Waterbeach, Cambs.

4 h.p. Douglas, 1916, thoroughly overhauled, equal to new, guaranteed, lamps, horn; £95.—207, Blackshaw Rd., Tooting. [1092]

19 11 Douglas 2%h.p., Bosch, fine condition; exchange for 3½h.p., single-cyl., or sell £28.-43, Amwell End, Ware. [1365]

BRAND New 4h.p. Douglas Combination, just arrived; best offer over list price. — Durose, Foston, Derbyshire.

1915 Douglas 23/h.p., 2 speeds, new tyres, mechanically perfect; examination and trial invited; £56.

-1, Green Lane, Penge. [9253]

19¹⁵ Douglas 2½h.p. Colonial Model, 3-speed, good condition, very fast; £65, or near offer.—Buckrell, Chickerell, weymouth.

DOUGLAS 1913 23/h.p., 2-speed, new lamps, ho in absolutely fine condition; £54.-35, Courtled, Lewisham, S.E.13.

DOUGLAS 2%h.p., 1916, buffer forks (plated), grand condition, mechanically perfect, equipped; £65.—43, Brailsford Rd., Brixton. [9667] DOUGLAS 25th.p., W.D., uncrated last month, doue 300 miles: £70; bought car.-129, Alexander Rd., Acock's Green. [X1005]

23h.p. Donglas, bought February, not been used; hargain, first £65.—51, Claremont Rd., Alexandra Park, Manchester. [X1022]

SMITH'S.—Douglas 1916 234h.p., in excellent condi-tion; £60.—Smith's, 86, Cbalk Farm Rd. (opposite Ghalk Farm Tube Station).

19 Douglas Combination, fully equipped; must sell, £160; seen by appointment.—11, Ambrose Av., Golders Green, N.W.4. [8847

DOUGLAS 4h.p. Combination, in perfect condition, new tyres, etc.; £125.—Motor Cycle Mart, Chatham. T.A.: Motor Cycle. [1248]

DOUGLAS, 1916, 25/h.p., makers' colours, condition as new, in perfect running order; 59 gos.-80, Lawrie Park Rd., Sydenham. [1567

23h.p. Douglas, 1912, overhatiled throughout, condition, spare belt and tyre; £35.—Lan Villa, Heath Rd., Bedworth. [X1080

19 Douglas, large lamps and horn, disc wheels, footboards, etc., only been 500 miles; £85.—Reynolds, Waterhéach, Cambs. (1255

DOUGLAS, unused, late model. 2 speeds, guaranteed sound; £65, bargain.—Murray, 37a, Charles St., Hatton Garden, Helborn. [X0950]

DOUGLAS, 1915, 2-speed, £55; 1913, 2-speed, £44; accessories; offers.—35, Stafford Rd., Wallington. 'Phone: Croydon 1643.

10 16 2 Mh.p. Douglas, mechanically perfect, excellent condition; £60.—Cumming, 25, St. Mark's Rd., North Kensington, W.11.

\$\colon 95.-Late 4h.p. Douglas combination, just overhauled; call weekdays.-W. Spink, 52, Bredrick Rd., Wandsworth Common, S.W. [9337]

DOUGLAS Combination, delivered late 1918, frequipped, excellent condition; £125. Hampst-Box 4,021, c/o The Motor Cycle.

DOUGLAS 1917 4h.p. Solo, 3-speed, kick start, excellent condition, complete lamps, etc.; £95, offer.-11, Rosenthal Rd., Catford. [9694]

10¹⁵ (late) Douglas 2%h.p., 2-speed, lamps, horn, first-class condition throughout; £55.—Arm, Hillside, Admaston, Wellington, Salop. [X1077

19 thp. Douglas Combination, dark blue sidecar with Easting screen, new tyre back, lovely order; price £135.—Franklin, Goring, Oxon. [9108]

1019 4h.p. Donghas Combination, lamps, speedometer, spane belt, fully equipped; £145, or near offer.—Jersey House, Bush Hill Park, N. [9272]

GIBB, Douglas Specialist, Gloucester, gives personal attention to all orders. All spares at makers' prices rocked. No profiteering.—'Phone: 852.

19 Douglas 4h.p., complete lamps, Klaxon, un-scratched, only done 500 miles; £115.—Payne, Hackbridge Park, Hackbridge, Surrey. [X1163

DOUGLAS 25/h.p., 1912, 2-speed, in good running order, lamps, born, etc., Bosch; £35.—Sheldon 12, Tinsley St. Great Bridge, Tipton. [9880

148.—4h.p. Douglas Combination, large head light, generator, side, rear lamps, horn, speedometer, unseratched,—2. West Walks, Dorchester. [1281]

9 h.p. Douzlas, uncruted Ort. 1919, lumpus 65; 74 machine perfect, mullet to ride owing to heat. 75 gas.—201, High Rd., Streatham, S.W. 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 1919, 19

1917 4hp. Douglas Combination, royal hips sideor, electric launys, Klaxon, perfect condition; £115.

192 Longridge Rd, Enry's Court, Sy.

D'Ouclass 2½hp., W.D., nunsed, guaranteed perfect, £65; another, almost as good, £60.

Nicholls, 299, Shirland Rd., Paddington. [1081]



MOTOR CYCLES FOR SALE.

Douglas.

19²⁰ Douglas Combination, brand new, fitted be horn, etc., and special Easting wind set £187.-2, Nightingale Rd., Lower Clayton.

DOUGLAS 23h.p. 1915, lamps, horn, speedon footboards, perfect; £60.—Aysgarth, Monl Drive, Woodford. 'Phone: Woodford 232.

DOUGLAS 23/h.p. 2-speed, uncrated, Dec 1919, absolutely perfect, exceptionally sma gns.-60, Wallingford Av., North Kensington. DOUGLAS 23/h.p., 1914, 2-speed, footboards, good tyres, mudshields, lomps, horn, ecor reliable; £60.—Lynmouth, Denmerk Rd., Reading

19 19 Douglas Combination, as new, electric ing, new tyres all round; £150, or near R.L., c/o Martin, 56, Frogmore St., Bristol.

19 19 Genuire 4h.p. Douglas Combination, used, wind screen, and accessories: £
Spurling, 8, Courthope Rd., Hamptead, N.W.

23h.p. Douglas, 2-speed, free, new crankshaft, prebushed, Dunlops, lamp, horn, footboard rier stand; £42.-4, Gaywood Rd., Walthamstow. 23h.p. 2-speed W.D. Douglas, 1916, buffer at lamps, horn, new tyres; £62; after 7.30, days 3-5.—28, Kyrle Rd., Clapham Common.

DOUGLAS 2%h.p., W.D. model, purchased 1920, fully equipped, excellent condition machine; £65.—Marsh, Swaledale Rd., Sbeffield. 19 14-15 Douglas, 2-speed, new gear box, T.T. very fast and easy starting; £65 is the proffers.—Dines, Jun., Widsham Market, Suffolk.

DOUGLAS 234h.p., 2-speed, 1916 model, condition; £60.—Newnham Motor Co., 223 mersmith Rd., W.6. 'Phone: Hammersmith 80.

19¹⁴ Douglas 2³4h.p., 2-speed, engine and tyr cellent condition, new Tan-Sad seat; any £60.—Preston, Bankes Arms Hotel, Corre Castle.

DOUGLAS.—Several W.D. models from £63; unused.—Clifford Wilson Manufacturing C Royal Hospital Rd., Chelsea, S.W.3. Kensington 19¹⁶ 2⁵/₄h.p. Douglas, all lamps, etc., machine cally new; price £67/10.—The Winstan I Motor Co., 65, South End, Croydon. 'Phone:

DOUGLAS 23th p., 1915, W.D., excellent con little used, all on; £60; Saturday aftern Sunday morning.—60a, Kirkdale, Sydenham, S.

19 4 h.p. Douglas Combination, lamps, horn spares; £140; apply before 6.50 or 'pbo pointment.—Tracy, 44, Shacklewell Lane, Dalst

19 14 Douglas 234h.p., clutch, 2-speed, enome plate as new, lamps, etc.; £55; exchange bination.—The Haven, 120, Satherland Rd., W. Ci

19 Douglas 4h.p. Combination, electric list, Cowey, luggage grid, horn, spores, as offers.—Apply, 81, Dalston Lone, Dalston, London

19 20 4h.p. Douglas, B20 model, only done 201 as new; cost £150 with all accessories; £5 less than cost price.—Box 3,968, c/o The Motor

W.D. Douglas, 2%h.p., practically new nurrest thoroughly overhauled, heavy kluminum boards; £65.—Apply, Strawberry Vale Farm, Frinchley.

23h.p. Douglas, 1916, uncrated 1919, lamps, 24 etc.; tuned for speed or heginners as denearly new; £70.—Hurstplerpoint, Carter Rd., church.

10 19 (December) 4h.p. Douglas Combination, model as 1920, all lamps, Cowey horn, sp condition; 145 gns.—Ravenscroft, 72, Cowley Oxford.

4 h.p. Douglas 1917 Combination, C.B., hubban apron, electric lamps, perfect condition, good reedy to rice anywhere; £95.—284, High Rd., Green, N. DOUGLAS 1912 23(h.p., 2-speed, semi-TT., boards, etc., smart appearance, good com £45, or nearest offer.—A. Richardson, Jesus C

£45, or n Cambridge. 23h.p. Douglas, just re-enamelled, new tyre 4 tubes, good condition, wants slight adjust taken the 229/10 secures.—Kendrick, Gladstor Leicester.

23h.p. Douglas, 1919, 2 speeds, Lucas head land form, Smith's speedometer, whole machine cellent condition; £95.—The Gratwicke Garage, Gra Rd., Worthing.

19 Donglas Combination, all lamps, spare belt, 2 spare tubes, little used, perfect come £130, or offer.—M., 4, Whewell's Court, Trinity Combinides.

DOUGLAS 234h.p. 1916, footboards, speeds car and cash; sell £65.—15, Bishopsthorpe Rd., ham, 8.5.26

DOUGLAS, 4h.p., C.A.V. lighting set, K.S. solo or sidecar; also 2½h.p., both makers of 1916, splendid condition; £80 and £64.—238. St., Acton.

Enfield.

FIG. 1914 6h.p. Combination, fast, new rear Juniop, Cameo, all accessories, £10 just spent spairs; £110 gns.—Stanley, 11, Akenside Terreta, asteon-Tyn.

ameted lyne.

YAI. ENFIELD 2', h.p. 2-stroke 2-speed, excellent condition. little used, very fast, owner bought hatten; 55 gns.—Saunders, 5, Upper Hagley Rd., setton. Birmingham. [9845]

suce, Birmingham. [9845] FIELD Combination [1920] 6h.p., Lucas Mag-dyne and horn, head, screen, side curtains, inde gg grid, not done 50 miles; best over £210.—Box ge of The Mater Cycle,

FIELD 61.p. 1916 Combination, hood, screen, speedometer, pillion seat, luggage grid, Lucas 1, 700×80 Enharcs, perfect; £145, offers.—56, homas Rd., Hackney, London,

s. Royal Enfield, late model, 2-speed, free engine, rfeet condition, just overhauled by makers, i, speedometer and accessories; £70, or near offer, laftick, Gladstone St., Leicester. [1360]

FIRID 5h.p. 2-speed, K.S., clutch, light Wat-aonian sporting sidecar, Binks, new tyres, fully ped, insurance, perfect condition; £70, nearest, New North Rd., Islington, N.1. [9669

O Enfield Combination, just delivered, Magdyno llghting, Cowey speedometer, accessories, 205 or best offer; exceptional opportunity; letters—cycle, Old George Hotel, York

FIELD 6a.p. Combination, perfect running order, speedometer, lamps, tools, 2 spare tyres, tube thata; any trial; ready to ride away; £120.—ston, St. Michael's Av., South Shields. [978]

6 6h.p. Royal Enfeld Combination, all lamps, speedometer, hood and screen, beautiful order oudition throughout; £145; noy trial; bargaia.—hs, 6, Abbotsford Rd., Redhand, Bristol. [3874] TIELD Combination, late 1913, 6h.p. J.A.P., in aplendid condition, complete with lamps, horn, spares; seen any time; any trial; best offer over—Allen, Tytheriogton Cottage, Macclesfield. [1030]

-Alleu, Tytheriagton Cottage, Macclesfield, [1030]
'FIEDD Combination, 1916, invarious sideour with ocker, hood, screen, lamps, tools, all new tyres, int condition, any trial; g. 140; between 5 and 7. Windsor Rd., Deomark [11]I, opposite station, and the state of the control of the control

AL ENFIELD 3h.p. Twin, 2-spect, A.S., very fast, guaranteed, not done 500 miles, perfect haut, Watford, Lucas lighting, Palmer cord, enamel as new; expert examination; 275, --Payae, 27, Lyadoa Rd, Sutton Coldfield.

D Enfeld 6hp. Combination, Lucas dynamo lighting and horn, luggage grid, Falmer light for the description of the description of

lotel, Mumbles, nr. Swansea.

IELII 6h. Combination: present owner bought ex May, 1915, stored 2 years, mechanically permod rousing order, completely we defined, after and front sprockets, and Recolds diede, etc., and the stored of the stored from the st

RICAN Excelsior, 1919, electric, in sound run-ling order; £135.—Grimes, 18, Bruton Place, 3t., W.1. [1391]

l Americae Excelsior 25/h.p., 2-stroke, kick start, 2-speed, little used; £55.—K., 86, High prosey, N.8. [1025]

lamps, 0.—32, [1154

17 Excelsion, 25th.p., 2-speed, all chain drive, and clutch, C.A.V. magneto, drip feed, all cn, 247.-49, Well St., Hackney. [9735]

1847.—93, Well St., Hacknoy.

ASHIRE, Cheshire, North Wales, Isle of Man V.—American Excelsior; enquiries.—J. Blake of Official Delars, Liverpool-Manchester, [6586 5-6]h. Excelsior Combination; 3-speed contestalt, eluch, Milford Sidecar, bood, corea, 1850ries; £38.—Benoett, 79, Upton Lane, Forest.

. Rritish Excelsior Combination, 3 speeds, clutch, aclosed Bosch mag; owner hought car; first 10, no offers.—55, Sunbeam Rd., Old Swan, 19317

M. AlCAN Excelsior Combination, 7-9h.p., splen-1 coachbuilt underslung sidecar, lamps, horn, cellent running order; £95.—Ritchie, 1, Rylett 1, Ravenscourt Park, W.12.

IIOAN Excelsior 7-81.p., 3-speed, C.B. sidecar, od. screen, electric lighting, very fast; £140, loge.—Newhorm Motor Co., 223, Hammersmith, 6. Phope; Hammersmith 60.



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Complete with side valance 60/Ditto, without valance 55/Carriage and packing 2/-

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Special offer of a limited number of 1919 Tan-Sad Pillion Seats, complete with cushion, 33/-; 1920 Tan-Sad Spring Seats, 38/-; Side foot rests, 6/-; Astride rests, 5/-; Back rests, 7/-Carriage on Pillion Seats, 1/-

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to fit all motor cycles—Douglas 2\(^1\) and 4 h.p.,
Enfield 2\(^1\) and 3 h.p., Pengeot, 3/6 each.
Triumph, P. & M., B.S.A., A.J.S., 5/-each.
Rudge, 5/3 each. J.A.P., 5/-each.
Postage on Valves 3d. extra.

AVON BELTS.

Special offer of Brand New Avon Belts, 6it. 6in. × iin. 11/9 each.
Postage 6d, extra.

SPEEDOMETERS.

Carriage on Speedometer 1/-

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Genuine Abingdon, fitted with 10 King Dick Tools, complete in canvas case.... £1 15 9 Postage 6d.

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MOTOR CYCLES FOR SALE.

Excelsior,

MOTOR Cycle, Excelsior (old type), only used 5,000 infles, engine, frame, and enamel excellent condition, tools, and sparse; can be idden away; on view after 6 p.m.—8.M., 5, Gulford Av., Surbiton. [9330]

A MERICAN Excelsior, brand new, 1920, 8-10h.p., detectrically equipped, fitted with special sidecar by Dunhill's, Ltd., ready to ride away; £210, or effer.—Scott, 55, Devonshire St., Keighley. Tel.; 381, 1961.

by Duninit's Ltd., page to the problem of Tel.; 381.

AMERICAN Excelsior Combinations Actually in Miscok, ready to ride away, new and second-hand; from £125 to £200.—W. H. Grimes and S. Bruton Place, Bend St., W.I. Maylar: 43.

Bruton Place, Bond St., W.I. Maylar: 41.

19 20 American Excelsior, fitted with Honderson brand news, £20 under list.—I. Smith and Ca., 16, Hampstead Rd., London, N.W. 'Phone: Masseum 3419.

19 9 British Excelsior 2½h.p., 2-speed, 2-stroke, splendid condition, all accessories, and Lucas acetylene head and rear lighting sets, separate generators; £60, or near.—Hill Side, Hinckley Rd., Nuncaton.

THE New 1920 American Excelsior represents the hest value for money on the market. Book now for early delivery. Fitted with Swan de Luxe sidecur.—Edwards and Parry, 4, Bleaheim St., Bond St. Martini 2666.

1920 American Excelsior, 7-9h.p., Moatgomery side-car, Easting sereen, lamps, etc., done 150 miles, owner taking delivery new car; what offers, write for appointment.—Cutler, 6, Upper Porchester St., Hyde Park, W. [9295]

A MERICAN Excelsior Combination, 7-sh.p., instruction of condition, dynamo lighting set, 3 speeds, clutch, hood, apron, and 2 wind streets; \$130.—Napier, Maia Rd., Sideup. Phone: Sideup 171.

Fafnir.

31h.p. Fafuir, splendid machine; best olier secures; photo.—Dalebrook, Wostenholm Rd., Sheffield.

FAFNIR 3h.p., good running order; £28, carriage paid.

-Particulars on application, Sidey, Pebmarsh,
Bures, Essex. [8993]

FAFNIR 234h.p., accumulator ignition, wants slight adjustment; £18, or nearest offer.—Underhill, 70, Joha Williamson St., South Shields. [9045]

FAFNIR 3h.p., m.o.i.v. Bosch, B.B., eogiae over-hauled, opinder reground, new pistos, new helt and rim, good order throughout; 234, or part exchaoge higher power.—Wingfield, King St., Wokingham. [9245]

F.N.

5-6h.p. F.N., Bosch, Binks carburetter, maning order:
[9708
244—Jones, Morr Green, Cowes.

CROW Bros., Guildford, F.N. agents for the 7h.p.
4-cyl, and 23h.p. lightweight. Book your machine

now.

£29; 56h.p. F.N., rebushed, new rings, Bosch, drop frame; approval.—Gibbs, 58, Ashdown Rd., Worthing. [9782

23h.p. F.N., late 1914, stored during war, very good condition; £40.—J. Brooke, Crosby, Oundle,

F.N. 4-cyl. Combination, C.B. sidecar, 2 speed, clutch, in good condition; £60.-50, East Dulwich Rd., S.E.22. [1311

F.N. 5h.p., 2 speeds, kick start, lamps, speedometer, good condition; £38.—35, Osborae Rd., Handsworth, Birmingham. [8992

T.N. 7-9b.p. 4-cyl. Combination, 3-speed, all necessories, and new sidecar tyre, spleadid condition; 1510.—3, Bath 8t, Pophar, E.14. [9717]

1914 25[h.p. F.N., shart drive, 2-speed, hand chitch, back and chitch throughout; £45.—F. W. Smith, The Cot, Market St., Wymodolaun, 16874

F.N. 249h.p., 1914, shaft drive, 2-speed, new tyres, all accessories, guaranteed everywhere, No. 42590; lowest 50 gas.-106, Barlow Moor Rd., West Didsbury, Manchester.

F.N. 4-cyl. Combination, 2-speed, clutch, K.S., Bosch mag, lamps, horn, coachbuilt sidecar, eplendid condition: 85 gas.—47, Kingsley Rd., Haydous Rd., Wimbledon, S.W.19.

4 CYL F.N. Motor Cycle, drop frame, rebored and for photo; best offers.—Froggatt and Middleton, 633, Abbeydale Rd., Sheffield.

F.N. 4-cyl. 5-6h.p., late 1913, No. 50654, dropped frame, 2-speed, clutch, criginal tyre front, new hack, trial, grand machine; £55, lowest.—J. Dobson, 8, Maple St., Blackburn.

5 ch.p. 4cyl. F.N., 2-speed clutch, kick statter, en-closed Bosch, drop back frome, speedometer, re-painted and plated; 265, or exchange good organ and cash.—St. Leonard's House, West St., Lanbury, Oxon. [9562]

F.N. 4-cyl. 5-6h.p., 2 speeds, hand clutch, disc wheels, 5in. tyres, overhead mechanical valves, Bosh mag. drop frame, Dougiss hars, all in good con-dition; £50; no offers.—329, Hertford Rd., Waltham

Gamage.

1919 Gamage, 23/h.p. Villiers, Albion 2-speed, Amac, Miller lamps, with tools, little used; £65.—L.B., 103, Southend Rd., Hampstead, N.W.3.

Harley-Davldson.

19²⁰ Harley-Davidsons, immediate delivery of all models.—Kemp's Garage, Louth, Lincs. [X0974 HARLEY-DAVIDSON 1918 Combination, all new condition; £145.—45, Burton Rd., Brixton. [1471 HARLEY-DAVIDSON, all models.—Official agents, The Motor Cycle Mart. Stafford St., Walsall.

SEVERAL renovated 1918 Harley-Davidsons, £115; and 1919, £125.—Ross, 86, High Rd., Lea, S.E. [9498]

HARLEY-DAVIDSON 1918, Swan sidecar, perfect; £140, offers.—54, Paddenswick Rd., h.p. Harley-Davidson with sidecar, 1919 model, nearly new.—Box 4,061, c/o The Motor Cycle. [1603]

1915 Harley-Davidson Combination, 3-speed, lamps, etc., in good order.—Alf. Sharps, Gosberton, Spalding, [9012] Spalding

Spalding.

HARLEY-DAVIDSON with Gloria sidecar, 7-9h.p.,
splendid condition; £160.—Nicholas, Garage,
[8932]

10 20 4h.p. Harley-Davidson, all accessories, milesor 300, as new; offers.—Chivers, Christ's College, Cambridge. [9789 BROOK Bros., Burnham-on-Sea, can offer all model Harley-Davidson from stock; write to-day for particulars. [1261

1918 Harley-Davidson, good appearance and run-ning order; £125.—Loweth, 6, Mount Pleasant Rd., Ealing.

1915 Harley-Davidson Combination, all on, spures, perfect; £125.—101, Forest Drive W Leytoostone. and

WAUCHOPE'S, 9, Shoe Lane, Loudon, E.C.4.-7-9h.p. Harley-Davidson and sidecar, 1919, splen-did condition: £195.

HARLEY DAVIDSON Combination, khaki model 2-seater sidecar, unscratched; £171.—Stevens 184, Pentonville Rd., N. [137

HARLEY-DAVIDSON 7-9h.p., 1920, electric model, perfect condition: cheap, £175.—Van Til, Mount-combe, Oak Hill, Surbiton. [1406]

19¹⁸ Harley-Davidson 7-9h.p., splendid condition, mag. model; £120, or exchange.—136, Lavenham Rd., Southfields, S.W.18.

HARLEY DAVIDSON 1918 Combination, lamp, generator, horn, splendid condition; 145 gns.—7, Exhibition Rd., S. Kensington. [1397]

19¹⁹ Harley-Davidson, 3-speed, mag. ignition, r tyres, good condition; 100 gas.; letters only 3, Clifton Rd., St. John's, S.E.8. new 11016

HARLEY-DAVIDSON 1919 7-9h.p., mag., 3-speed, little used, £115; with new sidecar, £148.— 355, King St., Hammersmith, W.6. [9951

HARLEY-DAVIDSONS, 1919 and 1918 models, complete machines, from £90; only a few left.—Owen, 59, Scholefield Rd., Upper Holloway. [X1106]

HARLEY-DAVIDSON, 1918, excellent mecha condition, appearance fair, Tan-Sad; £103. Munford Gardens, Shepherd's Bush. [1042

banical

HARLEY-DAVIDSON 1915 Solo, 2-speed, clutch, perfect condition; £85.—Geddes, Westwell Road Approach Mews, Streatham Common. [9673

19¹⁹ Harley-Davidsoo 7-9h.p. and Sidecar, in perfect condition, lamps, etc.; £140; ride away.—12, Elm Gardens, Hammersmith, London. [9679]

HARLEY-DAVIDSON 1918 7-9h.p., excellent condition, perfect running order; quick sale, £110, or exchange,—W., 21, Shaa Rd., E. Acton, W.3. [9419 HARLEY-DAVIDSON 7-9h.p., 1915, electric model, Rennoc sideor, splendid running order; trial; £105, or offer.—Two Ways, Laleham-on-Thames. [9872

19 15 Harley Davi son Combination, electric dynamo lighting, spleodid condition; price £125, or near offer.—Apply, 54, High Rd., East Finchley, N.2. [9426

HARLEY-DAVIDSON Flat Twin, complete values and speedometer, etc.; £155; immediate deliver Maudes' Motor Mart, 100, Paris St., Exeter. [9]

1915 7-9h.p. Harley, magneto model, 3-speed, Mont-gomery coachbuilt sidecar, fine combination, extra fast; sacrifice £110.—Else, Dimple, Matlock.

EXTRA LAST JANUARY DOON Combination, 1916, hood, screen, side wines, just overhaultd, new Chains and sprockets; £150, or near offer.—Denison, Cariton, Belling Combined Combin

HARLEY 7-9h.p. Combination, 3-speed, Gloria side-car, Dunlops, Klaxon; £168; one of the smartest 1915 on the road.—Richardson, 108, Eastgate, Work-top, Notts.

19 18 Mag. Model Harley-Davidson, 3 speeds, clutch, 25 good tyres, plating and mechanical condition excellent, a really hol-staff 'Dus; £125.—Seen and tried after 5.30 at 175, Camberwell Grove, S.E.5.



31, Colmore Row, BIRMINGHAM. 200, Deansgate, MANCHESTER. 24, Paradise St., LIVERPOOL. 62, High Street,

LEICESTER. Price £170

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MOTOR CYCLES FOR SALE.

Harley Davidson.

HARLEY-DAVIDSON, late 1918, 7-9b.p., ingly smart, disc wheels, tyres and enamel a bad very little wear; £130.—52, Barrington Brixton, S.W.9.

LATE 1918 Harley-Davidson, 7-9h.p., fitted Mills-Fulford Corvette sidecar; £140; trial with pleasure. — Horswill, 42, Bridge St., Cl Phone: 945.

HARLEY-DAVIDSON 1916 Combination, st condition, lamps, Klaxon, Tan-Sad, lugsace etc.: £125 bargain.—Stone, 280, Gloncester Rd., field, Bristol.

HARLEY-DAVIDSON Combination, 1916, model, recently overhanled by Harley Confirst wire secures.—Bryant, The Close, St. 1788, tingdonshire.

1920 Flat Twin Harley, brand new, lightin speedometer, etc.; first offer over 2150 seen by appointment.—Walter, 25, Duke's Av., well Hill, N.10.

HARLEY-DAVIDSON 1918 7-9h.p., re-enamell overhauled as new, tyres equal to new, and anteed in first-class order throughout; £120.—Reed St., Winslow, Bucks.

19²⁰ Harley-Davidson Combination, dynamo J. Smith and Co., 16, Hampstead Rd., London, Phone: Museum 3419.

1915 Harley-Davidson Combination, painted and overhauled lamps, etc., speedometer: 2150.—The Winstan Henney Motor Co., 63, South Croydon. 'Phone: 2431.

19²⁰ 7-9h.p. Harley-Davidson Combination, e model, speedometer, mileage under 55 powerful for owner; £235, or close offer.—Lieut. The King Lud, Ryde, 1.W.

19 16 7-9h.p. Harley-Davidson Combination, e model, fully equipped, and in splendid and condition; £145; any trial; bargain.—Beanc 27, West Park, Clifton, Bristol.

HARLEY-DAVIDSON, 1916, clutch model, kick starter, replated and enamelled khaki discs, long exhaust, Gocdyears, very fast; £; Courtlands Av., Lee, S.B.12.

7-9hp. Harley-Davidson, 1916, perfect condition tyres, milenge 5,500, electric lighting, K speed, with 1920 sidecar (coachbuilt); £156.—A Beresford Sq., Woolwich, S.E.

4 h.p. Harley-Davidson Flat Twin, mileage electric lighting, speedometer, Tan Sad tools; £155.—Kennard, 24, Chichester Rd., C 'Phone: 2241 Croydon; after 7 p.m.

1917 Harley-Davidson Combination, mag. mode tric lights, bulbons sidecar, wind screen, speedometer, really good condition; cash £185. coek, 17, Rathcoole Parade, Hornsey.

HARLEY-DAVIDSON 7-9h.p., delivered 1918 tric lighting, horn, speedometer, etc., thore overhauled, excellent condition; £130, or offer.—N 31, Corsica St., Highbury. (Before 6 p.m.)

10 19 Harley-Davidson 7-9h.p., 3 speeds, 6 lights, enamel and condition as new, b £120; also new sidecar for same; seen any Pooley, I, Wastdale Rd., Forest Hill, S.E.23.

F.O.C.H. have a 1919 Harley-Davidson war 1 2110, a bargain.—Fair Offer Car House, 5, 5t, Hampstead (near Hampstead Tube Station). PHampstead 3752. Hours 9-7, including Satur

4 h.p. Harley-Davidsoo, March, 1920, 500 speedometer, lamps, horns, tools, perfect order, as new; owner purchasing sidecar martis. High St., Cackfield, HARLEY-DAVIDSON 1918 Mag. Model, in condition, engine, tyres, and gears, £110 one ditto, 1917, splendid condition, £95; sideost to suit either, £47.—Bull, Triumph Agent, Nor

19 15 Harley Combination, 3-speed, mag, in highest offer accepted.—Ecker, 214, Convalue W.11.—May be seen, Invicta Garage, 94, Brixtor S.W.

19 (guaranteed) 7-9h.p. mag. model Harler-sons, ready to ride, mechanically perfect did tyres, had very little use; also 1918 (ditto), 1918, £90; 1919, £100.—Olphert, 66, Church Barnes, S.V.

HARLEY-DAVIDSON Combinatione, not war 1915-6-7-8; prices £132 to £180; coasidecar, head lamp set, horn, and all complete for tout,—W. H. Grimes and Co., 18, Bruton New Boad St., W.1. Maylair: 4792.

19 20 4h.p. Flat Twin Harley-Davidson, m practically in as good condition as de-form makers, lamps, horn, speedometer, tools; b lor quick sale, £140, or hear offer.—Appy. c/o Martin, 36, Frogmore St., Bristol.

19 Harley-Davidson, as new, complete tube, chaines, mechanical horn, sparse cover, unput tube, chaines, new rear cover, fitted high sear sprocket, very fust, guaranteed period; seen £125.—Forshuw, 51, Torrington 84, W.O.1

Indian

Powerplus Indian, 7-9h.p., dynamo lighting, alleage under 500, absolutely as new; any (x-n; £182, or nearest offer; exchanges con-crotts, 12, Dunchurch Rd., Rugby. [X0953

1915 Indian S-6h.p. Combination, Montaery sideor, 5-speed, B.S.A. carburetter, new astra heavy back wheel, good general condition,—lee, The Hagg, Kirkheaton, Hudders-

3AL 1918-19 3-speed Powerplus Indian, contestly overhanded and mechanically perfect, emmiskers' colours; first buyers get highest engine and best machine; £125,-3, Courtlands, Av., \$12.

N 1920 7-9h.p. Combination, Millford sidecar, any frame, 3-speed, dynamo lighting, 3 lamps, horn, only ridden 600 miles, tyres unpuncturer going abroad; £200, or best offer.—Marson, a \$q., N.W.S.

N, 3½h.p. twin engine, 1915 (best Indian en-ne yet produced), 3-speed gent, Mills-Fulford sidecar, hore, tools, etc., splendid condition very ed, good climber and very fust; £105.—C. Bar-pham, Yorkshire.

Sell.—7h.p. 2-speed spring-frame Indian, 1916, new, eidecar if desired; any offer over £70;) lower power and cash.—Meredith, Welland Rd., news for the formation of the seen Market ugh and Burton-on-Trent. [X0894]

Powerplus Combination, 6 weeks old, tyres un-nuctured, less than 1,000 miles, insured for amplete with dynamo lighting, spare tube, all doveralls, owner getting car; cost £230, price (Coles, Jesus College, Cambridge.

No. 5-6hp., 1915-16 T.T., 3-speed, kick starter, cylinders, pistons, rings, and big ends, aludises, 2 spare sprockets (differential ratios), 13 spares, Canoelet sidecar, very last, and 90 gas., or offer; after 8.—Davies, 80, Sloane (1998).

T.T. Red Indian Combination, 3 speeds, kick tart, clutch, disc wheels, Cancelet sidecar with riplex wind screen, 2 new Dunlop covers fitted, aias, lamps, tools, etc., excellent condition, and fast; £100, or near offer.—Fletcher, 3, ge Rd., Maidstone, Kent. [9301]

Ludiau Powerplus Cembination, does over 50 1.p.h. and m.p.g. in loaded touring trim, spring carrier (1 cwt.). Easting screen, and extract £12, really good engine; particulars, reason nud trial on written application; £220.— 6, Westbury Rd., Breatwood. [9955]

Indiau 7-9h.p. Powerphs Coachbuilt Combina-ion, mag-dyname electric lighting and electric speed, H. and F. elutch, full equipment of ac-t, with spars chain, recently overhouled and o drive away; a hargain, £135—16, Belford Artillery Place, Woolwich, S.E.18. [9194

IN.—Warning. The Headee Mannfacturing Co. a intending purchasers of Indians not to pay e prices to speculators. A list of Indian who can supply promptly at list prices, plus ratation charges, will be sent on application to 366-368. Eustou Rd., London, N.W.I. (X923)

, 3bc-3oc, Cusson Roll, Bennach, Bennac

Bristol Dox 4, No. 11460 MY 9-Bh. Combination. November, 19-16-seds, spring frame, kick shater, electric buyes seds, spring frame, kick shater, electric buyes n. new accumulator and chains, Phoeiax coech newly pointed, apron (storm pattern, new), wind lugmee currier, pillion seat, tools, excellent ur £135. 4, Block E. Garden Suburb, Ehhu 9080

uN 5-6h.p., 1916 model, 3 speeds, clutch, engine perfect condition, take 2 practically anywhere reanneling, good, tyres fair (done 4,000 to P. and H. lumps, Cowey mechanical born, do Ret, very fast, thoroughly reliable; £90, or near being the condition of the c

23. Genton Terrace, Bridgwater. (D) [Aussrt]
7-99.p. Indian Combination, dynamo lighting, specdonater, machine fitted with large metal specdonater, machine fitted with large metal with sectors of the second side of the second side of the second side curtains, been carefully ridden and well offer, milegg, 1,500; sole reason for selling, minist light car; £220, or near offer.—Lieut. (JAS. Dolphin, Gesport.

Invicta

TA Lightweight, fitted with the famous Villiers 19.0, 2-stroke engine, a thoroughly reliable 255 cash, or on easy pryments 4% extra. Many ochines in stock. Latest lists and particulars of erstem of easy payments sent on application.—
served of the strong of the strong

tvy. The Walsall Garage, Walsall, can supply at ly dates. [7218



The Leading South Western Motor Cycle Agency.

Sole Distributing Agents for the

DUZMO

for London, Hertford, Bedford, Middlesex & Surrey. Deliveries from February, 1920.

We are also Agents for the following mach nes : B.S.A., A.J.S., JAMES, RUDGE, READING STANDARD, WOOLER, EXCELSIOR, METRO - TYLER, NEW HUDSON, F.N., LEA-FRANCIS.

1920 B.A.T.-J.A.P., 5-6 h.p., fully equipped £150 0 1920 COULSON-B., 27 h.p. Blackburne engine, new, in stock List price.

1920 READING STANDARD (delivery shortly) List price

1920 H.B., 21 h.p. Blackburne engine 2-sp. Burman gear and kick-starter new in stock List price.

1920 EXCELSIOR, 2-stroke, 2-speed, new, in stock List price.

1920 NEW HUDSON, special 2-stroke, leg-shields, footboards, horn, tools, etc. . 275 0

1919 CARDEN Monocar, horn, speedo-meter, electric light, discs, etc. £150 0

1919 JAMES 5-6 h.p., Combination, hood, screen, etc. £168 0

1919 **GOULSON-B.**, 2² h.p. Blackburne engine, speedometer, leg shields D.A. lamp set, Brampton Forks.

1918 TRIUMPH Combination, fully equipped, periect condition £150 0 1916 DOUGLAS, 24 h.p., tamps, horn, etc. £79 0

T.T. INDIAN £6S 0 Large Stock of 6 and 8 h.p. Twin J.A.P. ENGINE

We want to buy Solos and Combinations, 1918-1919 and 1920. Try Motor Cycle_Camping for your summer helidays. Write for particulars,

BALLARD'S MOTORS 92, Gloucester Road, S.W.7.

Telephone: Kensington, 6312. Telegrams: Efembalmot, Southkens Loudon.

MOTOR CYCLES FOR SALE.

IVY 2-speed 2-stroke in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern. [6186

35 GNS.—1914 Ivy 2-stoke, splendid condition: bargain.—Jacobs, 95, North Rd., Brighton. (1180 19 17 Ivy Z-stroke, 2-speed, perfect condition; £60. Reyre and Williams, Hitchin, Herts. Phone

165. 19¹⁵ Ivy, splendid condition, little used: £42, car-riage paid.—Mechan, Photographer, Cliiden, Gal-[9448]

IVY 1918 2-stroke, 2-speed, F.E., lamps, tools, excellent condition; £45.—Scott Richmond Rd., Barnsbury, N.

1920 Ivy.—One of these beantiful little 2-strokes available for immediate delivery.—Frank Whitmeth, Ltd., 139, New St., Burningham. (X1186 IVX 2-stroke, 2-speed, Oct., 1919, perfect condition, mupunchurch lumps, horn, tools, and spares; £60, no offers.—Aitken, 18, Peddie St., Daudee. (9405

no oness.—Aiken, 18, Peddie St., Dundee. [9405]

I VY 6h.p. Twin Combination, S.A. combershalt gear,
C.B. sidecar, Cameo wind screen, electric lighting,
splendid running order; £120.—Fryer, Aslockton,
Notts.

TMMEDIATE Delivery of all Ivy models, the acknow-ledged finest lightweight.—Full particulars, II. G. lienly and Co., London and District Agents, 91, Gt. Portland St., W.1. Maylair 4084. [0022

Ixlon.

IXION, 25(h.p. Villiers, aluminium polished discs, footboards, shields, mechanical and Lucas horas, lamps, tools, Clincher tyres (new), Dunlop belt, perfect order: 245.—Regent House, Regent Rd., Feuton, Staffs. [9078

James.

THE Walsall Garage, Walsall, for good deliveries all James models. [72]

5 -7h.p. Jumes with Sidecar. 1918 model, little nsed. -Box 4,062, c/o The Motor Cycle. [1604 EGERTONS, Northgate, Ipswich.—James, all models earliest delivery.—'Phone: 962. [8160

19 17 James 41/4h.p. Combination, 3-speed, good condition; £70.-2, Hassendeun Rd., Blackheath.

19357 1920 James 414h.p. Combination, scarcely used: highest offer ever £150.—Walusley, Croyde, Devon

1920 414h.p. James Combination, lamps, horn, in muce, new, perfect: £170.—James, Rothe Malvern.

19¹⁴ James Combination, 3-speed hub; 55 gas secures.—83. Braemar Rd., Fallowfield, Man-chester. [1029

4 h.p. James and Sidacar, 3-speed, good running order; price £65.—4. Station Buildiogs, Woodside, S. Norwood, S.E.25.

19 d James and Canoelet Sidecar, 44/h.p., lamps, hore, etc., first-class outfit; £100.—374, Grove Green Rd., Leytonstone.

JAMES 1920 31/2h.p. twin, specially tuned for speed, under 100 miles, accessories; £115 lowest.

-1, Milton Rd., Cambridge. [1472]

-1, Mitch Rd., Cambridge.

1915 James 4½h.p., 3-speed counterchaft, all-chain.
Seen at 50, Albert Rd., Peckham.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—
4½h.p. James combination, 1915, 295.

hand

19 James 5-6h.p., 3-speed countershalt, 1 Clutch, kick start, twin Rennoc combinal £150.—Spurgeon, Park Rd., Enfield Wash.

James Combination, all-chain drive, countershaft gears, kick start, coachbuilt sidecar, hood and screen; offers near £65.—Oswell, Hadley, Solop. [X1078 19²⁰ James Combination, 5-6h.p., delivered 3 weeks, only done 300 miles; £180. 'Phone: 1680 Museum.—Beeching, 225, Tottenham Court Rd., W. 9573

1919 James 31/2h.p. Twin, new June, tyres new condition, small mileage, lamps, horo, and accessories; £100, or offer.—Dr. Greene, Cartmel, Grauge-over-Sands.

19 14 James 44h.p., 3-speed, etc., £66; or with large grid, bood. screen; £88.—8, Gordonbrock Rd., Brockey.

JAMES 1914 Combination, 4½h.p., 3-speed counter-shaft, chain drive, clutch, kick start, electric lamps, horn, speedometer, spares, etc.: £100.—997, Fulbum Rd., S.W.6. [9289

JAMES 4'Ah.p. Solo, late 1919, mileage 700, lamps. horn, spares, Tan-Sad, perfect condition; seen by appointment; £130.—Cryer, 24, Fernden Rd.. Herne Hill, S.E.24.

19 James Combination, 5-6h p., 3-speed, counter shalt, hand clutch, Lucas lamps, Klaxon, tools; £135, bargain.—Hough, 750, Holloway Rd., N.19. Phone: 2369 Hornsey, [1175]

James 4/4h.p. 1916 Canoelet Combination, hood, screen, 3-speed kick starter, not run since 226 overhaul; genuine bargain; an-trial; £110.-154, Lower Addiscombe Rd., Croydon [1415]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

· James.

10 20 5-5h.p. James Model de Luxe Combination, Lucas dynamo lighting and horn, lugsage grid, screen, legshields; £185.—10, Selborne Rd., Handsworth Wood, Birningham.

19 19 5-5h.p. Twin James, model de luxe combina-tion, Incas lamps, horn, tyres and condition as new, not done 500 miles, any trial; £155.—Ferrell, 17. St. Aubyn's Rd., Eastbourne. [9534

J AMPS 4½h.p. Big Single, 3-speed countershaft, kick J start, new tyres, new chain, good running order; £75; also splendid new sidecar body, coachbuilt, £6. —Matson, Post St., Godmanchester, Hunts. [X0962

James 6h.p. Model de Luxe Combination, delivered Dec., 1919, nsed only during Easter, better and chesper than new, with wind screen, and all accessories; £175.—The Dairy, High St., Thames Ditton. [1405

1920 24 James 2-stroke, 2-speed, horn, lamps, foot-pump, tools, mileage 500, just been decar-honised, semi T.T. bars, long exhaust, exceptionally fast; 70 gus.—D. Foulerton, Broadmoor, Crowthorne,

1932 James 2½h.p., 2-speed 2-stroke, bought new tools, etc., full insurance policy (transferable); total costing over £82; take £68 cash.—134, Addison Gordens, Kensington, W.14.

1919 44h.p. James Combination, in perfect mechanical condition throughout, full equipment of accessories, including luggage grid, wind screen, lamps, etc.; £150.—Reyre and Williams, Hitchin, Herts. Phone: 165.

J.A.P. 4 h.p. J.A.P. Coachbnilt Combination, Armstrong 3 speeds, clutch, Binks, Bosch; £55; any trial.—76, London St., Chertsey.

J.A.P. 3½h.p., 3-speed, clutch, waterproof Bosch, B. and B., tyres, tubes, belt as new; first £50 secures. —54, Melton Rd., Leicester.

J.A.P., 8h.p., sporting model, Brampton forks, best fittings, delightful speed machine, run 250 miles; £85.—29, Montford Place, Kennington, S.E.11. [9827

J.A.P. Combination, 1914, 4h.p., 2-speed gear box, clutch, beautiful sidecar, guaranteed mechanically; £80, or offer.—155, Lincoln Rd., Acocks Green, Birmingham.

1913 J.A.P. 33/sh.p., Bosch, drip feed, lamp, and spares, excellent condition; £38; would exchange lower power, cash adjustment.—Smith, 45, Ravensbury Rd., Earlsfield, London. [9974]

J.E.S.

J.E.S., specially built, in perfect order, lamps: £25.-3, Kilrush Terrace, Woking. [1176

J.E.S. Motorcyclette, nearly new condition, perfect running; £17; Hertfordshire. — Box 4,039, e/o The Motor Cycle. [1511

J.E.S. Motorcyclette, better than a scooter, economical, reliable.—Enquiries invited by J. Blake and Co., Liverpool and Manchester. [6579]

J.H.

WAUCHOPE'S, 9, Sloe Lene, London, E.C.4.—7-9h.p. J.H. Combination, 1915, M.A.G. engine, countershaft Sturmey-Archer gear, all-chain drive;

Juno.

UNO-VILLIERS 2½h.p., 2-stroke, excellent condi-tion, powerful, lamps, horn; 34 gns.-10, Barons-mead Rd., Barnes. [1143] Kerry.

£5.-254h.p. Kerry, good tyres, belt, etc., B. and B. -Day, Butler's Farm, Broomfield, Chelmsford. **[9243**

Lea-Francis.

LEA-FRANCIS, 1920, not used, M.A.G. engine: best offer over £130.—Bickerton, Kendal. [8979

19²⁰ Lea-Francis, 4h.p., Lucas lamps, horo, ridden under 500 miles, condition perfect; £120.—
Darling, Caius College, Cambridge. [9456]

LEA-FRANCIS, 1920, 3½h.p., 2-speed, delivery from the city agents at list price.—Elee and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3.

1914 Lea-Francis 57(b.p. Twin, J.A.P. 2-speed, kick start, clutch, accessories, spares, perfect running order; £65, no offer.—Gilliam, Hurst Green, Sussex.

LEA-FRANCIS, 1920.—Place your name on our waiting list for delivery of these aristocratic mounts.—A. J. Sproston, Ltd., 198, Gt. Pertland St., W.1.

L SAFRANCIS Combination, hought new 1916, kircle
L start, 3-speed, hund and not chutch, lamins, horn, took, ideal albumpose outfit, practically as new 298, lowest—591, Foleshill Rd., Coventry.

1019 Len Francis Combination, sporting CB, ideal Cart, disc wheel, large neetylene head lamp, electric side and rear, speedometer? 2 horns (bulk mall Levers, Wires, and Replacem Klaxon), spare tyre, eogine just been overhauled by maskers; burguin, 2140—Copt. Mark, Tyne St., Carlise

GEORGE SMI

Licala-Elle

1019

CAMEO WINDSCREENS. 42 15 0.

CAMEO WINDSCREENS. 52 15 0.

GEORGE SMI

Licala-Elle

CAPTOR ACCESSORIES I

Lincoln-Elk.

LINCOLN ELK 4h.p., T Model, Bosch waterproof mag., B. and B., discs, long exhaust; £33.-256, Division Rd., Hull.



MOTOR CYCLE ACCESSORIES.



P. & H. "Lightweight" Lamp Sets,45/-; post I/-Ditto, Heavyweight, 80/-Lucas Head Lamps and Generator, 67/6, 97/6 Miller's ditto; 61/-Hunt's Electric Head Lamps, 32 /6 and 66 /-

Hellesen "Flash" Batteries, 4½ volt, 14/7; post 8d. Aluminium Head Lamps: Gas, 14/9; Electric, 21/Aluminium Rear Lamps, 8/9; Sidecar, 12/6.

DUNLOP TYRES.



GENUINE 1920 STOCK. Heavy Cover. Tube. 74 x 2 ... 28 /6 ... 9 /6 24 x 2 ... 28 /6 ... 9 /6 24 x 2 ... 31 /6 ... 10 /3 26 x 2 ... 31 /3 ... 10 /-26 x 2 ... 53 /9 ... 10 /-26 x 2 ... 63 /9 ... 11 /9 EXTRA HEAVY COVERS. 26 x 21 87/9

Post extra

RENOLDS CHAINS $\frac{4}{8} \times \frac{1}{4} 7/-; \frac{5}{4} \times \frac{5}{8} 7/6; \frac{5}{4} \times \frac{6}{10} 7/6$ $\frac{7}{4} \times \frac{7}{10} 9/-$ per foot. LINKS, r/4 and z/- each. PERRYS $\frac{5}{8} \times \frac{1}{4}$ CHAIN, 6/6 per foot. Post extra.



TAN-SADS .. 38/ Post I /6 extra. Back Rest .. 9/ Leg Rest 6/



COWEY MECHANICAL HORNS, 6e/-

KLAXON HORNS, 36/-'CLEARO'' ELECTRIC HORNS

complete with wire and switch, 45/-CHALLENGE MECHANICAL HORN, 30/-

BRASS

FOOT

10/6,

14/9. 21/-

PUMPS

BULB HORNS, 15/9, 18/9, 27/

SPECIAL MOTOR CYCLE FOOT PUMP... 4/9 18in. x 11in., nickel-plated. Post 4d.

SPEEDOMETERS.



A.M.A.C. and B. & B. CARBURETTERS, 72/-W.S.R. ADJUSTABLE JETS from Stock, 8/6. All Levers, Wires, and Replacements.

Carriage and Packing

MOTOR CYCLES FOR SALE

Levis.

21h.p. Levis, just delivered, list price.—29, nell Rd., Leeds.

CYRIL WILLIAMS for early delivery of Chapel Ash Depot, Wolverhampton. \mathbf{O}_{NE} E 1916 Levis 2-stroke, good conditi-and horn; £38.-Pantling, Wing, Buck

VIS Model E., 2½h.p., 2-speed, mileag 1,000; £50.—5, Victoria Mansions, Hellow

SPORTY 21/h.p. Levis, appearance approaching mechanically perfect; £58.—Gillingham, Dorchester.

19 15 Levis Popular, excellent condition, wind lamps, horn, and Klaxon; £40. — 9. Crescent, Cheltenham.

LEVIS, new lamps, generator, mechanical smart, good condition; 35 gns.—10, Bonn Rd., Kingston-on-Thames.

L EVIS, single speed, perfect order, new tyres, horn, tools, carefully used, good as new; near offer.—Marshall, Bridge St., Witham, Essex

21h.p. Levis, 1915, accessories, thoroughl 4 hauled, re-enamelled, new tyre, belt: between 6 and 7.—Azalea, Essex Rd., Gravesend L EVIS 2½h.p. Pepular Model, late 1916, lam plete, re-enamelled and plated; £45; appo only.—Hale, 101, Tulfourd Rd., Peckham, S.E.

LEVIS Popular 24h.p., 1918, manufacturer haul, excellent engine; trial; £39, or offer-9, North Terrace, Midsummer Common, Camb

19 19 (July) Levis Popular, guaranteed in a condition, good lamp set and horn, etc lowest.—Oliver, 90, York Rd., Montpeller, B

L EVIS.—We strongly recommend, and can early, this famous 2-stroke.—District ager Walsall Garage, Wolverhampton St., Walsall.

10 20 Levis, mileage 150, tyres unpuncture condition, with lamps, etc.; £55/10; be obtained light car.—'Phone: Dr. Collins, Str 2384.

LEVIS 21/11.p. 2-stroke, little used, spleadid tion; 45 gps.; ride away.—Geo. Smith Lavender Hill, Clapham Junction (opposite

LEVIS 21/h.p. 1920 Populer Model.— Hardie and Lane, Ltd., nuthorised crei Woodstock St. (off Oxford St.), Bond St., W.1. Mayfair 6559.

L EVIS 25thp, 2-speed 2-stroke, Henderson takes 9 stone passenger easily, smart-order, lamps, any trial; £85.—Adams, Fifield, ley, Northauts.

LEVIS 2'(h.p., countershaft model, enging onghly overhauled, newly plated, enamelied, ending the couring bars, John Bull grips, Druids, Amac, new belt, Dunlops, horn, tools, 247-jord, 122 Hayward Rd. Barton Hill, Briston

31h.p. Lincoln-Elk, Bosch, B. and B. new ty tube, excellent condition; £35.—The Hotel Garage, Eltham, S.E.9.

L INCOLN-ELK 3%h.p., Sturmer-Archer 3-spe clutch, B. and B. variable, Bosch mag., eccendition; £50.—Curtis, Engineer, Crowthorne, 1

T.T. Lincoln-Ellk 5½h.p., Philipson pulley, B., Bosch enclosed, 2 lamps, 2 general Druids, toolbags, Iootrests, practically new; £4 Solon Rd., Brixton, London.

L.M.C. 6h.p., just delivered, double senter bood, wind sereen, lamps, horn, mudshieds spares, etc., extra fine turnout; sett cash, list £182, ofters.—J. J. Foster, Sherburn-in-Elnet.

19 20 L.M.C. 6h.p. C.B. Millford combination, mileage, fully insured, P. and H. lamp, tenting sereen, apring rind, press horn, etc., teed; trials; secured £95 secures.—Geo. Arast Broad St., Oxford.

Martin.

11b.p. o.h.v. Sporting Martin-Jap, Brooklands 2 very fast, and gnaranteed in sound couprice £75.—The Winstan Henney Motor Cc., 63, End, Croydon. Phone: 2431.

4 h.p. Martin-Jap, o.h.v., completely overhaule enamelled, nearly new back tyre and belt, horn, etc., adjustable pulley, spleudid condition —Beresford, Purleighs Downs Rd., Luton.

Martinsyde.

MARTINSTDENDEWARN Combination, the motor ACCESSORIES DEPOT. 268, LAVENDER HILL (Opposite Arding & Hobbs). CLAPHAM JUNCTION, LONDON, S.W.

B24 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

New Imperial.

7 IMPERIAL Combination, late 1919, 8h.p., illeage under 2,000, luxurious tandem sidecar, 177 2 adults, lood, screen, etc.; a beautiful set; Santon, Clothier, Rechilil.

[1568]

Satton, Clothner, Recamir.

'IMPERIAL B.p. Combination, Militond cubuint addeur, Ensting, Watford, horn, humps, new yomber, milenge 550, all ns new; best offer,—

', Chemist, Pontyberen, Llanelly, [916]

'IMPERIAL, Sin, J.A.P., Dec., 1919, coachuilt sidecar, complete with all lamps, Klaxon tools and spares, unserathed, only done 200 must sell; 2150.—Linhly, 2, Kynance Phay, ter Rd., & Reanington, [1264]

l 5h.p. New Imperial-Jap Combination, all en-closed chain drive, hand clutch, complete with sa, Klakon, apron, etc., in excellenc candition, dramated mechanically perfect; £145.—Lang-37, Criedlowood Broadway, N.W.2. Phone:

lead 8616. [1168]

New Imperial-Jan 8h.p. Combination, 3-speed, hand chttch, hood, screen, side curtains, itsel horn, powerful set lamps, Tan-San dillion agenge carrier, etc. condition as new; £150.—

5. Elmdenc, Britwell Rd, Burnham, Buch 107.

16.p. New Imperial-Jap Combination, puraced hate March, complete with powerful Miller g set, Lucas horn, and Tan-sad sent, has not omites, perfect combination, and is absolutely aggishable from new; £170.—West Oaston Ed.

Norton

Norton

Norton

9 T.T. Norton, brand new, just delivered; first caller, 32, High St., Reigate 1708 B.R.S., 1919, under 2,000 miles, Philipson miley, perfect; 90 gns.—Jones, 2, Pembroke St., dge.

TON 1916 3 4h.p. Sports Combination, 3-speed, ectric lights; £115. Surrey.—Box 713, c/o The Cycle. [9831

Nortou Big Four, T.T., only ridden 3 times; price £120.—Richards, 16, Manor Gardens, Rich-Surrey. [1144 TON 1916 3½h.p., T.T., lighting set, Klaxon ora, perfect condition; £85.—Hilton, Albert Walk, eh, Lines. [9398

d. Lines.

(Dec.) Sports Model Norton. 5-speed gear ox, very fast and in good condition; £130.—

Pow Oxon. [1341] box, very fast is, Tew, Oxon.

1, Tew, Oxon.

1, 1341

1, 1(ale) T.T. Norton, only run 400 miles, Lucas lamps and horn, spare belt, keeg grips, etc.; Ecroyd, 73, Leyland Rd., Southport. (1045)

120 Rig Peur Norton Combination de Luxe, Lucas head, side, tail, 2, geoerátors, Cower, small b, good condition; what offers?—Box 3,979, clo

Sale, one T.T. Norton, just been thoroughly serbauled, new tank, mudguards, etc., good as his is a very fast mount; what offers?—Walpole's (X0909) TON 1920 Big 4, 3-speed, K.S., all-chain, unratched, guaranteed absolutely fauitless through-lieage 256; offers.-2, Cranes Park Surbiton on 3082.

OKLANDS Special Norton, as new, condition erlect throughout, spares, lamps, etc., Crow mb wioner; £95%—Capt. Reeves, Park Rd., gborough. (9946)

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TON Big Forn, 1918 (Nord.), Swan 1919 sporting dear, lamps, speedometer, 2 neutry new spare severs and tube, naintwork new, milesge 5,000, deposition of the control of the contr

TON Big Four Combination, Millford, Easting teen, P. and H. set, Cowey horn, not run 500 only delivered 3 weeks; reason for selling, owner expected delivery of car; best over £210; Languages, 1991, etc. The Motor Cycle. [2915]

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J. 3½h.p., 2-speed; £23, or offer.—25, Acfold d., Fulham. [9390 I. 5-6h.p. Twin; £20.-56, Whitbread Rd. Prockley, S.E. [9884

p. N.S.U., 2 speeds, coachbuilt sidecar; after 6 p.m.; £45.—3a, Kohat Rd., Wimbledon. [9519

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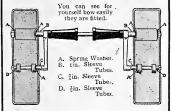
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herry Rd., Well Hull, S.E.9. [9720]
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NEW 1920 Nut, delivery within fortnight; what Gyels.

Offers over list price?—Box 4,014, e/o The Moore Cycle.

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N.U.T.-We are sole wholesale and retail ageots for Stuffordshire, and can supply these famous machines for early delivery.—Walsall Garage. Walsall. Tel.: 444.

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0.K.

10 20 O.K.-Union, also O.K.-Villiers, 2-speed; list price.-Tucker, Highbridge. [X0820

19 20 O.K.-Union; list price; immediate delivery Mortis, 139, Finchley Rd., N.W. [8983] O.K. Lightweight, 2½h.p., 2-stroke; bargain, 230.—Geo Smith 268, Lavender Hill, S.W.11. [1497]

41h.p. O.K., believed 1914, Bosch, 3-speed, clutch; bargain, £45.—Else, 25, Turner Rd., Leicester.

1920 O.K. Villiers, 2-speed countershaft, in stock; £65.—Frank Whitworth, Ltd., 139; New St., Birmingham.

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O. K.—New 2-speed 2-stroke, Villiers, in stock.—Chandler, Reyre, and Williems, Hitchin, Hlerts.

Phone: 165 Hitchin. 10064

O. K.—J.A.P. 2%h.p., 2-speed, perfect condition; 4248—Geddes, Westwell Rd. Approach Mews.

Streatham Common, S.W.16. 9675

19 O.K. Union 2-stroke, Mark VIII. equipp tools, horn, scarcely used; 52 gns.; Tadworth. Box 4,009, c/o The Motor Cycle.

O.K. Junior 1915 2½h.p., 2-speed, 4-stroke, over-hanled, almost time; £33.—Randall, 88, Church Rd., Barnes. [1130

O.K. Union, just delivered, ridden about 100 miles. list price £50; what offers? Owner wants ma-chiae with 2-speed gear, etc.—Vicar, Christ Church, Ware.

O.K. Junior 2-stroke, 1916, adjustable puller, just re-enamelled, new belt, horn, footboards, tyres, plating good; 230/10.—Hermoza, Carshalton Park Rd., Carshalton. Central 9461 [9691

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Omega. 19 ²⁰ Omega, 25(h.p. J.A.P., speeds, unridden; 270.— 26, Lordship Lane, Wood Green, N. [9551

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19²⁰ 2¾h.p. Omega Model C., 2-speed, clutch, and kick starter; list price 74 gus., plus 26/- carriage.
-Taylor's Garage, Falmouth. [0181]

OMEGAJ.A.P., 2-speed and model de luxe; at 71 and 79 gns. respectively; early deliveries.—Lloyd and Son, 29, Station St., Lewes. [7966]

OMEGA-J.A.P., 234h.p., new Sept., 1919, not ridden 500 miles, all ou, 2-speed, as new; what offers?—Kemp, High St., Abbotts Langley, Herts. [9228]

Overseas.

Q45.—1916 3½h.p. Overseas T.T. Model, new Dunlop, new helt, any examination; first offer secures; appointment.—33, Oxford St., Rotherham. [9954]

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P. and M. P. and M. Coachbuilt Combination, 1912; £60.—36, Willesden Lane, Kilburn. [9512

P. and M., R.A.F. model; 268.-59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [8941

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19¹⁷ P. and M. Combination; £88; before 6.—12, Sonderherg Rd., Seven Sisters, Holloway. [1001

CYRIL WILLIAMS for early delivery of P. and M's.-Chapel Ash Depot, Wolverhampton. [X8624] 19 20 3/4-p. R.A.F. P. and M., as new, new side-car; £135.—Box 4,033, c/o The Motor Cycle.

A S New, 31/2h.p. P. and M. motor cycle combina-tion.—Apply, Wood Co., Motor Engineers, 4, Bute

T9130 P. and M. Outfit, Mills-Fulford car, mileage 700, all accessories; £125,—Janes and Adams, Fast Fuchley.

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13 P. and M., 3',p., 2-speed, excellent condition;
Seen by appointment.—Horley, Cowper Rd.,
1975
P. and M. 3',p., mechanical valves, about 1912,
good running order; £33.—Sutton, Chelmsford
House, Clacton-on-Sen.

P. and M., W.D. model; £78.—Clifford Wilson Mann-facturing Co., 70, Royal Hospital Rd., Chelsea, S.W.3. Keasington 7113.

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D. and M., R.A.F., believed 1919, all accessories, lamps, etc., new condition; £85.—Letters only, 1950, Upland Rd., Dulvich, S.E.22.

D. and M. Combination, 2 speeds, art cane sidecar, lamps, horn, speedometer, nice order all round; £70.—103a, High St., Wandsworth.

19¹⁸ P. and M. Coachbuilt Combination, 2 speeds, kick start, excellent condition; 100 gns.—72, Lougridge Rd., Earl's Court, S.W.: [9868]

P. and M. 3½h.p., 2-speed, K.S., very nice machine; £85.—Newnham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [9202]

P. and M., 1919, 31/h.p. solo, 2-speeds, not ex-Army model, spares, trial any time; 79 gns., or nearest offer.—Hill, St. Margaret's, Leatherhead. [9836]

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16, Bishopsgate Av., Camoning etc., 2005.

P. and M., R.A.F., late model coachbuilt combination, like new, with electric lighting and accessories; £105.-1, Havelock St., Forest Hill. Sydenham 1315. (9840)

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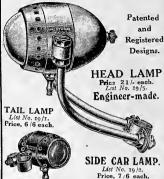
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FOR Sale, P. and M. motor bicycle, in first-rate running order, just overhauled, kick starter, new chains and tyres.—Wallace, Garage, 7, Palmerstan Lane, Edinburgh. [X0935]

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PRECISION 41/h.p., 3-speed Armstrong, pedal starter, mechanically sound; £50.-74, Vicarage Rd., Watford.

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PREMIER Combination, 31/2h.p., 3-speed, good tyres and tubes, spare tubes, lamp lect running order; £75.—W. Curryer, 798, Ok. Rd., Peckham, S.E.

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LLIN, new, delivery July; deposit, transferred, £10.-Box 3,885, c/o The Motor Cycle. [9060]

, 2-stroke, 2-speed, spring frame; £95; immeliate delivery,—Motor Cycle Mart, Chatham.

Motor Cycle, Chatham. [1240-

Quadrant.

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ADRANT 41/gh.p., Thompson-Beauett mag., good ecadition; £30.-337, Earlsfield Rd., Earlsfield [9772]

ADRANT 1912 41/h.p., 5 speeds, lamps, horn, H.D. sideenr, spare Dunlop; £48.—17, Heaton Rd., [9226

p. Quadrant, 1915, Starmey-Archer 3-speed hab and tree engine; £55.—The Gratwicke Garage, icke Rd., Worthing. [1447]

ADRANT Combination and Solo, new, of list price of £135 and £105.—Clifford Wilson Manu-ing Co., 70, Royal Hospital Rd., Chelsea, Sw. 3.

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UCHOPE'S, 9, Shee Lane, London.—New
Quadrant combinations and solo machines,
3-speed, clutch and K.S. models, all-chain
1920 models; book now; deliveries in 10 days,

Radco.

O Radco 2-stroke in stock, at makers' list price. -76, Western Rd., Southall, W. [9414 CO 2-stroke, good condition, lamps, etc.; £35, or ffer.-48, Stammore Rd., Belvedere, Kent. [8926 ffer.—48, Stammore Ru., Dervoste, 100 2-stroke, 2-speed, lamps, pump, horn, com-plete; ride pway; £45,—140, Elsley Rd., Battersea. [9773] plete; ride una; 2000. DO 1918 2-speed 2-stroke, lamps, guaranteed perfect; £42.—Wilson, 28a, Danehurst St., Ful-[9736]

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ICO De Luxe, 1917-18, 2-speed countershaft, ick start, handle-bar clutch, veriable jet; bar-0 gns.—14, London Rd., Stevenage, Herts. [1293 CO 214h.p., splendid running order; sell or example for heavyweight or combination, with cash lent.—Young, Kirk St., Kincardine, Fifeshire.

Reading-Standard.

10h.p. Reading-Standard, from stock.—Rays, 58, Church Rd., Hove. DING-STANDARD 10h.p., 1917-18, 3-speed, w Rennoc tandem sidecer, Klaxon and lamps; 9, Davern St., E. Greenwich. [9760

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Regent. (125)
Postcard for particulars of Regent 5-7h.p. flat in to us. We can give earliest deliveries of schines.—Elliott Bros. and Stevens, Cambuslang, thire agents. NT 5-7h.p. Flat Twin; earliest deliveries. Full dictionars from The Lancaster Motor Co., 158, dl Rd. West Norwood, S.E., distributing agents theast London.

CHOPE'S, 9. Shoe Lane, London, E.C.4.— ph.p. Rex and sidecar, 1912; £80. [8460] 315h.p., good condition: £25: very fast.-Apply, uthon, Marlpit Hill, Edenbridge, Kent. [9055 35h.p., overhauled, in running order; trial; 0.-Whibley, 48, Church Rd., Gillingham. [9285] Sondition; 270.—41, Parkside St., Battersea.

[9135 31(h.p., m.o.v., spring lorks, B. and B., less idle and accumulator; £10.-202, High St., lay. [X1164

HITSUNTIDE

THE MOTOR CYCLE.-Supplement.

WE HAVE IN STOCK FOR

IMMEDIATE DELIVERY



£181 14 0 (Phrs delivery charges.) Combination

ROYAL RUBY, 4-stroke, 2-sp. spring frame £99 15
IVY, 2-stroke, 2-speed, kick-start ... £75 0
IVY, 1.O.M. model, single speed, discs ... £62 0

SIDECARS IN STOCK.

with fittings for any make of motor cycle, MONTGOMERY. GRINDLAY. CANOELET. MILLS-FULFORD.

 Easting Windscreens
 £4 10

 Camee Windscreens
 £3 0

COWEY HORNS and SPEEDOMETERS, BON-NIKSEN SPEEDOMETERS, STEWART HORNS, ROTAX HORNS, F.R.S. and LUCAS LAMP SETS.

THE COVENTRY MOTOR MART LTD.

(Coventry's Largest Motor Agents) LONDON ROAD, COVENTRY.

Telegrams: "Selection, Coventry."

MOTOR CYCLES FOR SALE.

Rex.

6 h.p. Rex Combination, 2-speed, tyres, etc., in ex-cellent condition; £58.—Hudson, 14, Conway Rd., Plum-tead, S.E.18.

3 1h.p. Rex, Bosch ZE1, B. and B., lamps, mechani-cal horn, tootboards, etc.; £35.—23, Burgess St., St. Paul's Rd., E.14. [1578

REX 344h.p., Bosch, B. and B., good tyres (new rear), running order; first £25 secures.—88, Uar-thorne Rd., Forest Hill, S.E.

REX 4h.p. Model 77 Combination, interchangeable wheels with spare, brand new; best offer over £140.—Box 4,060, c/o The Motor Cycle. [1555]

M.ADISON Burganas, Littleorer, Derby.-Rec., 3/5h.p. to 4h.p. motor cycle, Bosch, valves, mechanical variable mars, Dunlop, belf, Senspray, handle-bar con-trols, £24; first cheque.

19 11 6hp. Rex. engine overhanded, 3-speed, good tyres, helt, perfect order; £48; exclange lower power, E.S.A. preferred.—207, Moust Pleasant, Redditch.

2 1h.p. Rex, fixed gear, thoroughly overhaled, re-2 plated, in first-class order, also wicker sidecar; £40 both, or sell separately.—Gregory, Poplar Av., Altrincham.

91h,p. Rex. B.B. carburetter, mag., in perfect con-dition; owner hought cycle car: £22, first cheque secures.—15, Havant Rd., Wood St., Waltham-19650

5 6h.p. Rex Combination, C.B. sidecar, good tyres, engine needs tuning: £55, or nearest offer, or Bank, Calderruix, by Airdrie. [1500]

PEX 1913 6h.p. Twin, 2-speed clutch, handle start, Dunlop tyres, T.T. bars, long exhaust pipe, in exceptional condition throughout; bargain, £55; exchanges.—R. D. Varty, Thundersley, Essex. [1536]

exceptional conductor throughout, building, 255; ctc.

6 & B.p. Rex Combination, conclinal sider de Inxohande start, chain driven. Binke Board de Inxohande Start, chainding and the Into Chadwick, Flettwood Rd., Thornton-le-Fyide.

4 h.p. Rex de Luxe Combination, 2 speeds and free, new coachhuilt body, special spring send for the new coachhuilt body, special spring send for the new coachhuilt body, special spring speeds and free the new coachhuilt body, special spring speeds and free the new coachhuilt body, special spring speeds and free the new coachhuilt special spring speeds and free the new coachhuilt speeds and special spring speeds and spee Rex-Jap.

19 12 6h.p. Rex-Jap Combination, 2 speeds, good condition; £50.—Osborne Motor Works, 38, Harlesden Rd., N.W.10.

Rockson. ROCKSON.

1920 Rockson Villiers, single speeds, 50 gns.; 2speeds, 60 gns.; kick starter models, 68 gns.;
immediate delivery.—Kemp's Garage, Lonth, Lincs.
(X0977

BRAND New Rockson-Villiers 23/h.p., 2-speed, as ally in stock, 60 gas, also ditto, studie ap 50 gas, plus carriage.—Fopular Cycle Depot, Rivers, R. M., Nuncaton. Pover.

ROVER 8h.p., splendid condition, take 5 anywhere;

ROVER 31/h.p., 1913-14, T.T.; £35, lowest. 19²⁰ 5h.p. Rover Combination, scarcely used: £215. —Apthorpe, Redbourn, Herts. [X1074

R OVER 1920 31/h.p., 3-speed countershaft model, in stock.-H. Hibbs, Ollerton, Newark. [X0857

19 19 5-6h.p. Rover, solo, Lucas lamps; 120 gns.— Harry Rock, Cradley, Staffs. Tel.: 145. [X1066]

ROVER 1920 6h.p. Combination, never been ridden; list price.—Stevens, 184, Pentonville Rd., N.

19 20 Rover 346h.p., countershaft 3-speed, just de-livered; £130-A. Gibson, chemist, Brigg.

Lanes.

19 3 34h.). Rover and Sidecar, all accessories; 2125.—Reyre and Williams, Hitchin, Herts. Phone: 165.

POR Saic, 1919 twin Rover and sidecar, as good as new.—Messrs. J. L. Balmforth, Park Rd. Garage, 07mskirk.

19 (Dec.) 5-6h.p. Rover and Millford Sidecar, as new; £175.—Hughes, 21, Holbrook Lane. Coventry.

31h.p. Rover, clutch model, exchange 2-stroke or Douglas.-36 Northumberland Av., Wanstead Park

ROVER 31/h.p., 3-speed, clutch; Cancelet sidecar, accessories; any trial; £80.—117, Walm Lane, Cricklewood, N.W.2. [1442] ROVER 6h.p., good condition, hood, screec. Stepned, dual, electric light; £70, offers.—25, Ormston, Rd., Shepherd's Bush. [9002]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B29

Rover. PRAND New 3½h.p. Rover, 3-speed, countershaft, Just arrived; best offer over list price.—Durose, Foston, Derhyshire. [1517]

ROVER 2-seater, 3-speed, reverse, hood, s lamps, runfing order; £56, carriage paid. Leavesden Rd., Watford,

1910
1919 5-6h.p. Rover-Jap Combination, overhauled, ready ride away; highest over £130.—Oudle Cottage, Much Hadham.
1916 Rover Combination, 3½h.p., C.A.V. lighting, new Cameo wind screen, etc.; £120.—374, fore-Green Rd., Leytonstone.

3½h.p. Rover, clutch model, helieved 1913, excellent order, all on; £39/10; ride away.—36, Northumberland Av., Wanstead Park. [9848]

R OVER Special T.T. Machine, 3 speeds, K.S., large exhaust, 1915, as new; any trial; 60 gns.—Stanley Biss, Waltham Abbey. [9608

ROVER 1919 T.T., Philipson, lamps, horn, perfect, as new; £65.—Heary, 22, Grosvenor Rd., Chiewick, W.4. 'Phone: 1186 Chiswick.

R OVER 5-6h.r. Twin, new condition, not ridden 300 miles, painted green, lamps, etc.; £140.—Jeffryes. 32, Felstead Rd., Wanstead, Essex. [9266]

SUPER Sporting T.T. Rover, 1914, Philipson, discs, knee pads, long exhaust, lamps, and horn; £58.—Allen Jones, Pool Hill, Carnarvon. [X0947]

R OVER 3½h.p., 1916, T.T., beautiful condition, Philipson pulley, tools, etc.; £75, or near offer.—Forshaw, 10, Ladbroke Gardens, W.11.

ROVER 3½h.p., Bosch mag., B. and B. carburetter,
Dhuid spring forks, overhauled, ride away; £40.

-Box 3,973, c/o The Motor Cycle [9536] R OVER Combination 3½h.p., late 1913, 3 speeds, fully equipped, excellent order; trial given; £75.—24. Villiers Rd., Sonthall, Middlesex. [X0929]

SPORTS Model 3½h.p. Rover, engine 6729, Philipson pulley, Lucas lamps, horn, koee grips, all in new condition.—4, Queen's Mews, Windsor. [9855]

R OVER, brand new, 1920, 3½h.p., 3-speed counter-shaft model, immediate delivery; makers' list price.—Parker's, Bradshawgate, Bolton. [X0946]

19²⁰ 3½h.p. 3-speed Rover, brand new, just livered, new Lucas horn, lamp set; £135 Spackman, 85, Bath Rd., Swindon, Wilts.

R OVER 31/h.p., T.T., late 1918, Philipson pulley, all accessories, only rnn 1,000 miles, perfect condition and order; £85.—Pitt Manor, Winchester. [9505]

ROVER 1920 31/4h.p., T.T. model, with Philipson pulley, in stock; list price £112/17/6 plus carriage; exchanges.—R. D. Varty, Thundersley, Essex.

POVER 1914-15 3%h.p., T.T. model, perfect con-ficient control of the control of

ROVER 31/h.p., 3-speed clutch, all accessories, perfect condition; 270.—Seen Highworth, Boscombe until 16th inst., then Highdown, Eardington, Bridg-19479

R OVDR 3½h.p. 3-speed, clutch, Lucas lamps, horn, original Dunlop tyres, enamel and plete like new; sound bergain, £68.-5, Thornfield Rd., Shepherd's Bush, W. Bush, W. [1583]
ROYER 1916 3½h.p., 3-speed countershaft, Rovers, sidecar, lamps, horn, wind screen, heavy Dunlops, perfect condition; £95.—130, St. James Rd., Croydon.

ROVER Combination, 1918 3½h.p., 3-speed countries tershaft, Rover and sidecar equipped, splendid condition, trial; £115.—30, Crystal Palace Park Rd., Sydenham. [9805]

19805 1990 Wh.p. Rover Combination, 3-speed gear and kick starter, clutch, etc.; list price £172/10, plus £2/11/9 carriage; first cheque secures.—Taylor's Garage, Falmouth.

BOVER 3½h.p., 2-speed, new waterproof mag., en-gine just overhauled, take sidecar anywhere, per-fect running order; first m.o. 242, carriage paid; private owner.—C. Dennison, 55, Kensington St., Gir-lington, Bradford.

ROVER 3/sh.p. Combination, 5-speed, K.S., speed-ometer, higgage grid, and lamps complete, unused 2 years, only done 5,639 miles, as new, and in topping condition throughout; £125.—Donald Leitch, 71, Clar-ence St., Kingston-ou-Thames.

R Over Combination, 1916, carefully used, lamps, Stewart horn, tools, etc., overhauled for Easter, mechanical condition, tyres, and appearance excellent: £115.—L. Cantrill, 172, Cross Rd., Coventry, [X0413]

ROYER Combination, late 1915, engine No. 6082, kick starter, lamps, hurn, sare belt, and all accessories, condition like new, expert examination invited; condition like new, expert examination invited; ——Watson, North Surrey Golf Club, Northur, S. Wets. —Phone: Streatham 340, (Close Norbury Tram Termins.)

Royal Ruby.

19 16 Royal Ruby, 2-speed, in perfect condition; £50, near offer.—586, High Rd., Leytonstone. [9864] E GERTONS, Northgate, Ipswich, cao give early de-hvery Royal Ruby if ordered now.—Phone: 962. [8162]

JONES.

1, The Broadway, MUSWELL HILL.

'Phone—Hornsey 2562.
'Bus from Highgate or Finsbury Park.

THE STUFF TO GIVE IS DELIVERY.

We can give you this. Get in touch with us, and we will endeavour to satisty your wants. IN STOCK NOW for immediate delivery (subjects to being unsold) at List Prices, plus Garriage from Works. 1920 ALLDAY ALLDAY ALLDAY, a-speed, K.S., clutch, etc. 1920 ARLEL 34 h.D. Combination. 1920 ALLDAY ALLON, 2-speed, K.S., clatch, 1920 ARIEL 3½ hp. Combination, 1920 4 hp. BLÄCKBURNE Combination, 1920 CALTHORPE, 24 hp., single-speed, 1920 CLYNO, 2-stroke, 2-speed, and clutch, 1920 HOBART, 2-stroke, 3rgide-speed, 1920 O.K.-JUNIORS, 2-speed, 1920 Q.K.-JUNIORS, 2-speed, 1920 4 hp., horizontal twin and C.B. Sidecar.

1920 4 h.p. horizontal twin The above are New.
NEARLY NEW.
1920 BEARDMORE - PRECISION, 3½ h.p., 1919 4 h.p.

READY for WHITSUN

NEW MACHINES IN STOCK.

 VERUS, 2½ h.p., 2-speed, K.S., clutch
 280

 CARFIELD, 2½ h.p., 2-speed
 265

 CGNNAUGHT 2½ h.p. Miniature
 262

DELIVERY DATES.

' USED MACHINES. HARLEY-DAVIDSON, 7-9 h p., 1919, clectric . £145

H. F. BROCKBANK.

58, Lord Street, SOUTHPORT.

MOTOR CYCLES FOR SALE

Royal Ruby. ROYAL RUBY 1916 25th.p., 2-stroke, acce perfect; £35.-36, King David Lane, Step.

ONE Royal Ruby 21/2h.p. 2-stroke, new, list one ditto, 1919, new conditioo, £44.—Pa Wing, Bucks.

1920 Royal Ruby, new 3h.p. sprung frame immediate delivery; list price.—Clarke a St., Lonth.

ROYAL RUBY 1920 Sh.p. Combination new ridden; exchange considered; £210.—Stever Pentonville Rd., N.

ROYAL RUBY 2%h.p., 1916, 2-speed, clutc. start, exceptional condition; 255; excha R. D. Varty, Thundersley, Essex.

SPECIAL I.O.M. 31/h.p. Twin Royal Ruby, clutch, smartest bus in town; £80.—8a ball Yard, St. James's St. Piccadilly.

ROYAL RUBY 8h.p. Luxurions Combination twice, delivered new Jen.; open trial or extion; £185.—Ingram. 'Phone: 1387 Mayfair.

ROYAL RUBY 1919 8h.p. Combination, and electric, Cowey speedometer, screen; £175. BARGAIN of the Week.—2\(\frac{1}{2}\)h.p. Ruby 2 V.T.S. engine, guaranteed date 1915, comple lamps, etc.; \(\frac{2}{3}\)7 secures, Millards, Engineers, field.

R OYAL RUBY 1919-20 8h.p. Coachbuilt Co tinn, 3-speed, kick starter, smart turnout, new; £165.—Kington, 2, King Edward Parad-bury, S.W.

R OYAL RUBY 25th.p. 2-stroke, brand new engine, complete with new C.A.V. mag., 8 carburetter, drip feed, new tank, 1914 frame, 18 £45.—Baines, Beckford, Bramhall Lane, Stock

ROYAL RUBY 8h.p. Combination, 1920 me livered April 17th, complete with speed all lamps, wind screen, mechacical hom, kne condition as new, £250, or near offer-Horton Hill House, Turls Hill, Sedgley, Staffordshire.

Rudge

RUDGE Multi, 1919, gnaranteed, with new s

R UDGE Multi 1917 Combination, with all wind screen, electric lighting, etc.; £110-Cycle Mart, Chatham. T.A.: Motor Cycle. CROW Bros., High St., Guildford, Rodge supply at list prices.

5-6h.p. Rudge Multi Combination, in good orde -Youell, Athy, Co. Kildare.

RUDGES - Early delivery of all models - Garage, Walsall, Phone: 270.

RUDGE Multi 5-6h.p., 1920, just deliv

19 20 31/h.p. Budge Multi, brend new, just del offers.—Box 3,984, c/o The Motor Cycle. RUDGE Multi 31/h.p., h.b.c. clutch, excellent tion; 55 gns.-4, The Square, Carshalton.

RUDGE Multi, 5-6h.p.; £121; accessories Grimes, 18, Bruton Place, Bond St., W. CLUTCH Model 1913 Rudge, 31/h.p., excell dition; £50.—Luces, 390, High Rd., Chi

19 20 Rudge Multi T.T., I.O.M., new, acce £125.—Brown, 3, Longridge Rd., Earl's 19 1.0.M. 34h.p. Rudge Multi, quite new invited.—Box 4,025; c/o The Motor Cy

RUDGE Multi, 1919 (June), 31/4h.p., lamps, perfect condition; £90.-2, Trinity Lane, bridge

RUDGES.-We have 2 5-6h p. combinations £80 and £90.-Longman Bros., Ealing.

RUDGE (new) and Sporting Sidecar, fully equal list price.—Grimes, 18, Bruton Place, Bo

19 5-6h.p. Rudge Multi Combination, equipped; £130.—34, Curzon St., Wolve

31h.p. Rudge, clutch model, splendid climber ing mount; nearest £45.—Hudson, Bro Redhill.

RUDGE Multi 31/2h.p., 1917, all on, fast, por £68, offers.—36, St. Thomas Rd., He London.

R UDGE 31/h.p., 1913, good tyres, good con store 2 years, snip; 33 gos.-137, Hig Aldershot.

3½h.p. Rudge, clutch, lamp, fast, recently over by makers, good condition: 38 gus.—Boak, ing, Yorks. (D)

19 14 Rudge Multi, sound, excellent tyres, 2 lamps and horn; best over £45.—S.P., 0 Mess, Crowborough.

19 16 Rudge Multi, I.O.M., replated and ensigned completely overhauled; £80.-374, Grove Rd., Leytonstone.

Rudge.

GE Multi 1916 354h.p., very fust, equal to new; tent district; ride 25 miles; £75.—Box 3,975, Motor Cycle. [9538

GE Multi 31gh.p., new August, 1919, fully ulpped, equal to new; £90.—Owen, 59, Schole L. Upper Holloway.

Rudge Multi, hand clutch, replated and namelled, completely overhauled; £65.—374, Green Rd., Leytonstone. [1524

GE T.T., special engine, long exhaust, Senspray, coklauds machine, electric lighting, fast; 255.—bow Hill Terrace, Worcester. (9099)

**CHOPE'S, 9, Shee Lane, London, E.C.4 - 5-6h.p. Rudge Multi and sidecar, £99/10; also 1.O.M. Rudge, 1919, £105. b. Rudge Multi, speed model, clutch, good tyres, rery fast, engine just overhauled; 50 gns.—
St. John's College, Cambridge. [9630

GE Multi, J.O.M., 1920, speedometer, lam ares, belt, etc., overlap cauf, 60 m.p.h.; 115 gu isured.—Kingsmuir, Sutten, Surrey. [95] lamps. [9555

Sibhe, Rudge, single gear, adjustable pulley, good condition throughout, very fast; £40.—102. Garage, Askern, near Doncaster. [9791]

Rudge, 1914, semi T.T., clutch, in fine condition, just overbanled, fast solo bus; £48, or fer.—Bond, Smith Hatley, Gamlingay, [948]

Rudge Multi 3½h.p., lamps, horn, numerous ares, recently overhauled, excellent condition; preckley, 37, Compton Rd., Nottingham, [1324]

3E, I.O.M., 1919 (Nov.), mileage under 500, tedometer, lamps, Klaxon, knee grips, spare new; £110.—19, Park Av., Ilkeston. [1305]

Sale. Rudge Multi 31/h.p., in perfect order. inted, 5-5h.p. or twin Rudge Multi.—Price and us to 42, Hood St., Northampton. [X0825]

18 to 42, those etc, Assimal, sear and h.b. 2E Multi 1916 31/h.p., Multi gear and h.b. atch, with sidecar tyres, etc., in good condition; bundler, 1, Grosvenor Av., Richmond, Surrey, [8998]

iE, 1914, clutch, lamps, horn, footboards, new ton and cylinder, spare belt, etc., fine condi-aghout; 47 gns.—2, St. John's Wood Rd., N.W.8. [9388] Rudge Multi, with lamps, speedometer, hooter, i wicker sidecar, all fitted up, fully insured; near offer.—Hare, 13, Loates Lane, Watford.

iE. I. of M. model, late 1919, very fast ma-ine, little used; £99.—Newaham Motor Co., mmersmith Rd., W.6. Phone: Hammerswith [9205]

E Multi 31/2h.p. Coachbuilt Combination, hand tch. 1914, excellent condition, full equipment;
-Kington, 2, King Edward Parade, Norbury,

315h.p. Rudge, Philipson, new tyres and belt, wn, etc., excellent condition: £44, or exchange tht.—Sheldon and Blake, Church St., Biggles-

Radge Multi 3½h.p., C.B. sidecar, wind screen, are tube, tyres nearly new, lamps, horn, splenditien; any trial.—G. Cormack, Auchinges, (Y2003)

5½b.p. Rudge Multi Combination, wicker side-ir, multi gear, lamps, horn, good condition; or nearest offer.—Ingham, Dalton Holme,

E Multi Combination, 5-6h.p., 1916, over-ded by Rudge, perfect condition, new sidecar, it; best offer over £110.—Turnill and North, ough. [1427]

Rudge Multi 31/sh.p. Combination, very little ed. fine condition, fully equipped: 115 gns.— 15, Trinity Mews, Besshorough Gardens, ster. [9729]

Nah. P. Rudge Multi, I.O.M. T.T. mileage 930, peedometer, Cowey horn, F.R.S. lamps, knee her accessories, as new; £115.—16, Fishergate ston.

Rudge Multi 31/h.p., clutch, sloping tank, in-fection invited, spare valve, etc.; £93, offers; er 7, Saturday 2.30.-450, High St., West h.

1919, 5-6h.p. Rudge Multi, Whitley coachbuilt sear, Biaks, Klaxon, lamps, legshields, equal atte owner; £145; Leicester.—Box 3,977, c/o/r Cycle.

E Multi 3½h p. and C.B. Sidecar, 1919 model, eace under 300, and in absolutely new conditional pulets with lamps and mechanical horn; price h.ofters.—Dorking Motor Co., Ltd., Dorking

Rudge Mu'li Roadster, late 1919, small mile-e, condition equal to new, for sale at under private oweer selling; best offer. View at er's Motor Works. 295, High St., Lewisham.

Rudge, hand clutch, lamps, horn, speedo-eter, tools, spare helt, valve, etc., new heavy lendid condition throughout, appearance like lendid condition throughout, appearance like 8; seen evenings.—I, Grosvenor_Rd., Muswell

JONES' CARAGE,

WOODSIDE PARADE, NORTH FINCHLEY.

Thene: Finchley 2334.

TYRES.

Dunlops, Palmers, Clinebers, Rodace, Hutchinsons, and Beldams. All sizes and al qualities from immediate stock.

from immediate stock,
HAD LAMPS from 12/6.
P. & H. (all patterns), Millers (all patterns), F.R.S. (electric and gas), Bobjon, also special posit Camelinat gas, ditto electric.
SIDECAR LAMPS and REAR LAMPS from 2/-,
Motox, F. & H., F.R.S., Westwood Toppedo (plated Sectional Manual), T.W.R. (electric and gas), and

Stadium,

GENERATORS from 8/6.

Montel, Motex, Camelinat, F.R.S., and Lucas,
KLAXON and BULB HORNS from 10/6.

(Bulb) H. & B., Unique, Bobion, The Screamer,
(Klaxon) Segic (Iarge), Nonal, Segic (Inoded C), and
large long Klaxon Horns for cars. Special line in
Cowey variable note push Horns.

Speedometers from £6. Cowey, Smiths, Watford,
and Stewarts.

Cameo Pattern and Cameo Windscreens, £2 and £3

Cameo Pattern and Cameo Windscreens, 22 and 23 respectively.
Driving Chains, \$\frac{1}{2}\text{ And }\frac{1}{2}\text{ R}, Recolds, Coventry, and Braupton's from 4/6 per ft. Crank and Spring Links (hundreds in stock), 1/6 each. Contact Perskers, Bosch and C.A.V., new, from 22/6. Recolds and C.A.V., new, from 22/6. Recolds and C.A.V., new, from 22/6. Recolds and the state of the s

1920 TRIUMPH Combination, done about 200

MOTOR CYCLES FOR SALE.

Rudge.

R UDGE Multi 5-6h, Combination, speedometer, King of the Road bunps, trols, and space parts, unused for last 4 years, condition as new; £95.—Tuck, 154, Blackhorse Rd., Walthamsdow,

R UDGE Multi 1919 3½h.p., ridden under 500 miles, condition as new, lamps, horn, sparc tube and belts in case, all accessories; £100; owner purchased car.—L. F. Horne, 10, Newman St., Oxford St., W.

F.O.O.H. have a Rudge Multi, fully equipped, ex-cellent order.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tube Station), Thoug: Hampstead 3752. Hours 9-7, including

1920 Rudge Twin Multi, 7-9h.p., and sideor, lamps, 2 generators, screen, horn, Tun-Sud, surance, tyres unpuedured, smart combination, take adults and child; 195 gos.—Cove, 45, Westcourt

R UDGE Multi T.T., I.O.M., 1917 special, very hot stuff, 2 lamps, hora, Watford speedometer, knee grips, straight through copper exhaust pipe, sportsman's bus; 30 gns, or near offer; after 8.—Davies, 60, Sloane St., S.W.

1914 Rudge Multi 31/h.p., semi-T.T., tyres excel-lent, new pulley, fully equipped, perfect con-dition; excellent reason for selling; first cheque secures, 50 gos.—Harries, Banc Farm, Maery, Llandilo, Carmarthenshire.

1920 LO.M. Rudge Multi, brand new, done about 50 miles, everything perfect, lamps, horn, all accessories; price £120, no dfars; owner received maxpact delivery of another make.—Address, J. Wilkinson, 29, High St., Donuster.

F.O.C.H. have a 1919 Rudge Multi and Coach Side-car, fully equipped, excellent order.—Fair Offer Car House, 5. Heath St., Hampstead for Hampstead Tube Station). "Phone: Hampstead 3752. Hours 9-7, including Saturdays.

5 6h.p. Rudge Combination, 3-speed, new sporting sidecar, aluminium discs, long exhaust, 2 new trees and tubes, 2 beits, extra pair handle-bars, lamps, horn, and spares; £85, or pearest offer; any trial, cope, Denby Dale, Huddersfield.

Saltley.

I MMEDIATE delivery of Saltley-Villiers 2-stroke, single-speed £56, 2-speed £56.—Loadon concessionnalres, Lancaster Motor Co., West Norwood. A few agencies available. [4242]

SAROLEA 6h.p. Twin, Bosch, Grado. Druids, dropped frame, fast, reliable; £35.—Bambridge, Riverside, Kingston-on-Thames. [X0972]

1920 New Scale, 31/hp. Precision engine, 2-stroke, 2-speed, clutch, kick start; £85; immediate deliveries.—The Rochester Auto and Supply Co., Rochester.

10 20 New Scale, the cuper 2-stroke, 3½h.p. Precision engine, 2-speed, clutch, kick starter; delivery from stock at makers list price—Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10.

Scott.

3 4 h.p. Scott, 2-speed, K.S.; £60.—Ryder, 57, High St., Sandbach. [9829]

SCOTT 1919 with 1920 lubrication, as new; £140.-Motor Cycle Mart, Chatham. [125

SCOTTS.—Place your order now with the Bedford Garage, Walsall. 'Phone: 270. [5308 SCOTT 334h.p., 1915, new Binks, good condition; £65. -W. R. Beveridge, Pitreavie, Dunfermline. [9417

SCOTT T.T., 1914. 2-speed. K.S., smart, perfect; £58, offer.—R. Martin, Lindholme, Lewes. [1590

COTT, 1912, wicker sidecar, needs overhaul; offers over £40.—Williams, Draper, Holt, Trowbridge. [1182]

SCOTT 54h.p., 2-speed, K.S., Biaks, fine condition; £55, or exchange.—76, Neate St., Albany Rd., Camberwell. [1088] SCOTT, standard 1920, Lucas horn, very low mileage, perfect; £120.—Oliver, 55, Birmingham Rd., Lichfield. [9233

SCOTT, 1915. new Binks, new chains, perfect condition; cheap; private owner; trial.—87, Battersea Rise, S.W.11.

SCOTT, late 1919, completely equipped with lamps, horn, tools, and spares; price £115; Coventry.—Box 689, clo The Motor Cycle. [X0930]

SCOTT, 1914, recently overhauled, new parts fitted, disc wheels, low handle-bars, lamps; 260.-C/o 115, Grovehill Rd., Beverley, E. Yorks. [9283]

BARGAIN.—1919 Scott and sidecar, all lamps and horn, absolutely as new and unscratched, guaranteed perfect; £125.—Reynolds, Waterheach, Cambs.

SCOTT Sporting Combination, 1915, excellent condition, fully insured, 3 lamps, speedometer. Easting screen, new tyre, spares; £100.—33, Jordan Gate, Macclesfield.

R. BAMBER & Co., SOUTHPORT

EARLY **DELIVERY:**

HARLEY - DAVIDSON. ARIEL, N.U.T., B.A.T.

IN STOCK:

METRO-TYLER, All Models. HOBART, All Models.

WE HAVE ALWAYS A GOOD SELECTION OF SECOND-HAND MOTOR CYCLES.

WRITE US.

EASTBANK ST.

19 20 Special Sporting Scott, not unpacked, solo gears:
£136: send carriage paid anywhere in England.
-Write, Box 3,980, c/o The Motor Cycle. [9543

1 0 15 T.T. Scott, paintwork poor, needs a few adjust-from ments, guaranteed sound, discs, long exhaust; £60, or offer.—M., 4, Whewell's Coart, Trinity College, Cambridge.

19 18 Scott and sidecar, complete with lamps, speed-ometer, horn, spare set of chains, ctc., good sound condition; £85.—Purvis, Holly Cottage, Layes End, Middleex.

SCOTT 1914 Combination, conchbuilt sideon, excel-lent condition, perfect running order, just over-hauled, Binks, Bosch, lamps, spares, tyres as new: £90. -69, Culver St., Colchester.

S PORTING Scott, 1920 model, T.T. bars, long exhaust, just decarbonised and tuned up, fast, and in excellent condition.—Offers over list price to Gardner Thomson, Finkle St., Kendal. 19374

L ATEST Scott Combination, discs, T.T. bars, Lucas accessories, Watford speedometer, tyres good, gold medal 6 days, spares, excellent condition; £165.—Brown, 6, William St., Whifflet, Coatbridge. [X0968] Brown, 6, Wilham St., Whilliet, Coatbridge. [20968]

COTT, 1919, delivered December, Whitworth
Stevens light coachbuilt sidecar, painted purple
to match machine, only done makers road test, whole
outfit brand new, open to any trial and test, ready for
immediate despatch on rail, cowner taking delivery car,
competitional opportunity; Winfisan; price 2:167-A.
James, Photographer, Lampeter. [20978]

Singer.

31h.p. Singer, 1915: £40.—The Gratwicke Garage, Gratwicke Rd., Worthing.

SINGER 4h.p., 2-speed, single, T.T. bars, pan seat fast; £50.—Fisher, South St., Andover. SINGER 3/2h.p., 2-speed, free engine, Bosch; £35, or offer.—19, Woodland Way, Mill Hill, N.W.7.

SINGER, 25/h.p., Bosch, splendid order; nearest to £35; genuine bargain.—7, Maxton Rd., Liverpool.

SINGER 31/h.p., Sturmey-Archer 3-speed, peds starter, excellent order; £48/10.—Rose's Garage pedal Uxbridge.

3h.p./Singer, 2-speed, clutch, kick starter, fine condition; £47/10.—Copthorne Bank P.O., Crawley, Susser

1913 415h.p. Singer Combination, countershaft, first-class condition; bargain, £60.—Ridler, Park St., Minehead.

SINGER 3½h.p., clutch model, condition perfect, Bosch, Dunlops, stered 3 years; £45.-47, Medusa Rd., Catford. [1334

SINGER 234h.p., 2-speeds, free engine, new tyres, recently overhauled; £30, or offers.—Hayward, Hut A Square, Stanbope Lines, Aldershot. [9492]

CINGER, 23th.p. Minerva engine fitted, thoroughly overhauled, Bosch, B. and B., footboards, excellent condition; £28; after 5.—Sales, Onkleigh Villas, New Rd., Ascot. SINGER,

SINGER 25th.p., 2-speed, free engine, just been over-hanled, new tyres, piston rings, gudgeon pin, and new bnahes, magneto overhauled, new platinum points, all in excellent condition: ready ride away: trial, seen ony time: 247.-24, Grean Walk, Crayford. 9098

Southey.

SOUTHEY, 4h.p. twin J.A.P., 1917, Sturmer-Archer 5-speed countershart, recently re-enamelled, replated; £65.—G. Collins, 1, Portugal St., Cambridge, 19718

Sparkbrook.

SPARKBROOKS, all models.—A. J. Young and Co., Ltd., Newmarket. 'Phone: 214. [0194]

19²⁰ Sparkbrooks, immediate delivery of all latest models.—Kemp's Garage, Louth, Lincs. [X0976 19 20 Sparkbrook, new, 2-speed, 2-stroke; £65.-Smith's, 86, Chalk Farm Rd., opposite Chalk Farm Tube Station. [0169

19²⁰ Sparkbrook-Villiers (flywheel magneto), delivered from stock; £75. — Frank Whitworth, Ltd., 139, New St., Birmingham. [X1189]

SUN-VILLIERS, lovely condition, etc.; £38.—Marks, 121, Acton Lane, Chiswick. [9461]

121 Acton Lane, Chiswick.

21hp, Sun-Vitesse 2-stroke, 2-speed, clutch, counter2 shaft; 448-35, Rosemary Rd., Clacton-a-Sea.
[1286]

SUN, 2-stroke, 1916, oil-black finish; 255; excellent
condition.—Furness, Manor Farm, Bookham, Sancondition.—Furness, Manor Farm, Bookham, San-

rey.

2 1h.r. Sun-Vitesse, 2-speed, 2-stroke, nearly new;

2 £58.-The Gratwicke Garage, Gratwicke Rd.,

Worthing [1445]

19 20 25th.p. Sun-Vitesse. 2-speed, tools. horn, nidden 500 miles; trial; 265.—13, Bentinck Hucknall, Notts.

19 18 Sun, replated and epamelled, unridden since, indistinguishable from new, all accessories: £46.

-Reynolds, Waterbeach Cambs. [1258]

LAMPS AND GENERATORS HOLD WORLD'S RECORDS.



F.R.S. Famous Beam Gas, Lamps. MAJOR, 6" lens, 1,200ft. beam, 108'-BIG, 5", 1,000ft., 99/-JUNIOR, 4", 600ft., 72/6 72/6

Handle-bar fittings of highest type—all ebonised black finish (not enamel). EVERY FIRST-CLASS GARAGE HAS NOW RECEIVED STOCK.



BULB HORNS

premises of Messrs. GISBORNE. world-wide musical instrument makers, and now are able to offer the public the finest sonorous bulb horns in the world.

> No. 00 Single Twist 22/6 No. 0 Double Twist 35/-Highest type of ebony black finish.

Best class adjustable handle-bar clips

F.R.S. LAMPS, "Beam Works," Pershore Street, RIRMINGHAM.

SALVAGE & SONS-Fleet Street, SWINDON.

Sole Agents for:

TRIUMPH, ENFIELD, A.J.S., SUNBEAM, JAMES MARTINSYDE, HAZLEWOOD, RUDGE. ETC.

VILLIERS FREE-ENGINE HUBS AND FOUR-STROKE ENGINE REPLACEMENTS & REPAIRS

MOTOR CYCLES FOR SALE

SUN-VILLIERS 25(h.p. 2-stroke, 2-speed, 1915, good condition; £45, or exchange power:—Avery, Little York Cottage, Each Innbridge Wells. (D)

SUN-VILLIERS 25/h.p. V.T.S. Motor Cycle overhanled at cost £5, lamps, horn, 9 carrier, fitted with Dunlopa, perfect running order nearest.—H. Ashman, St. Neot's, Hunta.

Sunbeam.

19²⁰ 3½h.p. Sunbeam, new; accept best off

19 8 Sunbeam and Sidecar, in perfect co

SUNBEAM 31/h.p., 1920, £175, leg-shields, ridden.—Cudland, c/o Stephens, Kingsholm

 $2\frac{3}{4}$ h.p. Sunbeam, clutch, 2-speed, kick start feet condition; £80.—Hinde, 10, Lonsdi Wolverhampton.

NEW 31/2h.p. Sunbeam Combination, mile purchased car; accept \$20 premium.—Bo

19 19 French Military Model Sunbeam, as no plete, with Lucas lamps and horn; Burgess, Tew, Oxon.

1920 Sunbeam and Stubeam sidecar, bra and unregistered, 315h.p. model; 221 Nightingale Rd., Lower Clapton.

LATE 1919 3½h.p. Sunbeam, lamps, bo 300, as brand new, black and gold; Westwood Rd., Earlsdon, Coventry.

SUNBEAM 31/h.p., 3-speed, kick start, b hauled, coachbuilt sidecar; a bargain, Baker and Son, Ealing Green, W.5. SUNBEAM 254h.p., 1914, Bosch, 2 speeds, new, K.S., Sterling guards, undershield, et -Verity, 23, Park Parade, Cambridge.

1920 Sunbeam Combination, just delivered, tered; first cheque for £220, or near a secure.—Clement King, Oakdene, Ely, Cambs.

SUNBEAM 6h.p., 1914 model, 3-speeds, with B.S.A. sidecar, horn, lamps, etc Owner, Central Garage, Ross, Herefordshire.

SUNBEAM 8h.p., 1920, brand naw, compl sidecar, hood, screen, spare wheel, tyre, etc Byfleet Automobile Co., West Byfleet, Surje Sh.p. Sunbeam Combination, delivered N 1919, complete with all lamps and hou need, tyres excellent; 190 gns.-Roys, 68, Chu

SUNBEAM 1919 31/h.p., all-black-golden, to with F.R.S. electric lighting set, meet perfect, equal to new.—Parker's, Bradshawga

19 16 31/h.p. Sunbeam Combination, 1919 as new Lucas equipment, excellent or guaranteed; £135.—Melrose, Boughton Park ter.

19 19 Sunbeam 3 h.p. Combination, perfective electric lights, done about 700 miles; hover £160.—Shakespear, 31, Park Mansions, bridge.

£ 165.—8h.p. Sunbeam combination, makers' Lo 88, good mechanical condition, enaplating perfect, long copper exhaust.—21, No borchester.

SUNBEAM 3%h.p., 1915, and sidecar, splend tion, engine and genr box overhauled by January; 115 gns., no offers.—Edger, Lyndane, boro', Kent.

SUNBEAM, 3½h.p., and coachbailt side 1918, all accessories, new condition; low £145; any trial—e/o Findlay, 88, Marchmont Edinburgh.

1916 35/h.p. Sunbeam and Coachbuilt Sidet condition, lamps, etc.; £125, near offer change lightweight and cash.—Lemon, Yew Amesbury, Wilts.

19 19 Sunbeam and Sunbeam Sidecar, 3½b, 1 lamps, and horn, perfect condition; amination; £180, or nearest offer.—Arch Windsor St., Rugby.

2 1h.p. Sunbeam, suit sidecar, Sunbeam les 22 scarcely ridden, perfect coudition and an Lucas lamps; any trial; sacrifice 100 gns.—75, hom St., Barrow-in-Furness.

SUNBEAM 31/h.p., just rebuilt with all 1 tings, excellent running and condition buying lightweight; price 95 gns.; no deale 699, c/o The Motor Cycle.

SUNBEAM, 3[sh.ph., 1935, stored during war, tootrests, valves, etc., a perfect machina; -23, Addaide St., Blackpool.

SUNBEAM (late 1916) 31/h.p., black and go 1918 Sunbeam sidecar, fucas lumps, wind apron, and accessories, perfect in every way, a by appointment ofter 16th May, £130.—R (c) Leigh Hall Rd., Leigh-ou-Sea, Essex.

B32 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

MOTOR CYCLES FOR SALE. Sunbeam.

TE 1916 Sunbeam Combination, black and gold, renickelled, re-enamelled, Lucas lighting, horn, chains, new picton, spare tyre, tube, privately da-15, Victoria Rd., Romford.

danie, Victoria Rd., Romtora.
d-15, Victoria Rd., Romtora.
d-15, Victoria Rd., Romtora.
20 34),hp. Sunbeam and Mills-Pullord Sidecar,
Lucas King of the Rand langes, Cowey horn,
lag wind screen, whole 3 weeks old and as new;
eash.—Capt. Freeman, 3rd Tank Battan, Wool,
[1187]

20 8h.p. Sunbeam Combination, black and gold finish, P. and H. lamps, Watford speedometer, Injum disc on sidecar, horn, tools, small mileage, nai: £250.—Spencer, 366, Manchester Rd., Holling, Oldlum.

, 08 (and both of 10 the property of the prope

Ogusbeam 3½h.p., with Sunbeam sidecar, latest leaf spring forks, complete lamp sets, horn, h and tools, only done 100 miles; best offer,—71, South Side, Clapham Common, S.W.4. Arikton.

(REAM Combination, 1916, 3½b,p., 3-speed, K.S. dutch, speedometer, Easting, Lucas acctylence ng set, alternate electric horn, tools and spares; offer over £120; seen Saturday afternoon, Wostr, Bradford St., Birmingham.

SEAM.—We are Wolverhampton agents; spare arts in stock; repairs, overhauls, re-enamelling slating under the supervision of Mr. T. C. de la liate Sunbeamband).—The Molineux Garage Co., Wolverhampton. Tel.: 1160.

BEAM 81.p. Standard Combination, purchased February 1920, ridden 800 miles, electric lamps, y born, speedormeter, special sidecar fitting, head, paper valves, whole in excellent condition; price inclading 12 months' palicy and tax paid.—Box of The Motor Cycle. [1485]

.C. 2-stroke, good, as new; £35.-2, Fulbrook Mews, Tufnell Park. [9740 Mews, Tulnell Fark. LD. Combination, T.D.C., K.S., 2-speed, Bosch mag.; 250.—14, Dongola St., Harford St., Step-[9665]

40 T.D.C. 2¾h.p. 2-stroke, with accessories, ridden 200 miles; £58.—75, Arngask Rd., Catford. 6 p.m.)

10 2%hp. T.D.C. de Luxe, 2-speed countershaft, clutch, kick starter, lamps, and horn, unridden; t, or exchange higher power.—20, Derby Rd., on. (9554)

Torpedo.

PEDO Combination, Precision 3½h.p., Bosch mag., B. and B. carburetter, good running order: -Walsh, Turner's Hill, Cheshunt. [1558]

Triumph.

UMPH, 1918, 3-speed, guaranteed with new sidecar; £135.—Below. UMPH, 1918, T.T. model, fitted with copper lises and exhaust pipe, specially tuned racing cycle; £100.—Motor Cycle Mart, Chatham. Motor Cycle.

BY Triumph, late 1919, as new; £70.—Sharm Solicitor, Moreton in Marsh. [1206 Triumph Junior, 1914; £60. E.C.4.—

Triumph 31/2h.p., only covered 5,000 miles; £75. George Hotel, Kettering. [1187 1 Triumph, clutch model, first-rate order: £45.— King, Egrove Farm, Oxford. [X1050

IOR Triumph, delivered this week, spotless; £80.
-D. Lavin, Old House, Sonning. [9154 i.—Triumph, W.D., renovated, unused.—Ward, 33, lecil Rd., Muswell Hill, N.10. [9300

UMPH, 1917, countershaft, 3-speed, K.S.; £85. -9; Church Rd., Willesden, N.W. [9940 p. Triumph, good order; bargain, £40.—145, Stephens Rd., Tunbridge Wells, [9508

3 Triumph, clutch model, smart; £40, no offers -157, Hartfield Rd., Wimbledon. [1139] " [1139

O Baby Triumph, lamps, horn; 70 gns.—Harry Rock, Cradley, Staffs. Tel.: 145. [X1065 O Countershaft Triumph, just received; what offers?—Box 700, c/o The Motor Cycle. [X1088 UMPHS, 1918, countershaft, three as new, rom £85.-17, Tamworth Park, Mitcham, [9711

EE Triumphs, absolutely brand new; £115.—dpe, 54; Coval Rd., East Sheen, S.W. [X1103 Baby Triumph, brand new; best offer.— Resslyn House, Station Rd., New barnet. [1135 JMPH Countershaft, fully equipped: £68.—59, alfrey Place, Dorset Rd., Clapham Rd., S.W.S.

Triumph Countershaft, splendid order, trial; 75.—Stanley, 50, Thornhill Rd., Barnsbury, N.1.



STOCK: Some first-class solo mounts:

IVY. 2-speed, footboards £70 CHATER-LEA. Villiers, 2-speed, footboards ..

ROYAL RUBY, 3 h.p., spring frame, kick-start, and clutch, ...95 Guineas plus 10%

COVENTRY EAGLE, 23 h.p., J.A.P., .. 76 Guineas kick-start, and clutch,

FRANK

139, NEW STREET

BIRMINGHAM

NEW 1920 MODELS IN STOCK TO-DAY AT ALEXANDER'S.

ENFIELD 2-stroke, 2-speed		£68
CLYNO 2-stroke, 2-speed		£75
INVICTA 2-stroke, single gear	٠.	£65
COVENTRY EAGLE 2-stroke		62 gns.
SPARKBROOK 2-stroke, 2-speed	٠.	£75
CLEVELAND 2-stroke, 2-speed	••	£85
-23 h.p. INVICTA.JAP 2 speed	••	£81
2 h.p. FRANCIS-BARNETT		£84
2 h.p. CALTHORPE-JAP	٠.	71 gns.
23 h.p. COVENTRY EAGLE JAP		76 gns.
23 h.p. COULSON B spring frame	٠.	95 gns.
31 h.p. T:T. B.S A., single gear		£90
POWERPLUS INDIAN T.T. BAR	SÆ:	181 I4s
POWERPLUS INDIAN COM	BIN	ATION
£	218	3 10s.

Carriage from works is extra to above prices: Write or Wire immediately, as we cannot guarantee in stock to morrow.

ALEXANDER'S.

113-115, Lothian Rd., Edinburgh. and 272, Gt. Western Rd , Glasgow

MOTOR CYCLES FOR SALE. Trlumph

TRIUMPH 1920 4h.p., 3-speed, and sidecar, brond new.—Lovelock, Baring Rd., Beaconsfield. [1433 TRIUMPH 2-stroke, new, good reasons for selling; best offer.—Box 712; v/o The Motor Cycle.

1918 4h.p. Countershart Triumph, lamps, the condition; 85 grs.—King, Egrove Faim, Oxford.
1915 Countershaft Triumph, Millard sidecar; 295; bybointe lowest.—Millard, filbert Rd., Belegiege.

TRIUMPH 3½h.p., clutch model, overhauled, new tank; £38.—Marks, 121, Acton Lane, Chiswick.

19462 1920 Triumph, 3 speeds, just delivered, narogistered; 2125; bought car.—19, Rock St., Bury, Lancs.

TRIUMPH and Sidecar, 1913, perfect condition £75.—241, Goldhawk Rd., Ravenscourt Park, W TRIUMPH Junior, 2-speed, overhauled: £48.—1, wood Rd., Herne Hill, 'Phone: Brixton 19

RIUMPH, 1911, splendid condition, all accessor £36.—Perry, 3, Fanthorpe St., Putney, S.W.

19¹⁵ Triumph, 3-speed and clutch, mechanical horn new tyres; £70.-2, Khedive Rd., Forest Gate, E.7 TRIUMPH 31/h.p., 2-speed, powerful, take 2 where; £48, or offer.—Lowe, 12, Lyndhurst

H. where; 200, 0. Luton.

2 1.p. Triumph, free engine, Philipson pulley: 234.

2 2—Spurwar, 63, Waterloo Rd., Wellington, Somer [927]

19²⁰ 4h.p. Triumph, countershaft, just delivered, unridden; what offers?—Box 704, c/o The Motor [X1104]

TRIUMPH, 1917, countershaft, tyres as new, Bosch mag.; bargain, £85.—263, New King's Rd., Ful-ham. [9701 TRIUMPH 31/4h.p., F.E., 1913, splendid order: £47.

-R. Wiggins, Sunnyside, Tuchbrook Rd., Uxbridge. [9306 bridge.

31h.p. Triumph, variable, free, good going order, £30; 2 3½h.p. Premier engine, £10.-53, Stanway Rd., Coventry. [X1001] Coventry. [X1001]

TRIUMPH, 1918, countershaft 3 speeds and clutch, good condition; £88.—Hole, 129, l'ark Lane, Canshalton,

halton. [9565]
1920 T.T. Triumph, new condition, complete lamps and horn; £103.—Box 4,032, c/o The Motor Cycle. [1462]

TRIUMPH 3'sh.p., clutch, pedal start, excellent condition; ride away; £49.-86, St. George's Rd., [8960] Peckham.

1912 Triumph, clutch model, Philipson pullty, Lucas lamp, fine condition; £52.—King, Egrove Farm, [X1052] TRIUMPH Clutch Model, 1913, with acc Rd., S.W.8.

19 or near offer.—Apply, Woodrow, Common Farm, Ely, Cambs. [1436

19²⁰ Triumph 4b.p. Combination, Gloria sidecar, brand new; £175.—Brown, 3, Longridge Rd., Earl's Court. [9990

TRIUMPH 4h.p. Countershaft, new condition through-out; £82.-20, Treen Av., Hogger's Corner, Barnes, S.W.

TRIUMPH 4h.p. T.T., late 1919, lamps, horn, spares, accessories, perfect; £95.—Monteith, Haslar Baracks, Gosport. [X0821]

10 10 Triumph 31/2h.p., Bosch mag., fixed engine, easy start, climb anything; £30.—Williams, Manse, Chipping Norton.

TRIUMPH 31/4h.p., 1913, 3-speed, splendid condition, stored during war; £85,-T. Beland, 5, Bachelors' Walk, Dundalk. [9101

TRIUMPH, 3½h.p., grand order, lamps, horn, c. plete, ride away; £38, close offer.—76, Mur. Rd., Ipswich.

TRIUMPH, 4h.p., countershaft, lamps, etc., mechanically perfect; £90, lowest; after 7.30.—1, Welham Rd., Streatham. [1566]

TRIUMPH, 4h.p., clutch model; evenings 7 o'clock, Saturday morning; £45.—4a, Northcote Parade, Southall, Middlesex. [1109] 2 1h.p. T.T. Triumph, overhauled and renovated by makers, fast and reliable; £40.—Edwards, Alpha. 2 makers, fast Station Rd., Ely.

Station Rd., Ely.

19 18 Countersbaft Triumph Combination, light, Egrova Cyclord Cyclord (X1049)

TRIUMPH, 1916, countershaft, and £40 sidecar, very nice lot, exceptionally fast; £127/10.—Derby Arms Garage, Mortlake.

TRIUMPH, 1914, 4h.p., 3-speed, clutch, and coach-built sidecar; £80.—Carter's Garage, East End Rd., Finchley. [9620]

1914 Triumph. 4h.n., 3-speed, splendid condition; £65.— Hamlet Court, Hamlet Court Rd., Southend, Essex. [9458]

MOTOR CYCLES FOR SALE. Triumph.

TRIUMPH 3½bp, Combination, Sturmer-Archer 3. epeed, good condition.—15, Kelvin Av., Bowes Park, London, N.

TRIUMPH, T.T., 1913, knee grips, lamps, horn; nay trial; splendid condition.—1, Molham Rd., 1912, 1913, Sec. 191

TRIUMPH Combination, engine 63673, screen, Tan-Sad, etc., perfect; £155.—198, Victoria Rd., Charlton, S.E. [9651

TRIUMPH 31/2h.p., 3-speed. clutch, lamps, mechanical horn, excellent condition; £55.-66, West Side, Clapham Common. [9134

1914 Triumph Combination, 3-speed S.A., complete, splendid condition; £70.-16, Mervan Rd., Brixton, S.W.2.

TRIUMPH, 1913, 5-speed Sturmey-Archer gear, all accessories, perfect order; £58.-365, King St., Hammersmith, W.6. [9950]

19 18 Countershaft Triumph, engine No. 53286, and new Middleton sidecar, perfect; £118.-30, Belgrave Av., Watford. [1090] TRIUMPH 1918 Countershaft Combination, fully equipped, smart turnout, perfect; £125.—Lovelock, Cholsey, Berks.

1913 1/2h.p. Triumph, single speed, Bosch, Dunlops, good condition; £36.—Coussell, 64, Linnell Rd., Camberwell, S.E.5.

10 14 T.T. Triumph, Philipson and clutch, lam horn, perfect; 49 gns.; after 6.30.-61, Redel Rd., Fulham Rd., S.W.

nu., runam Rd., s.W.

TRIUMPH Type H, £10 deposit, delivery before
Whitsum certain; Bristol district; offers.—Box
\$394, clo The Motor Cycle,
9587

TRIUMPH, 1918, countershaft, new tyres, £90; cr
with new Millford sidecar, £115; after 6-282,
South Lambeth Rd., S.W.6.

TRIUMPH and Sidecar, 3½h.p., clutch model, new Dunlop heavy, good running order; £50.-38, Garner St., Hackney Rd., N.E. [9684

1920 Triumph 4h.p. Countershaft, just delivered, owner bought car; £130, or close offer.—Box 4,002, c/o The Motor Cycle. [1205] TRIUMPH Coachbuilt Combination, K.S., Tan-Sad, speedometer, 3 lamps, screen, etc.; £78.—Emery, Woodlands, Beech, Alton, Hants. [9719

1916 4h.p. Triumph, 3-speed countershaft, new frame, in good order; price £85.-4, Station Buildings, Weodside, S. Norwood, S.E.25. [9935]

REX G. MUNDY, Triumph specialist.—1914, 3-speed and clutch, coachbuilt sidecar; £70; would separate.—1, Duke St., Richmond. [8781

TRIUMPH 1919 4h.p. Countershaft, mechanically, perfect, equal to new, any trial or examination.—Parker's, Bradshawgate, Bolton. [X0945]

TRIUMPH 3½h.p., in good condition: £30.—Sheppard, 235-6, Trussley Rd., The Grove, Hammersmith, W.6. 'Phone: Hammersmith 1840. [9128

19¹⁷ Triumph and new sidecar, all lamps, etc.; price £135.—The Winstan Henney Motor Co., 63, South End, Croydon, 'Phone: 2431. [9442]

TRIUMPH 4h.p., 3-speed countershaft, little used, splendid condition; sacrifice £80.—Foster, 50, Calabria Rd., Highbury, London, N.5. [9074

1907 Au., auguouty, London, N.S.
19074
19 20 T.T. direct belt drive Triumph, Bonniksen speedometer, actual mileage (99; £95, no offers, Greyshott, Creshtill Av., Grays, Essen, 1984)
19 [Sept.] Triumph Combination, all accessories, hood, wind street speed speed of the company of the company

19 hood, wind screen, spares, insurance; £160; as new.—3, Lilian Place, Burley, Leeds. [1316]

TRIUMPH Combination, wicker sidecar, 1918, conntershart, splendid condition; 95 gns.; would separate—Scott, 211, High St., Lewisham. [9870]

1920 Triumph, countershaft, brand new, not ridden; £126/10; with new sidecur £151.—Wilcox, 118, Hamstead Rd., Handsworth, Birmingham. [X0999]

19 121/2 Triumph, clutch model and wicker sidecar, for sale, Bosch mag., perfect order; £45.—Foster, 12, High St., Market Harborough. [9785] TRIUMPH, 3-speed, T.T., fitted with new tank, Binks carburetter, straight handle-bar, ready to ride away; £70.—29, Brudenell Rd., Leeds. [X1081

19¹⁹ Triumph and Gloria Sidecar, all accessories and Easting wind screen, condition as new; £135.-44, Longfield St., Southfields, S.W.18. [1418

TRIUMPH, 1917-18, and sidecar, 3-speed, K.S., tyres nearly new, lamps, horn, spare belt and tube; £110, or near offer.—Eve, Pine Cottage, Weybridge. [9260

TRIUMPH 4h.p. 3-speed Countershait, excellent condition; £885.—Newhahm Motor Co., 223, Hamersmith Rd., W.S. Phone; Hammersmith 80, [9196]
TRIUMPH 35/h.p. 1913, F.E., new tyres, lamps, hom, tools, good condition; £50.—Apply after p.m., Atthers, Charlton Rd. Faim, Sheppetton. [914]

4 1h.p. Triumph, 1920, chain-cum-helt drive, brand row, not unpacked from works, Model H; what offers.—H. Gregory, Codford-St.-Peter's, Wilts. [9598] PRAND New Latest Model 4h.p. Solo Trimmph, racing model, with hora; carning paid, £108, no offers.

-E. Martin, jun., 200, Lake Rd., Portsmouth. [9114]



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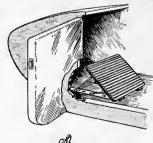
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TRIUMPH 1920, latest 4h.p. countershaft sp fine machine, privately owned; 2120.— Bromley Motor Works, 'phone 961 Bromley.

19¹³⁻¹⁴ 3½h.p. Triumph, S.A. hub, Bosch, sidecar, Easting, Klaxon, lomps, accums £100, lowest; London.—Box 3,454, c/o The Motor

19¹⁸⁻¹⁹ 4b.p. Triumph Countershaft C.B. Cortion, Millsford, Lucas lamps, practically a throughout; £110.—57, Stopford Rd., London,

TRIUMPH 31/2h.p., hand clutch, in new com-2 lamps and generator, Klaxon, pump, spare tube, very smart; £58.—Dowell, High Rd., F RIUMPH Countersheft Combination, new A

1919, luxurious bulbous sidecar, perfect.

4 h.p. 3-speed Triumph, fully equipped, recently hauled and rebushed, insurance policy, goo car machine; £65.—Rosebery, Saffron Rd., Biggle SEVERAL Countershaft Triumphs, 1917-18, n colours, overhanled, some cases new tyres lutely perfect; £90.-3, Courtlands Av., Lee, s

TRIUMPH 1920 Model H, as new, accessories;
-Clifford Wilson Manufacturing Co., 70,
Hospital Rd., Chelsea, S.W.3. Kensington 71

1914 Triumph Combination, 3-speed, clutch sporting sidecar, in tip-top condition; 9, Marylebone Mews, New Cavendish St., London

TRIUMPH, late 1913, 3-speed clutch, pedal complete with Mills-Fultord coachbuilt s £75; exchanges.—R. D. Varty, Thundersley, E

TRIUMPH, 1912, Bosch, new Senspray, adj pulley, lamps, generator, good condition: 7 p.m.; £30.-18, Cromwell Mews, South Kens S.W.7.

TRIUMPH 4h.p., countershaft 3 speeds and latest type decompressor; this machine is in every way; £87/10.—Saule, 3, Bernard Rd., V 1012 Triumph, clutch model, Bosch watertight, and pump, nearly new tyres, belt, all i condition; £48; trial.—Ford, Sotwell, near Walli Berks.

TRIUMPH 2-stroke, 2-speed, perfect mecha exacellent appearance, fully equipped; any examination; £58.—Top Flat, 23, Orockertor S.W.17.

19¹⁸ Triumph 4h.p. Countershaft C.B. Comb engine No. 53787, and accessories, excelle dition throughout; £105.—Wilson, 84, White

dition t 1912 Triumph, just overhauled, new pisto back tyre, etc.; exceptional bargain, best of £35.—Apply, Ivy House, The Terrace, Barnes after 5.

C85; Triumph Combination, coachbuilt, 3 countershalt, kick start, clutch, fully equater 6 or week-end.—3, Wellington Rd., East Essex.

TRIUMPH 4h.p. Countershaft, with C.B. very nice combination; £115.—Newnham Co., 225, Hammersmith Rd., W.6. 'Phone: B smith 80.

19 19 Baby Triumph, had very little use, i condition; best offer over £65.—Clar Simmons, 41, High St., Strood, Kent. Phon Chatham

31h.p. Clutch Model Triumph, lamps, tool tyres and helt nearly new, perfect eo any trial; £40; after 6.50.—107, Tylecroft Ribury, S.W.

3th.p. Triumph, newly re-enamelled, new covers and helt, perfect condition, lamp complete: £40.—Davies Bros., Bryncoch, Ll mair, Mont.

1 h.p. Countershaft Triumph, late 1917, indist able from new, T.T. bars, mechanically 290.—Seen at Manor Garage, Monor Place, B. Rd., S.E.17.

TRIUMPH Junior, 2½/h.p. 2-stroke, 2-spec fit, perfect condition; 270.—16, Winchest Basingstoke.

TRIUMPH Combination, delivered January, 700, Miller lamp set, Lucas horn, Em Luxe sidecar, painted Triumph colour; expert etion; £158.—Daniels, Loughton, Bletchley, B

TRIUMPH 1918-19, engine 54163, rebush plettely overhamled, tank re-enamelled T new Clincher, electric rear light, guarante T 195. Wanted, Matchless.—3, Kildowan Rd., Go

Triumph.

IUMPH Coachbuilt Combination, 1918, 4h.p., countershalt, engine No. 55759, brand new sidesmart outfit; £118.—30, Crystal Palace Park Rd., abam. [9806

HUMPH 315h.p., clutch model, lumps, tools, specio-meter, horn, just overhauled, excellent condition, away: £45,-W. Davies, Station Parade, Kew Gar-Sutrey.

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Lane, Carshalton. [9568]

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9.9 Countershaft Triumph Combination, Montgomery siderar with wind screen and apron, fully sed, puzetrally new; £150.—The Rochester Auto imply Co., Rochester,

UMPII Countershaft Combination, engine No. 42611, new coachbuilt Milford sidecar, Easting 1, fully equipped; £115, appointment only.—165, St., Edmonton, N.18.

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p. Triumph, 1912, hand clutch, right and left foot brakes, horn, semi-TT, thoroughly over, replated, good tyres; £45.—Furniss, Electric action Co., Ltd., Wolverhampton. (9496

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19577

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accepted.—I, Priory Ru, Acw Green.

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what offers.—Coomba Blake's Farm, E Green, Essex.

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31h.p. Zenith-Gradua Combination, just overh 2 new tyres; £55.—Hudson, 14; Conway Plumstead, S.E.18.

ZENITH 1914, 6-8h.p. J.A.P. engine, Binks, idiscs, very feat; £90, or near offer.—The BAppledore, Kent.

ZENITH 1914 6h.p., thoroughly overhauled, Ca sidecar, hood, screen; £100.-31, Park Av. cham Lane, Mitcham.

SPECIAL 8-10h.p. 90 hore Zenith Sporting bination, 1915, accessories; 120 gns.—19, ley Rd., Brondeshury.

NEW 1920 6h.p. Sporting Model Zenith-Gradu 500 miles, perfect order; owner bought car £140.—Smith-Masters, Banbury.

ZENITH-GRADUA 4h.p., T.T., long exhaust, belts, new lamps, new tyres, black and gold -57, Kitto Rd., New Cross.
ZENITH, 1915, just overhauled, fast, reliable, belt; what offers.—Apply, Somerset, Che Cottage, Shallord, Gulldford.

19 15-16 4h.p. Zenith-Green-Gradua C.B. Combi o.h.v., new tyre, tubes, and helt; £65; and 49, Finlay St., Fulham, S.W.6.

ZENITH 1917 4b.p. Twin, countershaft clute start, lamps, horn, speedometer, good con £80.—18, Avenue Rd., Hampton.

6 h.p. Zenith-Gradua, perfect order, condition : accessories; 30 gns.; any trial.—E. Batema Outram Rd., Addiscombe, Croydon. ZENITH 5h.p. Combination, 1920, fully eq only ridden about 200 miles; £195; seen o'clock.-4, Castelnau Place, Barnes, S.W.

ZENITH 4h.p., 1914, grey leg guards, lamp cylinder and back tyre, good order; £50, £ -M., Vallance Farm, Chadwell Heath.

ZENITH, 4h.p., recently overhauled by splendid condition; 65 grs, bargain. Stephen's, Kent Rd., East Molesey, Surrey.

ZENITH-GRADUA, 4-5h.p. J.A.P., late 1919 lent condition, fully equipped; 100 gns.—Sa Upper Hagley Rd., Edgbaston, Birmingham.

ZENITH, 1916, 5-6h.p., countershaft and starter, disc wheels, Cancelet sidecar, 3 £138.—Maudes', 100, Gt. Portland St., London. ZENITH-GRADUA 3/2h.p., T.T., 1918, psi engine perfect, fast, lamps, horn, tools, my what offers.—Stonebridge, Middleton Park, Bi

ZENITH 5h.p. Countershaft Sporting mode 1919, mileage under 300; £120, or exchn Triumph cash adjustment.-4, Oxford St., Li

ZENITH Coachbuilt Combination, 1916, 4h.p., gears, clutch, free engine, as new, lamps £78, offers.—626, Seven Sisters Rd., South Tot

19 20 Brand New 8h.p. Countershaft Zenit Zenith de luxe sporting sidecar, just de about £220.—16, Stapleton Rd., Upper Tootin

19 16 Zenith 4-5h.p. Twin, clutch, kick stern and sporty; £110.—374, Grove Green Rd., stone.

ZENITH-GRADUA 5-6h.p. 1913 Combination and belt good, running order, fast and reflectric lighting, ride away; £78.—Smith, Cloud

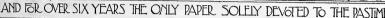
ZENITH Combination, 5-6h.p. J.A.P. engine, gear, kick start and clutch, climb at £115.-57, Kenbury St., Coldharbour Lane,

19 20 8h.p. Zenith Combination, Lucas lam screen, Klaxon, D.A. generator, jnst o unridden; best offer round £220.—Fonlis, B

ZENITH-GRADUA, 1914, Precision, wat Bosch, Turner de Luxe coachbuilt sidec screen, houd, laups, just overhauled; £85.-6, Rd., S. Norweod.

A36 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the Issue.

THE



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COLONIAL AND FOREIGN AGENTS:

UNITED STATES—The International News Agency, New York.

CANADA—Toronto News Co., Lid., Toronto; Monfreal News Co., Lid., Montreal; Winnipeg
AUSTRALIA—Gordom & Gotch, Lid., Melburny (Victoria), Syndey (N.S. W.), frabane (Queensiand), Addaids (S.A.) perfit (W.A.), and Laudeeston (Tarmania).

New Zelland—Gordom & Gotch, Lid., Wellington, Anckland, Christchurch, and Dunedin.

SOUTH AFRICA—Guntin News Agency, Lid.

PARIS—Sulla's Radioh Library, 248 ftm Rivol.

Retain the Fuel Tax!

THE storm of criticism which has been aroused by the proposed new taxation is not likely to be without some practical result. All motor cyclists are agreed that the only fair method of taxation is by imposing a duty on fuel so that the greatest sum is paid by the man who uses the road most. Originally, the Advisory Committee on Motor Taxation favoured a fuel tax, but later abandoned the idea, apparently on the grounds that evasions were not only possible, but already an actual fact.

Some grounds for this assumption were provided by figures available at the time when the Committee were considering the question; but later information elicited from the Chancellor of the Exchequer by Sir William Joynson-Hicks shows that the conditions ruling at the time were fictitious, and that there would now appear to be no reason for the change of policy.

The possible use of paraffin as a motor fuel has always been a stumbling-block to the introduction of a fuel tax, since it would be obviously unfair to tax fuel used mainly for illumination, and it might be difficult to determine the ultimate destination and use of paraffin sold in quantities. The difficulty is, however, not insuperable, and in any case the use of paraffin for road vehicles would be very small if supplies of better fuel are available.

No road user will object to increased taxation, provided that the proceeds go towards road improvements, but it is essential that the tax shall be fairly distributed, and shall be equal both for the working man who may own a secondhand machine and sidecar and have opportunities for using it on only a few occasions in the year and for the more fortunate owner of a £200 outfit who covers perhaps fifteen to twenty thousand miles in the same period.

So far, the only form of taxation which accomplishes this desirable end is the fuel tax,

and it is to be hoped that all motorists will do their bit by urging its adoption through their Parliamentary representatives and by supporting the proposal in all possible ways. If motorists and motoring organisations will only show a combined front, there is reason to hope that the fuel tax may still be adopted.

Let us have Unanimity!

T Sheffield last Saturday matters of momentous import to the controlling body of the pastime were discussed by representatives of the motor cycle clubs in the East Midland centre, as reported The A.C.U. representative on another page. who was present admitted that the indignation of the Northern clubmen was justifiable, and implied that, by allowing an unfortunate clashing of dates between important and similar events of the Northern and Southern clubs, a grave mistake had been made. In view of such an admission, little more need be said on the matter, but we would urge that the A.C.U. should endeavour to eradicate the bitter feeling which has arisen. At the meeting in question, a complete repudiation by the clubs of their affiliation to the governing body and a revival of the Northern Union of Motor Cyclists was freely mooted.

Such a happening (repeating past history) should be avoided at all costs. The Northern clubs are extremely powerful numerically and virile in spirit; the membership comprises keen and hard riders for the most part singularly free from trade interests. There is no doubt that the Northern Union, if revived, would find the men and means to establish itself firmly and quickly, but, despite the fact that our support will always be given to sporting motor cyclists under whatever flag, we strongly deprecate any action which will tend to multiplicity of control. In this case the amende honorable is clearly indicated-may we hope that the Auto Cycle

KIRKSTONE PASS IN THE LONDON-EDINBURGH RUN.

The First Non-stop Section in the Annual M.C.C. London-Edinburgh Run, Friday and Sat., 21st and 22nd inst

START: Old Gate House, Highgate, 8 p.m., Friday, May 21st. FINISH: Edinburgh, 7.50 p.m., Saturday. DISTANCE: 410 miles. CONTROLS: Grantham, Ilkley, Patterdale, Moffat.

Edinburgh.

OBSERVED HILLS: Kirkstone Pass and Moffat to "source of Tweed."

ROUTE: This year a new and difficult section of route is included. After journeying along the Great North Road to a point six miles beyond Aberford, the route passes through West Yorkshire and the Lake District. The competitors are due at Kirkstone Pass just before noon on Saturday.







The Rear Light Question.

7F it is taken for granted that some form of rear warning signal is essential, I personally see no possible objection to a red reflex mirror of good quality. I frankly cannot see why cyclists object to it, or why motorists should demand anything more. But there is an even cheaper and simpler device, which is almost as efficient. Some years ago a deaf cyclist was accidentally killed on the road as the result of his infirmity, and there was an outcry in the press, in which the class agitation between cyclist and motorist did not arise, and the dangers were considered on their merits. It was freely proposed that deaf cyclists should be forced by law to carry a small white disc or diamond on the rear of their machines, and a very few people adopted the suggestion. Such a disc or diamond would only cost a few pence, and I well remember how easily and quickly head lamps of quite moderate power picked up these signals.

Choked Pilot Jet.

If T is not easy to see how the pilot jet of a Binks carburetter can become obstructed. I have owned a number of these carburetters, which are easy to-tune and delicious in operation; but microscopic as the ooo jets are, I have never had one choke. The petrol inflow is guarded by a very closeknit gauze filter, integral with the carburetter; and on the Scott machine the petrol outflow from the tank is further guarded by a second filter, so designed that it cannot possibly get stopped up. It is continuously washed by the petrol swishing about inside the tank, and is so long that if any filth should lodge against it, the upper part of the gauze would still be available for the exit of spirit.

The Cost of Living.

ARIOUS Tory highbrows write to The Times apropos of the alleged high cost of living, and argue from the catering expenditure at various schools and institutions that the cost of living has not gone up anything like 100%, as the trade unions allege. Evidently these gentry do not ride motor cycles. I suppose that if one substitutes margarine for butter, and eats very little meat, housekeeping costs may be kept within nodding distance of pre-war figures. But no such economies are possible in the motor cycling aspects of existence. I strolled into a local agent's the other day. His stock consisted of two good baby two-strokes, and a little-known 234 h.p. four-stroke; it would have taken over £270 to buy the trio. In the industrial homes round my nouse a very curious phase of budgeting is perceptible. The young bachelors are having the time of their lives, and lots of lads who could perhaps barely have afforded

a push bicycle or gramophone in 1914 are now paying fancy prices for motor cycles. Meanwhile, the married workmen, with families of school age, are hard pressed to make ends meet, and are obviously living less comfortably than they did before the war. This curious condition of affairs is bound to have sociological consequences. It may discourage matrimony; or it may interfere with the "equal pay for equal work" doctrine, and lead to some wage differentiation between the bachelor and the Benedict.

Sprung Carriers.

Y colleague "Chinook" has tested most types of rear springing, and his mature conclusions are that (a) a sprung carrier can hardly be dispensed with, and (b) that the springing of the rear mudguard is hardly desirable because of the bad appearance created by the wide clearance, and the risk of heavy mud accumulations inside the guard. My recent riding has been distributed over three machines, all of $3\frac{1}{2}$ h.p., and possessing the following patterns of stern portion:

Rigid rear frame, 2½in. tyre.
 Rigid rear frame, 3in. tyre.

3. Sprung rear frame (including guard and carrier), 21in. tyre.

The first was frankly rotten. It bumped me atrociously. The toolbags demanded very meticulous packing, which is a vast nuisance after an irritating roadside stoppage. Any luggage stacked on the carrier was apt to come adrift, unless secured by parasangs of stout straps, hauled taut with a foot against the carrier; no sane man would store any fragile luggage, such as a camera. on such a platform.

The second machine was not a bad compromise. Very rarely did my anatomy wince under a bad jolt from the rear wheel, as the light car tyre was always run soft, and swallowed up 80% of the average jar. Luggage possessed fair adhesion to the unsprung carrier. The toolbags always did a modest jazz band effect; but if, the toolbag had been mounted where I think it should be mounted (on top of the tank), I should be tolerably satisfied with this layout. In fact, I commend it as a very passable substitute for rear springing, always provided the tools are shifted to the tank top.

The third machine is technically perfect. I never found that the rear mudguard picked up enough dirt to foul the tyre, although I ride over far softer and wetter roads than most of our readers. I agree with "Chinook" that the wide clearance looks ugly when the machine is unmounted; I do not know that this matters very much. My sole criticism on this design is that it chanced to be exceptionally heavy.

Three Heroes.

Y postbag has brought claims from three motor cyclists who have performed or approached the feat of driving a pair of machines, which proved too much for me personally. A Lisburn rider has driven a Scott, leading a second machine, when sent by a garage to fetch in a breakdown. A Barnsley reader on one occasion pedalled a motor cycle four miles whilst leading a push bicycle. I can only award him a putty medal, because I judge that the push bicycle had an open frame, and know that love accounts for many vagaries; personally, I would rather have broken off the engagement. Another hearty lad, hailing from Thames Ditton, actually drove a 7 h.p. Indian twelve miles with a passenger on the carrier

whilst leading 231 h.p. Calthorpe-Jap in free engine. Who says England is decadent, or that anglers hold the championship 3 8 ? [Hush. -ED.]

Oil . Storage on Scott Machines.

7-ILL some genial correspondent shrewd me tips for (a) ascertaining how much oil remains in the reservoir tubes of a Scott machine? (b) replenishing the aforesaid tubes rapidly? We all regret that Scotts are not competing in the 1920 T.T.phenomenal their corner - work has always been one of the chief sensations of the Manx week; but I shall

have a special reason for dogging them in the island next year-I shall watch keenly to see how they do their oil replenishments. If memory does not trick me, they generally use a colossal syringe, the beak of which fits the 1 mm. hole in the filler spout just in front of the saddle tube. If this is so, I shall wait till the Scott mécaniciens are craning their necks to see their first string pass on his last lap—and then I shall slip their biggest syringe down the leg of my trousers. That is, unless some kindly reader imparts a wrinkle which can cure me of hankering for a T.T.

Anyhow, I am now quite fed up with hearing each globule of oil say "glug!" as it overcomes the air resistance in the above mentioned lilliputian orifice. At the same time it seems rather futile to desaddle the machine every time it wants a lick of oil, but up to the present I can think of nothing else.

Aviation Spirit.

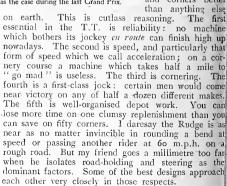
CINCE I do not keep sidecars, and since the road from my gate slopes gently downhill, I amfortunately situated when a sticky engine has to be started. A brief push on middle gear is my usual method, and it never fails, even on the heavy petrol which economy compels most of us to use. A friend of mine who has an 8 h.p. outfit, which he is too lazy to maintain in perfect tune, obtains similar facility by the aid of Aviation spirit. He bought one can of this costly .680 stuff last autumn, and reserves it strictly for use in his doping gun. His compression is sloppy, his carburation all over the shop, and his ignition has lost its pristine fervour after several thousand miles of work. But one squirt of the

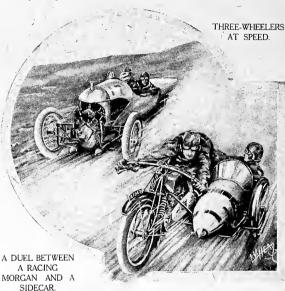
Aviation spirit ensures a first time start on the kicker, and the tip may be of interest to other

born-tireds.



THE opinion is advanced by a correspondent that success in the T.T. is absolute proof that the roadholding and steering qualities of a machine are faultless, since victory hinges absolutely on the number of seconds which can be saved by taking additional risks on the numerous corners with which the course abounds. It follows, since the Rudge won in 1914, that the Rudge (of which he is a delighted owner) steers and corners better than anything else





If these types of vehicles are ever entered for a T.T. event in the Isle of Man, some spectacular cornering may be witnessed, as was the case during the last Grand Prix.

HILL HUNTING for a ONE-DAY TRIAL IN LAKELAND.

By GEORGE D. ABRAHAM,

Author of "The Complete Mountaineer," "Motor Ways in Lakeland,"
"On Alpine Heights and British Crags," etc., etc.

THIS treacherous spring has made many motoring plans "gang aft agley," especially in Lakeland, where record rainfalls have been the rule. Thus, with the barometer bobbing up and down like a new spring frame on Honister, there seemed small chance of the arrangements for a day amongst the hills coming to fruition. However, just as it is darkest before the dawn, so may it be dampest before the drought, and three days and nights of sodden downnour culminated in a glorious morning of sunny splendour. Under such conditions a large party of northern enthusiasts foregathered in Keswick, intent on exploring and settling details of the route for the one day trial-an open event which is to be the most important motoring meet in Lakeland this year. The date fixed is Saturday, July 17th. The A.C.U. approved the idea, and, under the keenly practical organisation of the Cumberland Motor Cycling Club, the trial will doubtless eclipse anything of the kind ever held in the land of craggy peak and gleaming waters. The world strife of the last five years has affected little this land of mountain peace, and, on the whole, compared with the rest of England, the roads are in excellent condition, the by-roads being better than in pre-war days, -

Bound for a Notorious Hill,

Realising these details to the full, we set our faces southwards from the Lakeland metropolis amidst a goodly crowd of machines, mostly recent models. Some were suitable, and some perchance unsuitable for the work in hand, but there would be a keen pleasure in comparing their behaviour on mountain roads with the doings of former times. Our main objective was Blea Tarn Pass, for there was a certain difference of opinion amongst the officials regarding the inclusion of the notorious hill in the coming trial. Above all this had to be settled, and other ideas of the "ultra-freakites" required decision.

On perfect roads we mounted over Castlerigg, swung down the depths of Naddle, and away past the larching shores of Thirlmere, everything seeming strangely spring-cleaned and fresh after weeks of downpour. Along the straights below Dunmail Raise dust even began to appear amongst the clamorous motley of machines, and, seated comfortably in the leading vehicle, one was thankful that special orders had been given for all followers to keep behind the leader. Former experience had taught that thus only could the party be kept together. Despite this, at Grasmere certain sections were missing. Later in the day, some appeared at lunch time, others at tea, and one machine failed altogether to find the rest of the party.



Nearing the summit of Kirlsstone Pass from Amhleside. The well-known hill is in exceptionally good condition, and the machines are seen on the steepest section of "the struggle" — a gradient o. I in 4. The London-Edinburgh route includes this ascent.

Red Bank was the first real hill visited. With the speedmen restrained in the narrow road by the leading car, there was ample time to enjoy the slow, winding approach through sunny glades, where primroses gleamed lush in-beechen shades, and graceful birches dipped their emerald tassels over the mossy walls. Then came the usual crush at the foot of the climb; but, after the camera man had discovered a stance, the climbers sped upwards in strenuous bunches with the sidecars well ahead. Red Bank appeared to have almost lost its terrors for modern motor folk, and every machine made a good ascent. Except for a few stones on the final patch, the surface was superexcellent for such a gradient, and amongst the sidecars a new Matchless outfit made a capital show. A little Clyno was specially fast on the lower sections, whilst, thanks to skilful driving, a highly-geared Zenith surprised the pessimists.

In the Land of the Lake Poets.

With appetites whetted by success, there was slight lingering on the crest of Red-Bank to enjoy that glorious prospect over "Grasmere's peaceful vale." Thus there was an amusing breakaway by the two-wheelers, and soon we were speeding down the complicated route into Langdale with lost riders emerging from most unexpected side roads. However, in due course most arrived at Skelwith Bridge, where the elimb began, and the growing noise below warned those of us up above that the show was about to begin. Of course, for the "old hand," Foolstep has lost much of its grip, and T. Rutherford, ever to the fore on such

At the summit of Blea Tarn Pass with the lofty Langdale Pikes in the background.

A group of the successful riders who reached the top of this notorious Pass from

Hill Hunting for a One-day Trial in Lakeland .-

occasions, showed how it should be done on a 3½ h.p. Sunbeam. On his 3½ h.p. N.U.T. an almost too speedy climb was made by T. Gibson, the captain and trials secretary of the Cumberland Club. R. Havnes, on a 4 h.p. Triumph, solved the problem

suddenly, rather several whilst B.S.A.'s climbed strongly; and of the small machines a 21/2 h.p. Clyno, neatly piloted by R. Pape, reached the summit after a midway swerve. A 6 h.p. A.J.S. sidecar, driven by Capt. T. D. Craig, climbed steadily on the low gear throughout, and a new 8 h.p. Matchless, in charge of T. B. Westmorland, and carrying a very active : passenger, also stuck well to the work in hand. Nevertheless, not all the others managed the climb at the first attempt, and in any trial, Foolstep, with its sudden, sharp turn revealing a startling opposing gradient, must be always a sporting problem.

Then came a quiet change in a delightful run up the length of

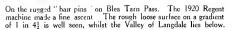
Langdale, through the grey hamlet of Chapel Stile, and on into the depths of the dale with the craggy peaks of Pike o Stickle and Harrison Stickle loom ing ahead and gathering in grandeur on neare approach. At the welcome Nex Hotel at Dungeon Ghyll, many los units of the part were recovered and at lunch timwe had a wonder

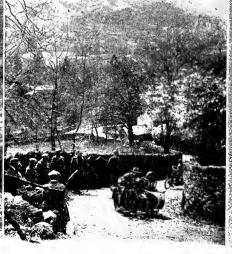
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what can be don









A pretty peep below Foolstep, near Skelwith Bridge. The Sunbeam outfit came speedily up to the first corner, and after a skilful gear change reached the summit at slow speed.



A tough struggle on the steep corners on Foolstep. The 1920 8 h.p. Matchless made a capital climb up the short but stiff hill which will be included in the Lakeland One Day Trial. The gradient is 1 in 3½.

at an out-of-the-world English inn when between thirty and forty unexpected guests arrive.

It was noticed that many improvements have been made to the road along Langdale, but these ended completely at the foot of Blea Tarn Pass.

The double corners about a third of the full height of the pass were obviously the crux of the climb, and there we had a fine lookout over the scene of operations. Far below, the crowd gathered thickly on the white ribbon of roadway through the green meadows. Then, our signal being given, the roar of engines was wafted aloft, and three of four dark specks sped away from the crowd and up towards the heights.

The B.S.A. ploughed powerfully upwards despite being carried into the roughest surface, and Haynes on his 4 h.p. Triumph, in avoiding the same course, went to the other extreme. He performed some wonderful passing on big boulders and rocks which lined the left-hand side of the roadway, but surmounted the boisterous bumping with no damage to his crank case. Ar excellent route was picked by Pape on the little 2½ h.p. Clyno, which made one of the best ascents of the day. After T. Storey on a 2¾ h.p. A.J.S., and Huntrods on his 3½ h.p. Ariel three-speed had made things lively for the spectators; the Matchess was the first of the sidecars to make the attack.

The ascent of Capt. Craig's 6 h.p. A.J.S. outfit, driven by J. J. Dias, would rank as the best performance of the day on Blea Tarn Pass.

Commendable Performances.

Macdonald's Sunbeam combination, driven by T. Rutherford, also reached the summit, and Gibson's N.U.T. gave a decidedly good exhibition. A noticeable performance was that of Helder's new Regent machine, which is fitted with a 5-7 h.p. Coventry Victor engine and three-speed gear.

Then the remaining machines turned down the valley to Ambleside, and some of the mere spectators walked over the crest of the pass, and regained the welcome car, which had travelled round to the Little Langdale side by Ullet Nest Hill.

After the reunion at Ambleside, the steep side of Kirkstone Pass was climbed, on which were derelict evidences that the Pass, with its long, steady gradients of \mathbf{r} in $4\frac{V_2}{2}$, has not lost its grip even for modern motors.

Excellent Surfaces.

The well-known hill was in excellent condition; never in the writer's experience has the pass on both sides possessed such excellent surfaces. During the halt on the sunmit, dark clouds closed down over the heights, and through mountain gloom the way to Patterdale and Ullswater was followed until the only bad piece of main road met with during the day was encountered by the lake shore. Here the various contingents parted company, and the westward-bound travellers were chased homewards over the wild and desolate moors of Matterdale by a wind-driven rainstorm.

Finally, it may be mentioned with certainty that Blea Tarn Pass from Great Langdale will not be included in the Lakeland One Day Trial. In fact, the hills will be so selected that, after starting from Carlisle; two long non-stop runs, with midway lunch at Keswick, can be made during the day. Kirkstone will be climbed from both sides, and some new hills in Little Langdale will very likely be used in the approach to Blea Tarn Pass from the eastward side. The descent of the steep side would be an innovation in any trial. In northern Lakeland some new inclines may be included, as well as Whinlatter Pass and Buttermere Hause.



COUPLE of cycle car patents open the present series. Capt. Viner and A. H. Colley have devised a novel transmission, which embodies a really ingenious substitute for a differential axle. Mr. G. H. Jones protects a very cheap, light, and sturdy form of solid back axle, devised principally in the interests of belt-driven cycle cars with central drive. The triangulation of the radius

and tie-rods deserves attention, as also the strut which links these four rods together. and serves as the mounting for a brake shoe working in the pulley groove.

An Enclosed Motor Cycle.

Mr. E. C. F. Oakley is a stranger to me, but, by applying the methods of Sherlock Holmes, I deduce that he is an elderly engineer with a poor circulation, who anxious to retire from business on a com-petency at an early date. He is trying to secure a master patent

on the type of motor cycle which we all dream of, but which none of us have yet seen. In other words, he has de-vised a broad specification of a boatshaped motor bicycle in which the frame

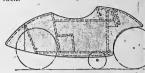
Capt. I. B. Viner

and A. H. Colley's

cycle car.

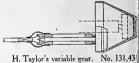
is integral with a streamlined bodv. Such a machine affords complete pro-tection from the weather, and can be hosed clean in a few minutes after a London - Exeter run without recourse to a hoe, a bristle brush, and a bathful of paraffin. The patentee is prepared to make the main structure of wood, of channel steel, or pressed steel. The streamlined covering-will vary between plywood, aeroplane fabric, sheet aluminium, and steel pressings, and the construction of the internal cross members must, of course, vary according as the ex-

ternal skin adds strength to the structure or demands support from it. Small trailing wheels are suggested as the means of propping the machine when stationary. It is common knowledge that such a motor bicycle will arouse tremendous interest as soon as it is commercially produced at a reasonable price and weight. It could undoubtedly sweep the board so far as utilitarian bad weather riding is of cerned. I hope Mr. Oakley will go ahea and in the name of many much-enduri mudlarkers with cold feet I wish b



E. C. F. Oakley's enclosed motor cycle. No. 135,907. 29/11/18.

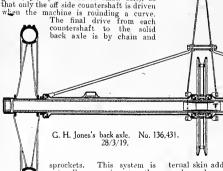
Mr. H. Taylor, of Penrith, has protec a new version of the so-called "flov pot" system of friction drive, which other forms has already figured, I belia on a Mead and Deakin cycle car, and the very early days, on a motor bicy the name of which I have forgotten. gear is distinctly ingenious, and embo several technical advantages. wheel forms the driving member, am conically bored out from 5in. diamete the front to 18in. diameter at the r The boring is taper except for the inch or two towards the rear, where, parallel. The driven disc is of sim contour tapered towards the front, parallel at the rear. The driven dis parallel at the rear. In a divien dis-keyed to the propeller-shaft, and thei is a reduction of about 12 to 1 at the be-gears in the back axie. On bottom in the tapered portions of the two "flot-pot discs" jam into each other, an' direct drive of the ordinary friction chain type is given. As the gear is raised to wheel, and a peculiar mounting crile permits the driven taper to make role contact with the taper in the flywlow



H. Taylor's variable gear. No. 131,43

For top gear the parallel part of he driven disc is put in contact with he parallel bore of the flywheel. The degree gives direct drive on bottom gear, abs of end thrust on top gear, and practi ly eliminates the "rubbing action" in countered when a widefaced flat dis set at right angles to another flat st. The cradle, telescopic propeller-shaft, and universal joints, which permits the dring shaft to assume the necessary and lar positions, are not unduly completor costly to make. I wonder, hower, if a flywheel 18in, wide can be add sufficiently strong at a reasonable we at

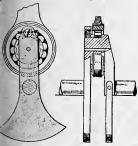
As the diagram indicates, the first item of the drive is by friction discs. From the shaft which carries the driven disc a flat belt runs to two countershafts mounted in alignment. The front belt mounted in alignment. The front belt pulley is wide, and each countershaft carries a narrow pulley; thus, the belt may either drive both countershafts simultaneously or each countershaft separately. The belt striking gear is automatically operated by the steering gear (e.g., by a chain or small belt), so that only the off side countershaft is driven when the machine is remidire a course.



naturally superior to the familiar method of driving one wheel only. The proweakness of friction-cum-belt vernal weakness of inclinicum-bett drives does not arise, as the top gear reduction is obtained via the chains and sprockets. I understand that the patentees are willing to negotiate with manufacturers.

Roller Bearing Crankshaft.

If the making of crankshafts there is end. When Granville Bradshaw tented his roller bearing shaft, in which oconrods were threaded over the ink, and the rollers were located in a race by split collars, he probably ped to secure a master patent. But



D. A. Pearson's crankshaft and bearings. No. 134,970. 23/11/18.

nost every month produces some fresh ain wave on broadly similar lines. For ample, Mr. D. A. Pearson attains a ry narrow crank pin indeed. Like r. Bradshaw, he threads his banjo mrods into position; but he dispenses th split collars by drilling a hole in one le of the crank, through which the llers are poked into position. If unterweights are used, one of them is de detachable, to permit the conrod be threaded over the crank. The hole sealed by a screwed plug, which is ked by a split pin.

"Vermicular" Construction.

The critics who consider the average 20 machine too conventional will make such complaint of the new frame procted by MM. Goudard and Mennesson, Neuilly. It combines the 'American tion of good production qualities with l ugliness which America at its worst s never surpassed. As the drawing dicates, the frame is constructed of a ugle tube of large-diameter, which also rms the fuel tank. A luggage carrier d footplates are supported on the horintal portion of the frame amidships. ist in front of the back wheel the single be in twice bent at right angles to clear e wheel, which possesses a "live" stub le, carried by suitable bearings, and iven by the engine. The latter is cured by stirrup irons to the single tube the frame. Astern of the back axle, e single tube is bent upwards at an

angle, and the saddle is mounted on a horizontal pin supported by the end of the tube. As the engine is mounted out of the centre on the off side, the rider is seated out of centre on the near side; but the inventors have made no attempt to balance the total weight between the wheels, though most of it is inside the wheelbase.

An "Asperity" Damper.

I approach the next item, protected by Messrs. Alldays and Onions in con-junction with A. H. Johnson, with great prejudices in its favour. The preamble to the technical description employs a delicious Tudoresque phrase which no journalist can resist, for it speaks of the "asperities" of the road: no reference to the Kingston police is intended. The main idea of the fork is to keep the axis of the hub as nearly as possible in a line with the axis of the steering head. This



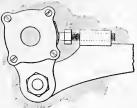
girder fork. The radial motion of these levers is damped by tension and compression springs, as shown, the lower springs being suitably fork is not pretty, as The illustrated, but it should give excellent

A Morgan Device.

steering and insulation.

H. F. S. Morgan, of Runabout fame, protects a simple method of chain adjustment. As the sketch suggests, the bearings are carried in short arms pivoted to the frame. The radial position of the arms (and therefore the chain tension) is controlled by a threaded bolt, threaded lug, and locknut. Where this construc-



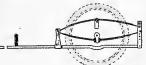


H. F. S. Morgan's chain adjustment. No. 135,789. 28/11/18.

tion is adopted, the brake lever supports will be provided with an equivalent adjustment, consisting of a slot-and-nut mounting.

Sidecar Wheel Spring.

Mr. J. Goulding, an Australian rider, propounds an adjustably sprung sidecar wheel. He uses two-point suspension for the sidecar chassis, the front connection being rigid, whilst the rear fixing takes the form of a horizontal hinge. The axle of the sidecar wheel is carried by a halfelliptic spring, secured to a pillar at its front end, while the rear end is attached to a pivoted vertical link. This link is to a pivoted vertical link. This link is drilled with a number of holes, and the suspension is adjusted by shifting the spring pin from hole to hole according to the load in use. A second pack of springs



J. Goulding's sprung sidecar wheel, No. 134,981. 27/11/18.

completes a full elliptic, the upper half serving to carry the sidecar body. The upper half-elliptic is attached at its forward end to the pillar, and is shackled to the link at its rear end. The inner side of the body is supported on a second full elliptic spring, mounted on the side-car chassis in the usual way.

A Lady's Invention.

Mary Parker, of Lancaster, has protected a neat little handle-bar muff, which can be attached to the grips without the use of tools. A spring clip of the C



Mary E. Parker's handle-bar muff. No. 132,962. 2/1/19.

type forms the means of attachment. This clip is riveted to a flanged ring carrying the frame and fur muff. The inner end of the muff is formed from a rubber disc.



A Well-organised Trial that attracted Considerable Public Interest.

VERY considerable interest was roused by the first annual speed contest of the Edinburgh and District Motor Club. This took place at Lang Wang-over an undulating course of 765 yards. There must have been at least 1,000 spectators present, and the marshals had no little difficulty in controlling the congested traffic which lined the road for several hundred yards behind the starting point.

It is rather surprising that while such events draw these huge gatherings of motor cyclists mounted on apparently "hot-stuff" machines of every type, such a small percentage ever think of supporting the pastine by actually participating, with the result that the amateur classes are usually deadly dull compared with the open events.

The contest was successfully handled, though it certainly seems that the very able Edinburgh committee delight in choosing the bleakest spots in all their bleak hills for these somewhat draughty proceedings!

The scooter classes did not materialise, but the open lightweight class for machines not exceeding \$50 c.c. was we'd patronised. That A. H. and J. R. Alexander would put up the fastest times was a foregone conclusion, as their 23 Douglas machines were in fine order for such an event. The former rider completed the course in 33s., beating his brother by 1s. H. M. Batten mounted on a 23 h.p. Verus-Blackburne, was third on the list at 38s.

In the amateur event for machines of the same size H. M. Batten was fastest in the class by 3s., his time being exact as before; while W. Alexander (2½ A.J. claimed second place, the remain amateurs being several seconds slow. The exceptionally strong head with these small machines sorely. In the 351 to 600 cc. class, Cunni ham, mounted on an overhead valve.

In the 551 to 500 c.c. class, Cunmiham, mounted on an overhead valve Douglas, enlivened the proceedings of burring through the long lines of spe tors in 28½s., and there was much spe lation as to whether Claude Duncan Norton), who did so well in the Redst Rig hill-climb, would beat this. Consiable excitement was manifested w Duncan was twice sent back owing to failure of the electrical apparatus register his time. On the third atten however, the stop watch showed a read of 272 seconds—the fastest in the cl



R. Fairley (7.9 Excelsior), who was beaten by asec. by R. Boyack.



R. Boyack on an o.h v. racing Bat-Jap. He made fastest time of the day.



Claude Duncan (32 Norton), who won the amateur class.

MOTOR TICLE

Midlothian Speed Event .-

e other times worthy of note were:

Bawers (Norton)	244	***	***	30	
Aikman Smith (A.B.C.)	***	***	***	30	
Campbell (Norton)	100			32.4	
Sanderson (A.B.C.)	***	***	***	33	
Madden (Rover)		***	***	35.6	
a thin and a augmond	dina	010		4 :1-	

In this and a succeeding class Aikman ith was confined to the use of his two is gears, owing to some mishap to the her ratios, so his performance was fly excellent, the burr of the little posed twin being truly refreshing to

The solo event up to 1,000 c.c. (open) a naturally the most impressive of the y, and it was particularly gratifying to a the keen enthusiasm of the spectators. a times were:

Boyack and Fairley crossed the line at a very high speed, and overshot the steep rise with which the course terminated, while nervous spectators were somewhat horrified at the "speed wobble" that in each case took possession of their steering instantly the throttles were closed. Boyack was evidently out to establish fastest time of the day, and his performances are certainly very fine for an amateur rider, while Fairley is a most promising young speed man.

One of Macrae's compression taps jolted open, and A. Lindsay was riding an almost new machine taken from stock.

The tie between Boyack and Fairley was next run off, their times being Boyack 22.2s. and Fairley 22.4s., so that Boyack won by .2 second, truly a narrow margin! The two returned to the slatter amidst the cheers of the spectators.

In the unlimited sidecars, Geo. Grinton (Harley-Davidson) appears to have won easily, his time being 31.4s. Fred Hutchison, the club secretary, riding an Indian, secured an honourable second place by achieving the end in 33.4s., R. Macrae being 36.0 and J. Alexander 37.6, while the remaining competitors were considerably slower.

A SCAVENGING TWO-STROKE.

Piston Rings and Carburetter Eliminated in an Original Design.

'HE engine we illustrate was designed by Capt. R. A. Williams, R. E., of 6, Burlington Road, Dublin, whilst Active Service in France. The primary ject was to obtain in the two-stroke at efficiency and petrol economy that is ally associated with the four-stroke rine.

Due of the chief reasons of the lower rmal efficiency of the two-stroke, as npared with the four-stroke engine, is the exhaust is imperfectly carried before the incoming gases are forced to the cylinder. The result is that ne amount of the burnt-gas remains aind, and also a certain proportion of tresh mixture is swept out with the

in large stationary two-stroke engines s difficulty is overcome by "scaveng-," the cylinder with cold air immedialy after the exhaust ports have been med, leaving the cylinder free of burnt see before the exhaust ports finally close d the gas inlets begin to open. A nilar principle is applied to the engine der review.

supply is sprayed into the cylinder past the variable aperture needle valve, and the third part of the port is exposed, allowing the air remaining in the crank case to sweep the petrol cloud over the hot spot piston deflector into the body of the cylinder.

Pressure-fed Fuel.

It is intended that the main fuel supply be kept in a tank under a pressure of about 6 lb. per square inch by means of a small hand pump, to be operated as required. The fuel flows from the tank, past a non-return ball valve into the barrel containing the needle valve, where it is compressed and finally forced into the cylinder at the right moment as already described.

Arrangements are now being made to build a three-cylinder engine of this type, and two types of piston are to be used—the ordinary ring type and a new design of ringless piston, as shown in the illus-

tration. In view of the interest that has been shown in the "obturator," this new piston will prove interesting when the results of the tests are available. It will be noted that the piston consists of two very light steel cups partially filled with aluminum pieces and bolted back to back by a steel piece carrying the gudgeon pin. The steel cups are split vertically in such a way that the explosion and pressure of the gases are utilised to expand them. As the pressure of the gas decreases with the movement of the piston, it is claimed that the pressure of the cups against the cylinder wall decreases and so reduces the wall friction at the period when the piston is moving at its high speeds.

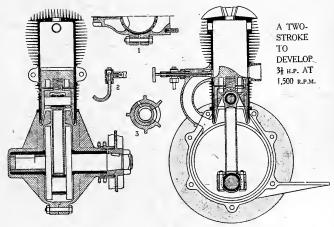
The engine shown has a bore and stroke of 70 and 90 mm. respectively, and, we are informed, develops $3\frac{1}{2}$ h.p. at 1,500

It is perhaps unnecessary to state that the design is fully covered by patents.

Ports in Crankshaft.

lo understand the construction of the time it is advisable to study the cycle operations. On the upstroke of the ton air alone is sucked into the crank under via a port, and a hollow shaft, e rotation of the shaft closes this port soon as the piston begins to descend, npressing the air now contained in the nik chamber. When the air in the under is at ahout 75% of full compress, a very small percentage of it is wed to pass into the fuel pipe through a hollow crankshaft heaving. This raises pressure of the petrol contained in the ready to inject the fuel into the linder on the uncovering of the inlet the

Near the end of the exhaust etroke the exhaust port is uncovered, and allows a burnt gases to exhaust to atmosphere. In the further on (three millimetres) the nee-part inter port begins to open. The st part of the port allows a blast of air me from the crank chamber to pass to the cylinder to form a cushion or er of air before the second part of the the lading from the petrol pipe, is covered. At this point the petrol



Williams's patent two-stroke engine, showing the unique construction of the ringless piston. Insets: (1) Section through the transfer and exhaust ports. (2) Non-return valve and jet passage. (3) The inlet port arrangement in the crankshaft The small port conveys compressed air to the jet.



Some New Records. The Latest in Sidecars. The Ace being Tested. 1920 Excelsion now Blue. A V Four-cylinder Machine.

THAT venerable old gentleman, name o' Father Time, he of the flowing robe, chin adornment and the grass cutter, has of late been treated in a rough and unseemly manner by motor cyclists here. These more-or-less-United States may be dry, but the fact does not keep an internal combustion engine from functioning. Every event this season on track or road has resulted in a battering of the former record.

The crowning achievement in these wild The crowning achievement in these wild bursts of speed is the amazing times hung up by Gene Walker, who, Indian mounted, covered a kilometre in 19.32s., or at the rate of 115.79 m.p.h. Walker continued down the shingle and passed the mile mark at 31.53s., which works out to 11.41 s. s. s. b.

out to 114.18 m.p.h.

This wonderful time was accomplished on April 14th, 1920, at Daytona Beach, Florida. Walker rode a 1,000 c.c. eightvalve twin, and his ride was supervised by A.A.A. officials. The officials are efficient men, and the electric timer has been certified for accuracy by the U.S. Naval Observatory. All rules regarding the running of record trials as laid down by the F.I.C.M. and the A.C.U. were complied with, and on confirmation by the former body the marks will stand as world's records.

Times with Standard Types.

A few more times made during the tests will possibly interest British riders. For instance, Walker, riding a 1,000 c.c. side by-side valve Indian, similar in design to the road motors of the Hendee design to the road micros of the refreder Co., receled off a kilometre in 21.64s., a mile in 34.65s., two miles in 69.71s., and five miles in 3m. 4.7s. This makes a world's record for this type of engine, for the mile was ridden at the rate of 103.95 m.p.h., and by a coincidence was .57 m.p.h. faster than the kilometre was rolled. Heretofore riders have a talked themselves black in the face praising the relative merits of inlet over exhaust and side-by-side valves. It, looks as though side-by-siders would have a good argu-ment from now on, especially when speed is mentioned.

Single-cylinder Speeds.

With a four-valve single-cylinder motor of 500 c.c. displacement Walker moved the world's records for this class up about ten notches. He whizzed past the kilometre mark in 25.08s. (88.19 m.p.h.), tank but the mile nect in 41.5s. (86.46). tore by the mile post in 41.55s. (86.64 m.p.h.); two miles were over in 1m. 23.03s., and five in 3m. 30.11s.

Harley-Davidson started this speed festival back in February of this year, when they sent a full crew of racing men and officials to Daytona to set up a lot of new marks. At that time, Leslie Parkhurst rode a kilometre in 21.56s., a mile in 34.89s., and the two and five miles in Im. 11.51s. and 2m. 59.89s. respectively. All this with a 1.000 c.c. eight-valve Harley-Davidson. Riding a pocket-valve machine of the same make, Parkhurst rolled the distances as follows: 21.75s., 36.34s., 1m. 15.47s., no five-mile mark made at that time. With a fourvalve single Harley-Davidson 79.48 m.p.h. was attained. All of these solo records were shattered, and it is only in the sidecar events that Harley-Davidson clings to their February attempts. These are as follow: kilometre 27.30s., mile 43.83s., two miles 1m. 25.69s., five miles 3m. 34.52s.

The Harley-Davidson Co. has just announced a new model sidecar. It has a swelling at the back of the body that will hold a lot of rainy day gear and spares that are needed on long trips. The body has streamline effect, with no sidecar door. A step attached to the body is the means of entering the sidecar. The Flexicar folks have used the same idea, with more attention to graceful lines.

The newcomer to American motor cycle ranks, the Ace, is now being road tested by its designer, W. G. Henderson. One passed through Newark last week on a long test that was successful, and the designer will go ahead with product fifty new motor cycles being the pland

output for the month of May.

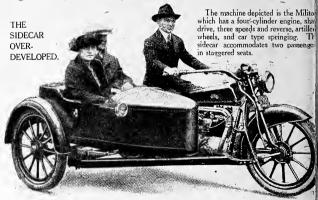
After much delay, the 1920 Exce of has reached the delivery stage. The water machine is a good-looking outfit, a sober Royal blue enamel, wonderly wide mudguards, and a sturdy front that it wide mugulards, and a strray front is that is an adaptation of the old Hende in fork. It is a caster type, with lerecoil spring mounted in front of is head of the motor cycle. The 27-xi fyres (which are oversize 26-x3in, to give plenty of wheel clearance.

Adopting 26in. Wheels.

26in, wheels are standard equipmen in the Excelsior, Henderson, Clevel: Ace, Indian Scout, and Sports Har only the large motors made by Har Davidson, Reading-Standard, and Insticking to the 28in. sizes. That 2 wheels will be popular with riders of large motors is evident; already m riders have equipped their machines the smaller wheels, although it cuts ad clearance down by an inch, making tr without a motor base protector.

Harley-Davidson are about to annor electrical equipment for their Sp model. It is understood that a gener of their own manufacture will be used

A successful four-cylinder Vee me cycle engine has been designed and tes out by its inventors in Hartford, Co. E. B. HOLTON



AMONG THE ACCESSORIES.

A Selection of New Accessories and Other Items of Interest to Motor Cyclists.



A five-minute vulcaniser, showing one of the "cartridges" in position



The St. Giles's collapsible work bench.



The Coy mudshield on a Douglas.

PROBABLY no other field attracts so many designers and makers of accessories as that of the motor cycle. Every week sees new ideas and new goods submitted for judgment and review, and we are able to deal with only a portion of them. This week's selection, among other things of interest, includes a useful little accessory known as the First Aid Mechanic, or F.A.M. It is a combination of nuts, bolts, and bars which can be used in a variety of ways for temporary repairs. The first day we carried it we found a use for it in holding together the broken ends of a mudguard stay. Its uses are too numerous to mention, and we recommend motor cyclists to send to the makers, B. Young and Co., Leek Street, Birmingham, for particulars. The price is 5s.

W. E. Coy, of 7, Gloncester Road, Kingston Hill, Surrey, has designed a mudshield, which brings the conventional type of motor cycle one step nearer the ideal on the point of cleanlines. The guard is cut from a single sheet of metal, which can be readily shaped to suit all the better known makes of machines. It extends from the head downwards, and then round to the footboards. A circular aperture in the centre allows air to reach the engine.

E. R. Wintle, the Midland competition rider, whose Stirling legshields were reviewed a short while back, is now marketing a bucket seat for the pillion. It is sprung on volute springs carried on sliding spindles, and small coil springs are also fitted to prevent undue movement when the seat is not occupied. It is made in two sizes (for adults and children respectively), is well upholstered, and is enamelled to match the machine. The price is 50s., and the makers are the Highgate Motor Co., 6, Highgate Road, Sparkbrook, Birmingham.

Another pillion seat which has a backrest is the latest model of the Ideal seat, made by the Coventry Ideal Pillion Co., St. Michael's Road, Stoke, Coventry. The illustration is self-explanatory, it only being necessary to point out that the back rest is secured to the sprung part of the attachment.

Amateur mechanics will be interested in the several tool stands and work benches now on the market. Two are illustrated, of which the St. Giles is of wood and is collapsible, folding into a compact form for storage. The bench illustrated has no fewer than thirty tools, including grinder and vice. The dimensions are 3ft. 6in.x1ft. 9in.x2ft. 8in. high, and the price is £17 17s., complete with four tubular steel legs and undershelf. The makers are St. Giles Engineering Works, Northampton. The other bench illustrated is of metal and is on small wheels, the idea being that the bench may be taken to the job instead of conveying heavy parts to the bench, a point which will make an appeal to garages and workshops. The size is 24in.x24in.x30in. high, weight 2 cwt. 2 qrs. 14 lb., and the price £5 12s. 6d. It is made by the Progressive Engineering Co., Ltd., of Leiccester, Deuton, and 40, Brazennose Street, Manchester.



The Coventry Ideal pillion seat, with back rest, which sells at 50s.



The Canoelet spring L, and K. 10/6 automatic blow lamp



The Stirling pillion seat.



L. and K. paste solder is made up in small tubes.



The F.A.M. (First Aid Mechanic), a useful accessory to execute temporary

repairs.



The Cearus tube carrier





C.L. pillion seat, which has adjustable springing.

The C. P. Preston Co., of 112, High Holborn, W.C.1, introduces a gauzeless filter, which has been demonstrated to us, proving that it effectively traps water and foreign matter in the petrol supply system.

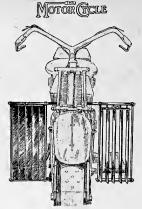
Still another pillion attachment is the C.L., a speciality of C. Lamb, 32, Edmund Road, Saltley, Birmingham. It has adjustable springing, and it is claimed that side sway is eliminated. The price is 45s.

A "five-minute" vulcaniser, of a size suitable for the toolbag, is the Shaler, an American product with which J. R. Cran of Dingwall is specialising. The 12s. 6d. outfit includes vulcaniser, six round and six oblong patches, each of which consists of a metal cartridge which is clamped over the puncture, lighted, and, it is said, in five minutes the cartridge may be removed, leaving the patch properly vulcanised to the tube.

properly vuicanised to the dube. The T.H.M. Manufacturing Co., Ltd., of 2-13, Rosemont Road, Hampstead, N.W.3, submit a pair of neat footrests with rubber pads, which they are marketing at 8s. 9d. per pair retail. The body is of aluminium die cast with a thick rubber pad of good quality.

L. and K. soldering paste is something many motor cyclists would carry in their toolbags if, they knew its properties. It is sold in small tubes at 2s. 6d., and can be used for soldering such things as wire ends and leaking tanks. Incidentally, as an experiment, we firmly joined together two drawing pins with the aid of a match. It is made by Livermore and Knight, Ltd., 180, Fleet Street, E.C.4, who also market an automatic blow lamp for 10s. 6d. Its size is $6\times 2\times 14$ in. Both these specialities should become popular with competitors in long-distance trials.

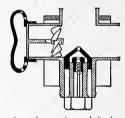
J. Collyer and Co., of 133, Hockley Hill, Birmingham, send particulars of



Legshields on the venetian blind principle, made by Collvers, of Birmingham.

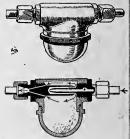


The T.H.M. rubber covered footrest.



A petrol economiser made by the Atomiser Co.

their legshields, which are made on the venetian blind principle. Aluminium slats are mounted in a light steel frame and are capable of being fixed at will either in the open or closed position, providing protection in wet weather and,



The Giusti petrol filter. The arrows in lower illustration indicate the flow of pet

in the summer, permitting air to be a flected on to the engine. One of the illustrations depic

One of the illustrations depic is petrol economiser introduced by the Atomiser Co., East Boldon, Dur m Within the jet is fixed a spiral, which is claimed, breaks up the spirit no imparts to it a left-hand whirling mon Stationary air vanes placed in the in orifice, it is said, give the air a rathand spin, and as a consequence of such wo movements the fuel is thorough broken up and well mixed with the improvements the state of the contract of t

Those sidecar passengers who had let the need for a spring footrest in he nose of the sidecar will be interested in the device now offered as an extr by Messrs. Mead and Deakin, the man acturers of Canoelet sidecars. It could be a light board, with heel piece, vet is supported by two flat steel spring the sidecars.

G. J. Moulder, 23, Arlington I a Regent's Park, N.W.1, will shortly in duce a twist grip control which wi be made in various sizes to suit Bis machines. The construction is sirk and can be fitted easily to any stan handle-bar. A circular box is ple over the open end of the handle-bar is held in any convenient position split collar. The illustration rendelong description unnecessary.

An aluminium spare tube case for handle-bar is introduced by P. L. Ce, as Plaistow Park Road, Plaistow, 13 Both the container and the lid are uninium spinnings, which are clarst together by a central bolt with butth nut. It is attached to the handle-bar a clip, and an orifice allows the valve protrude. A rubber sleeve over in spindle is inserted to prevent chaft

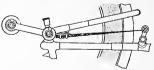
A NEAT SPRING FRAME DESIGN.

The Patent of a D.R. which embodies Leaf or Coil Springs.

ALL spring frames are not conspicuous for their neatness; in fact, quite a large number of preliminary designs are the reverse. The design inustrated, however, presents a good appearance, and embodies sound mechanical principles.

It will be seen that the wheel is carried at the end of two extensions of a tubular loop, which passes round the front of the wheel below the rigid "chain" stay. At the pivotal ends of this loop there are substantial cup and cone hearings which are adjustable, and just forward of the bearings saddles are provided for

the butt ends of two flat quarter-elliptic springs, which are shackled at their outer ends.



Rear wheel springing of the Willoughby

This design permits a neat construction, which may be applied also to be sidecar wheel.

Another form of the invention embels coil springs and a rubber "snub!" between the stays and the inner en of the loop.

The designs are the subject of patits taken out by Mr. N. D. Willoughbyof 12, Mosley Street, Manchester, on incidentally, is a disabled D.R.

We understand that he is prepared negotiate with any manufacturers he may be interested.



The Editor does not hold himself responsible for the opinions of his correspondents,

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

A MAGNETO TIP.

Sir,-If any of your readers are suddenly aggravated with stuck-up magneto -rocker-arm, and are in too much of hurry to free it permanently, this wrinkle may help, a mary to tree to permanently, this within a may be though I don't for a moment suppose it is original. Place a small piece of rubber behind the rocker-arm. This will force the points together when they should close, at the same time being resilient enough to allow them to open.
- Quetta, Baluchistan. - C.H.C.

FOUR-CYLINDER ENGINES.

Sir,—It is with feelings of astonishment that I read Ixion's" remarks in March 18th issue of The Motor Cycle regarding the cost and complication of the four-cylinder

In my opinion the four-cylinder engine is far more simple for even the novice to understand and keep in tune than any V twin (or flat twin for that matter), is quite as cheap to make, and cannot be equalled for economy in running. Can "Ixion" name any V or flat twin of over 3½ h.p., or Can "Ixion" name any v or nat twin of over o_2 in.p., on any single of over 4 h.p., which will give 70 m.p.g. hauling a heavy sidecar? I can personally show him at least two four-cylinder engines which have done this repeatedly, and each is over 1,000 c.c. W. ARTHUR LONG.

GOOD SERVICE.

Sir,-In these times of high prices and delay in repair work, it is a pleasure to bring before the readers of The Motor Cycle the courteous and generous treatment received by me from Messrs, Smith and Sons (M.A.), Ltd.

My speedometer required overhauling and replacements, so I forwarded it to the makers, asking them please to

overhaul and replace parts.

For this repair I expected a somewhat formidable bill, but imagine my pleasant surprise when, within a fortnight, my speedometer was returned to me, overhauled and fitted with a new cable outer casing and gear box, and a note stating the repairs were free of charge.

T. C. BAUMFIELD.

RACING.

Sir,-Now that the old motor competitions are coming into their own again, and the T.T. is being revived, the question The both again, and the 11.1s being revived, the question crops up on all sides, "Does racing help the motor trade?"

And the answer comes back every time, "No!"

Racing appeals to the sensation-loving public, but it goes

no further. The fact that a certain motor bicycle covered so many laps in so many seconds does not say the stock model of the same make will be best for ordinary road wear. The only outsiders who seem to be interested in these races are the black-as-ink maniacs who simply ride motor bicycles to bits, and the filberts who "tap pater for a two-stroke" and the about with racing helmets on. The real buyers—the business men—look on race results with little or no interest. Reliability, not spurts, please.

SYDNEY DU ROSE. Reliability, not spurts, please.

PETROL ECONOMY.

Sir,-In a recent issue of The Motor Cycle I read a letter signed by Mr. T. E. Smith re petrol economy, but I fail

to see where the economy comes in.

Perhaps the following will interest some motor cyclists and motor car owners, as regards economy, but not efficiency.

My machine is a 6 to 8 h.p. Precision engined (fitted with special atomising valves) motor cycle and large sized wicker

sidecar; total weight of combination about 300 lb., weight of myself and two passengers (wife and boy) about 27 stone, and my last year's mileage works out at 80 m.p.g. for

all distances, long and short.

One special test I made was of 126 miles, partly in drizzling rain, and the consumption was one and a half gallon of benzole, which I consider fair, still not efficient.

During the winter I overhauled my machine and fitted a hot air arrangement, and from a trial run which I had in bad weather I am expecting better results than the above. I may mention that the machine is fitted with a Stewart speedometer, also a very old Amac carburetter. Liverpool.

FOOT-OPERATED GEAR CHANGE.

Sir,—As a reader of your valuable columns, I should like to raise the question of foot controlled gear change appliances. The only examples I know of on the market at present are the Sturmey-Archer gear boxes up to the 1919 model. The gear change lever on these can be adjusted to be worked by either hand or foot. Unfortunately the

It is a worken by either hand or toot. Unfortunately the latest type of the make is designed to work by hand only. I can safely say that 90% of the D.R.'s who rode Triumphs during the war used the foot for changing gear. The result is always a much quieter change, and consequently less shock to both engine and transmission. For a complex when changing and transmission. example, when changing up, the clutch can be disengaged with one hand, the throttle slightly closed with the other, and at the same time the gear change lever can be moved

Another point- in favour is that the hands can be kept on the bars the whole time, which is a considerable advan-tage when riding solo, or with pillion passenger, over

greasy" roads.
What do other readers think about this? SIGNALS.

STARTING TIPS:

Sir,—May I refer briefly to your correspondent "C.B.M-B.'s" remarks, in your issue for May 6th, on starting a B.S.A.?

He recommends that the engine should invariably be primed, and that the B.S.A. carburetter, with its variable jet should be replaced by one not so fitted. I have ridden a B.S.A. all the year round, and find that priming is totally unnecessary if the variable jet in question be opened a couple of turns. This provides a rich mixture on which the

engine fires almost at once.

For other reasons, "scrapping" this carburetter is to deprive the machine of one of its most valuable features. The jet can be adjusted to meet the exigencies of the road with the same ease, as, for instance, retarding the spark, This means a big reserve of power for the occasional stiff hill; and, on the other hand, the maximum possible economy for ordinary running. I have repeatedly worked out my average petrol consumption over long periods, including both good perfor consumption over rong periods, including both good and bad roads, short runs as well as long, in both town and country, and it is invariably 100 m.p.g. For a machine of this power and weight that is a more than creditable record.

I venture to hope that readers of The Motor Cycle will not accept your correspondent's extraordinary statement that the B.S.A. adjustable jet is a "source of much anxiety" without further explanation from him.

The usual disclaimer.

L. P. GARROD.

RUNNING COSTS.

Sir,-I was interested in the article, "Running Costs," in The Motor Cycle of April 15th, because I have most carefully during the last year kept a strictly accurate account of my expenses in running a 7-9 h.p. Harley-Davidson combination.

Now I should class myself under "W.W.S.'s" second temperamental class of rider, doing everything I can myself and driving carefully and steadily, with no fancy notions for adding on gadgets, but a liking for powerful machines with a good turn of speed that I can use if wanted, and enable me to do my two hundred miles run in the day without undue exertion any time required, and I ride solely for pleasure.

I think when one knows the type of rider it is always much easier to form a proper valuation of his running costs in comparison with one's own requirements.

I have not gone carefully into the comparison of various specified figures given by "W.W.S." with my own, but I see his C C line on the expenditure mileage chart for 6,000 miles would very nearly bear out my own figures, which I enclose you herewith, as they may prove interesting. There is, you will notice, an item of repairs which rather upsets the figures.

This, I may explain, was brought about by an accident to my sidecar while in the garage. Some fellow ran his Ford into it, which cost me £17 to repair. His insurance company (which is also the same as my own) quibbles over the amount, and offers £7 only, and it looks as though there is nothing for it but to regard the £10 as lost, and treat it as I have done in my figures. JAMES C. BATKIN.

SUMMARY OF EXPENSES FOR TWELVE MONTHS ENDED DECEMBER 31ST, 1919. HARLEY-DAVIDSON 7-9 H.P. TWIN COMBINATION.

ian. 1919.—To "purches of Second-hand Combination, magnete model, Fr.6, 7-6, hp. twin, 1916. Basting windscreen , fitting locker on luzgage carrier , completing lamp outfit , necessary tools , A. A. badge , A.C.U. brdge , registration fee , oilskins , goggles	112 4 1 1_ 1	i. 0 10 10 19 5 3 5 6 7	d. c o o 6 o 6 o o 6
Initiai capital outlay	£125	10	0
, 5% loss of interest on capital expenditure Inland Revenue tax driving licence insurance A.A. subscription A.C.U. subscription home garage Annual dead charges	6 1 4	5 5 5 10 10	6 0 0 0 6 6 0
, traveling garage items , petrol (1/3 gallons) , lubricating oil (negine oil, 10 gallons) , tyres , early of to lamps , reps ,	18 4 16	19	0 7 2 0 0
	- to	9	5
Running costs for 12 months	. £52	16	2
Gross exoenditure Value of machine, December 31st, 1919, taken at 10% depreciation	£197	2	8

£84 45, 8d, 'or 6,000 miles,

f52 16s. 2d.

Petrol consumption averages 53 mlles to the gallon.

Actual tests on straight long mileage runs gives 60 mlles to the gallon.

on the capital outlay

MOTOR (YCLE



SPEEDS.

Sir,-Your correspondent, "C.L.W.," in your issue May 6th, would doubtless like to see the ancient imputatio "all men are liars" altered to "the vast majority of motor cyclists are liars. He_"would like to know how speed of nearly 70 m.p.h. is done on the road."

It is done by opening the throttle of a high-powered, well trued maybine as a cyclibly attaight and more the stretch of th

tuned machine on a suitably straight and smooth stretch (road, and sitting a little tighter than usual.

I have a fully equipped Indian of last year's date, an would be delighted to demonstrate that it will do 65 m.p.l would be delighted to demonstrate that it will do 50 m.p.l. if he would care to call at some convenient time wheneve he happens to be in my part of the world. I will not tr and sell it to him! I have never experienced wobble of Indians, due probably to the excellent balance and weigh distribution obtainable when T.T. bars are fitted to the machines.

Welwyn, Herts.

Sir,-I have twice experienced an unpleasant wobble whe riding a motor cycle solo, and on a similar type of machine I traced the trouble in each case to one of the tyres, which although fitted correctly to a perfectly true rim, was runnin out of truth, owing to it having been badly moulded. Bot tyres were of the three-ribbed type which has a flat tread but of different well-known makes.

I experienced a wobble at two different speeds, which varied slightly with the condition of the road, but in m case took place at approximately 25 m.p.h. and 45 m.p.h.

L. E. R. MURRAY.

Sir,—I have never written to your paper hefore, although I take it in regularly, but the letter from "Limit," in you issue of April 22nd, and the one from "C.L.W." (May 6th) are really more than I can stand.

Your correspondent's idea that to obtain a speed of 67 to 70 m.p.h. one must go on to Brooklands is merely amusing myself have done 65 m.p.h. on a 1919 4 h.p. Triumph sol and 66.5 m.p.h. on a 79 h.p. Harley-Davidson with my and 66.5 m.p.h. on a 7-9 h.p. Harley-Davidson with my brother on the carrier. These speeds were attained withou any tuning whatever and under quite normal conditions, and they certainly do not strike me as being anything very wonderful. The road in each case was clear of traffic and dead straight (or almost) for about two miles. There can be no doubt about the accuracy of these speeds, as the were recorded by two separate speedometers. These speed bursts, naturally, cannot often be indulged in; but, given good road, and a decent engine, I quite fail to see any diffi culty in attaining them.

Cockermouth.

DUST IN SIDECARS.

Sir,-1s there any means of overcoming dust in sidecars

where a windscreen is used?

In my case, behind the screen the air is full of dust, quite visible to the eye, the result being that the passenger is covered in a very few miles.

I use a glass screen with side wings, and should be gradeful for any hint from your readers for overcoming this nuisance.

A. JOHNSTONE.

ACETYLENE LIGHTING.

ACETYLENE LIGHTING.

Sir,—Having, like many others, taken an oath never to "wait for the smell" again, I am very interested in other forms of lighting. "Lxion," I notice, leaves out accumulators in his alternatives to the usual acetylene. My agent, who is getting me a 1920 machine, deprecates the very idea of this form of lighting. As opposed to this, one amateur competition rider has made a very great success of it, and, given a spring frame, I certainly think there is little to be said against it, provided attention is given to the cells by an intelligent owner. I notice also that a few firms are advertising accumulator sets nowadays, and there are at least two reliable non-spillable types of cells on the market. One of your correspondents led off with a rather curious test question a few weeks back, and I have a rather enrious test question a few weeks back, and I have another, though a bit easier of solution. In an 8 h.p. JAP. Itted with DINE magneto and Amac carbinetter, mistring occurred under heavy load and at high speed only. Plugs, valves, magneto, and everything appeared to be functioning properly, and did at moderate speeds, and always on the stand. No difficulty in starting. The valves terms were perfectly straight.

W.D.B. Seaton Carew.

DIFFICULT STARTING.

Sir,-I'am interested in "J.M.M.'s" letter in the issue of April 22nd com-plaining of the difficulty of starting a B.S.A. motor cycle, since I experienced a certain trouble myself when I first obtained my own.

I can now start it quite easily, usually on the first dig. I keep the tappets set with a very small clearance. viz., four-thousandths of an inch. This gradually increases with use to about eight or ten-thousandths, when I again

set them. I inject enough petrol through the compression cock to free the piston, so that the engine revolves easily with

exhaust lever lifted. I then give one good "dig." which usually starts the engine. Much depends on correct setting of the controls. Throttle lever directly above handlebar. This means about one-third

Air lever a little more than this, Ignition lever about one-third retarded. I find with the B.S.A. carburetter that it is quite impossible to start if, for any accidental reason, it has fleeded. This sometimes takes place if the needle valve has stuck (in-

verted needle, i.e., inlet at the top of float chamber, in my carburetter).

If this takes place the only remedy is to close the petrol tap and revolve the engine until the surplus petrol has been quite evaporated. V. H. SUGDEN.

Sir,-In reply to "J.M.M.," my experience with a new B.S.A. 44 h.p., gear box. Altoget which I started riding last December, may be helpful. I run the variable jet for sidecar work at the full turn. Set the gas nearly out to the handle-bar, and give half as much air. Stand by the side of the machine and swing the handle-bars over to be able to kick well under while operating the exhaust. Feel compression, raise the exhaust, and push rather than kick with a long stroke, dropping the valve towards the end.

My engine fires nearly always at the second kick, generally without priming. If I prime, I give more air. I think the common fault is using too rich a mixture. It is a more of the prime of the second of the secon Lee, S.E.12.

MOTOR CYCLE LEGISLATION.

Sir,-Your leading article concerning the position of motor yelists with regard to the Departmental Committee on Taxation and the Departmental Committee on Lights on Vehicles

tion and the Departmental Committee on Liquis on Sciences is somewhat inaccurate in one particular.

Motor cyclists were certainly represented on the Taxation Committee by the A.A., and as the representative of the A.A. on this Committee, I represented, as pointed out in my Minority Report, private motorists; and, as you know, the membership of the A.A. includes many thousands of motor cyclists.

Similarly, in regard to the Departmental Committee on Lights on Vehicles, the Association was represented by Lights on Venices, the Association was represented by Lt.-Col. Charles Jarrott, a pioneer motor cyclists, and one who is keenly interested in all matters affecting the interests of present-day motor cyclists.

STENSON COOKE,

Secretary the Automobile Association and Motor Union.

[We fully appreciate that Major Stenson Cooke as secretary of the A.A. and M.U. represented a good number of motor cyclists, but he also represents perhaps a larger number of private car owners whose interests sometimes are not co-incident with those of motor cyclists. The Minority Report referred to did not contain any reference to motor cycles except in the following phrase: "The transfer of licences from one owner to another where a car or motor cycle changes hands." No recommendations to help motor cyclists were included .- ED.]



A SKILLED ENGINEER'S HANDIWORK.

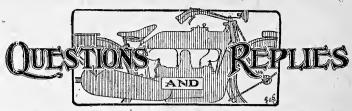
This motor cycle, including the engine, was made entirely by Mr. E. Chandler, of the Dukeries Motor Co., Mansfield, in 1917. The specification includes a 7-9 h.p. twin engine, 83 × 97 mm., with side-by-side valves, Binks carburetter, U.H. magneto, and a four-speed gear box. Altogether the machine appears to be a well made and very sporting mount

WARNING TO MOTOR CYCLISTS.

Sir,-Will you allow me a few lines of your valuable paper to warn riders of the danger of having their mechanical horns fixed on the tanks so near to the generators of the front lamps, that when they work loose, through the jolting of the machine, they can jam against the horn, and so interfere with the steering?

Recently I saw an accident caused in this way.

EUSTACE B. PARSONS.



A selection of questions of general interest received from readers and our reputs thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not mast be accompanied by a stampad addressed envelope for reply. Correspondents are urged to write clearly, and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

"Benzoil" Lubrication.

The manufacturers of my carburetter state in a booklet that benzole will not mix with oil, and cannot therefore be used in a two-stroke engine to make petroli. Enquiries have been made, and a mixture of 60% benzole and 40% petrol is suggested as satisfactory. I have a two-stroke machine, in which petrol is used, and as I desire to use benzole, but certainly do not wish to damage the machine with improper lubrication, shall be glad if you can give me some light on the subject.—

We do not know what grounds the makers of the carburetter have for stating that benzole will not mix with oil. We ourselves have used a two-stroke machine for the last six months, running entirely on benzole which has been mixed with oil, and have noticed no ill-effects.

Right to Build a Shed.

Could you please answer the following? I am expecting to take possession of a motor cycle at any time. As there is a small yard at the back of the house, the landlady was approached to see if it would be right if I erected a sectional hut. This was done really as a matter of courtesy, as I never expected any trouble. Her answer was that I had better not erect one. There is no agreement in the letting with reference to erections, and no inconvenience would be caused to anyone else. Can the owner of property prevent legally a tenant from erecting a sectional hut? Are there any other restrictions on such erections?—H. E. E.

As there is no agreement between the landlord and tenant to prevent the erection of a sectional hut, there is nothing to hinder you so doing, provided you do no damage to the landlord's property in any way, and you should take care that the hut is erected in such a way that it remains a tenant's fixture, and does not become part of the property. The above remarks are subject to the following points, which you must carefully watch : You must take care to comply with any local byelaws, and not intringe any building covenants or restrictions which may relate to the house in which you It is quite possible when the estate was laid out restrictions were imposed, and if your landlady is subject to these, you would also be bound by the same restrictions.

Lack of Tune.

Can you please give me some advice on the following problem? I have a 1915 2\(\frac{3}{2} \) h.p. Douglas, which I am about to overhaul, as I can only average 30 m.p.g. on No 1 sprit. I have used a 28 jet in the Amac carburetter, and am now using a 25; the petrol level has been altered several times with no better results. The machine will go splendidly for a mile or so, and then begin to bang in the silencer and carburetter. I am using aero plugs.—G.H.T.

It is very difficult to say exactly what is the cause of the trouble. Presumably, the engine is not in a very good condition, and we would advise that you attend to the following points. Decarbonise cylinders and examine condition of the piston rings, replacing these if hadly worn; also replace pistons if these are very slack in the cylinders. Examine the inlet valve stems, and replace the valves if they are very loose in their guides. Replace all the valve springs if they have lost their tension. Replace the aero plugs with

good motor cycle plugs; you will in them much more satisfactory. When assembling, carefully examine the inction pipe joints, and if air leaks suspected, wrap the outside of the unis with insulation tape.

Timing a Single.

Would you please be g enough to let me know correct valve timing for a single-cylinder engine?—T.L.

Rotate the engine until the piston is the top dead centre, and insert the cr so that the exhaust valve is just ab to close and the inlet just commencing open. Now rotate the engine throone complete revolution, when the pis will be at the top of the compress stroke. Rotate the magneto until contact breaker points are just comencing to separate (the control le being two-thirds retarded); connect magneto drive without allowing eit engine or magneto to move from the points. The above timing will prove best for ordinary running.



Attractive scenery is lound on the outskirts of many Yorkshire manulacturing towns. One would little imagine that the motor cyclist depicted, driving an 8 h.p. Enfield outfit in the recent Sheffield Traders Trial is but a little way outside the amous steel-making city

MOTOR (YCLE

Removing Timing Pinion.

I am now engaged in overhauling my 1911 (or 1912) 34 h.p. Triumph motor cycle, and your valuable advice will be very helpvaluable advice will be very help ful on the following points: (1.) I find I want new bushes for the connecting rod. I have taken the engine down, and the crank case comes into two parts, but I cannot get one half away owing to the central wheel of the timing gear. This wheel appears to be keyed on, and has in the centre what appears to be a large screw, which has detied all my efforts to undo. Can you advise me how to get it eff, as until I do so it is impossible to get at the connecting rod? (2.) Will you give me the settings for timing the valves; also for the ignition?—G.H.M.

.) The small timing wheel on the engine aft is held by the end of the shaft itself sing expanded into it by a conical headed These screws are usually very ght and difficult to remove. You will quire a brace and screwdriver bit, or ou might use a large screwdriver, atting extra leverage on with a spanner.

The timing is as follows: Exhaust dive closes when the piston reaches topond centre of exhaust stroke and the let valve at this point is just commencing to open. The spark should occur hen the piston reaches the top dead entre, the control being two-thirds

A Case of Over-driving.

(1.) I have a 23 h.p. Royal Enfield twin motor cycle, and have recently had the rear cylinder recently had the rear cylin-fitted. The machine starts off well and I have plenty of reserve power on the level, but after main-taining a speed of 30 to 25 m.p.h. for a few minutes the engine appears to seize, but upon dismounting I can easily revolve the engine by turning the back wheel. What is the cause of this? (2.) I have not sufficient power on hills, and the engine appears to drag. Would this be due to the expansion of the piston or rings through heat? (3.) There is only one very narrow groove turned in the piston for oil-retaining purposes. Would it not be advisable to have several grooves or holes bored on the side of the piston? I may say I have given the engine very liberal oiling, and have done about 150 miles since the new piston was fitted .- A.A.H.

1.) The sudden stopping may be due o a momentary seizure, but it may also esult from the use of an unsuitable parking plug, the electrodes of which accome overheated, so causing pre-igni-ion. (2.) No doubt the power will improve after the engine has been run or about 500 miles. After this distance, on may assume that the parts are all properly run in. (3.) It is not at all certain that additional grooves or holes n the piston would improve the running. We should say that such trouble as you have experienced is due to travelling te excessive speeds immediately after the ylinder was rebored. You should cerainly not have attempted either to ttain or maintain a speed of 30 to 35 n.p.h. until the new parts were horoughly bedded down.

IMPORTANT DATES.

Fri. and Sat., May 21st and 22nd-M.C.C. Lenden-Edinburgh Run. Whit-Monday, May 24th Brockands Meeting, Sat., May 29th— BM.C.R.C. Meeting at Brocklands. Sun., May 30th— Metecycle Club de France Grand Prix Race Sat, June 5th-Ilkley Open Reliability Trial.

Tues., June 15th-Junior T.T. Race, Isle of Man. Thurs.. June 17th-Senier TT. Race, ls'e of Man.

Fri., June 18th— S. eed Trias on Douglas Premenade. Seed Irias on Douglas tremenaue.
i, an I Sat., June 25th-26th—
Dublin and District M C.C. Open Twentyfour Hours Reliability Trial. Sat., June 26tb— (Cui M.C.C. Team Trial for "The Motor Cycle

M.C.C. Team Trial for "The Motor Cycle Mon, July 5th, to Satt, July 10th-Scottish 5ix Days Trial. Wed. and Thure, July 7th and 8th-Arbuthnet Trophy Trial. Thures, July 15th-Essex M.C. Joint Open Speed Trials, Westeliff-on Sea. Thure, July 15th-Super July 15th-Super Sea. July 15th-Super Sea. July 15th-Sup. July 25th and Fria, July 16th-Sup. July 25th and Fria.

Sun., July 25th, to Aug. 1st –
International Six Days Trial in France.
Sun., Aug. 1st, to Wed., Aug. 4th—
Anglo-Dutch Trial in Helland,

Sat, Aug. 7th— S.A C.U. Inter club Meet at Callander. Men., Aug 23rd, to Sat., Aug. 28ta A.C.U. Six Days Trial.

5at, Sept. 4th— Scotish Speed Championships at St. Andrews. Scott Trial.

Lightweight Sidecar Outfits.

(1.) I have a 23 h.p. lightweight (four-stroke), to which I have attached a small wicker sidecar. Now, the opinions of my friends are very uncertain as to the success of this outfit, and I should success of this outil, and I should like your views as to whether this will damage the engine? (2.) Whether my frame is very liable to fracture? (3.) Is it possible in any way to help the engine with its load? Things in its favour are: I only use the sidecar once or twice a week to do a distance of about ten miles, and that the engine is powerful enough to do all the work I require of it. The only thing I fear require of it. The is the frame.—R.P.



During a recent week end, whilst out on a two hours' run, no fewer than five sidecars were encountered by a member of the staff very much out of alignment. The outfit shown is a typical example. Besides being risky, it throws extra strain on the tyres.

(1.) Provided you maintain adequate Jubrication, the engine will not suffer from the extra work imposed upon it (2.) It is not likely that the frame will break; but you must remember that a machine of this description was not designed to withstand the strain of sidecar signed to winistand the strain of successive work, and, consequently, you should drive carefully and at moderate speeds, particularly on bad road surfaces. (3.) Only by driving with extreme care and by avoiding overloading and attempts at excessive speeds.

Charging Accumulators.

I have a 4 volt 20 ampère accumulator which I am using for lighting head light. Will you be good enough to let me know how to charge this from a light-ing circuit of 225 volts continuous current? The charging rate, as stated in the accumulator, is 1 ampère, and lamps in use are 40 c.p. metal filament. How many of these should ! havé to use as a resistance, or would it be better to use a 16 c.p. carbon filament lamp as resistance?—T. 4749.

Carbon filament lamps are the most suitaccumulators you would require two 32 c.p. bulbs of this type in series for charging your accumulator. If you decide to use metal filament lamps you will require five of 40 c.p.

RECOMMENDED ROUTES.

LEICESTER TO YARMOUTH .- G. H.K.

Leicester, Uppingham, Wansford, Peterborough, Wisbech, King's Lynn, Swaffham, Dereham, Norwich, Acle, Yar-

BIRMINGHAM TO BLACKPOOL .- A.J.S.

Birmingham, Sutton Coldfield, Lich-field, Rugeley, Stone, Whitchurch, Tar-porley, Warrington, Prescot, Knowsley, Ornskirk, Preston, Kirkham, Blackpool. Approximately 130 miles.

CARDIFF TO HULL,-C.P.B.

Cardiff, Newport, Gloucester, Tewkes-ury, Eyesham, Stratford, Warwick, bury, Evesham, Stratford, Warwick, Coventry, Stoke, Wolvey, Narborough, Leicester, Syston, Six Hills, Newark, Lincoln, Brigg, Elsham, New Holland (ferry), Hull.

TAMWORTH TO WOKING (SURREY) .- W. W. Tamworth, Fazeley (Watling Street), Atherstone, Kilsby, Daventry, Towcester, Buckingham, Winslow, Aylesbury, Wend-over, Amersham, Beaconsfield, Slough, Windsor, Staines, Chertsey, Ottershaw, Woking.

ABERYSTWITH TO SEVENOAKS (KENT) .-

Aberystwyth, Capel Bangor, Dyffryn Castell, Llangurig, Rhayader, Nantmel, Penybont, New Radnor, Kington, Pembridge, Leominster, Bromyard, Worcester, bridge, Leominister, Bromyard, Worcester, Pershore, Evesham, Broadway, Moreton-in-the-Marsh. Chipping Norton, Wood-stock, Oxford, Dorchester, Wallingford, Streatley, Pangbourne, Reading, Odiham, Farnham. Guildford. Dorking, Reigate, Redhill, Westerham, Sevenoaks.



THE FUEL OUTLOOK.



Will Power Alcohol become a Commercial Product before the Wells Run Dry?

A CCORDING to the best available information, it may be taken for granted that American and Mexican oilfields will have no surplus fuel for export in a few years' time, because:

(1.) The supply of petroleum oils is diminishing.
(2.) The vast increase of motor transport in America will absorb the whole of the oilfields' output.

It is even suggested on good authority that in a few

years' time America will be importing oil.

In explanation of this, it may be said that in April, 1919, the output of thirty-two American car factories reached a total of 7,084 vehicles daily. Assuming 300 working days per year, at this rate the yearly output will be 2,125,200 vehicles, and if each car is estimated to consume 200 gallons annually, the increase of American motor transport alone will account

for over 400 million gallons of fuel.

At the present time the Government have no control over the price of petrol sold in this country, though it is hoped that something may be done in this respect, but the most optimistic mind cannot foresee a reduction in the cost of petrol, which will be sold to the highest bidder, and a limitation of price would merely close the supply. In South America, petrol is now being sold at 8s. per gallon. authority is of the opinion that we, in this country, may have to pay this price in one or two years' time. There is little doubt about this point if the demand. increases and no alternative fuels are brought forward. Scores of new companies have been formed to produce motor vehicles without the slightest regard for an increased fuel supply. The question, then, of alternative fuels to petrol, instead of being automatically solved with the end of the war, needs immediate and influential consideration. To allow the vast and vital motor industry to be practically dependent on one imported fuel is little short of insane folly. Briefly, the position is that petrol will shortly he unobtainable to meet our demand or obtainable only by paying a higher price than other countries.

Home-produced Fuels.

What, then, are the possible alternative fuels? Home-produced petroleum cannot be relied on, and the position as regards home-produced benzole is, to say the least, uncertain. Out of seventeen million tons of coal carbonised at gasworks in 1918, only 6.300,000 tons were treated for benzole recovery. There is no doubt that gas works are now producing even less benzole than in 1918. The petrol companies are obtaining supplies of benzole which they market themselves, thus minimising the efforts of the National Benzole Association to market a standard product at a reasonable price. This association has failed to control both benzole production and distribution, and if it continues to fail, so will the petrol companies obtain a firmer hold on the sole serious competitor of petrol.

Alcohol is not produced in this country in any serious quantity for use as a motor propellant, but many are of the belief that the ultimate success of the motor industry rests on a large alcohol production. The belief has a foundation on the fact that the present sources of petrol and benzole are of a mineral nature and consequently limited, whereas alcohol can be produced from such vegetation as the Nipa palm found in India and Africa, the Agave in South America, and many other plants. A limitless source is therefore assured. Also alcohol production from black strap molasses is a growing industry in America, and still another source of alcohol is coal gas.

Alcohol from Coal Gas.

In a paper read before the Cleveland Institute of Engineers at Middlesbrough on December 15th, 1919, an account was given of the joint research work of Messrs. Ernest Bury and O. Ollander, dealing with the extraction of ethylene from coal gas and its subsequent conversion to absolute alcohol.

This epoch-making work is of the greatest importance to motorists and the British public generally, as the authors of the work claim that it is commercially possible to recover r.6 gallons of absolute alcohol from one ton of coal when carbonised in the gasworks and coke oven industry. It needs no penetrating vision to estimate the importance of a possibly large addition to our supply of home-produced fuels. The figures given of our position as regards home-produced fuels if ethylene was recovered from all coal carbonised in this country are as follow:

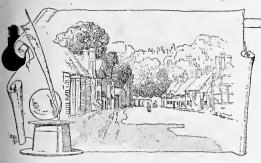
Total, 114.4 million gallons against requirements of 160 millions.

Most motorists are aware that coal gas is the source of our benzole supply. After benzole has been extracted from coal gas, the gas still contains approximately 2% of ethylene which can be extracted and subsequently converted into alcohol. It is claimed that this can be done on a commercial scale, and the research work which has been carried out is of profound importance.

Producer Gas.

A fuel little heard of by motorists is producer gas. Experiments have been carried out dealing with the use of a portable gas producer plant for gas generation on motor vehicles. A great amount of power is derived from internal combustion engines using producer gas generated by stationary gas producer plants so that the only difficulty presenting itself is the design of a producer gas plant capable of installation on a motor vehicle. When used in the same engine, Mr. D. J. Smith, the author of the experiments, asserts that, with coal at 49s. per ton, producer gas is equal to petrol at 2½d. per gallon. For commercial vehicles, the idea certainly seems practicable, but, for lighter vehicles, the value of the proposition is ministed by the weight and space taken up.

L.S.



"If this big tax is put on, I, for one, shall give it all up, as a good many others may do also. Why do not all motorists who can spare their machines lay them aside and boycott the whole business

P. S. SQUIRRELL.

"The motor cycle is the poor man's friend, and it looks as if he must give it up. The miner and factory hand, from factory. . The Government wants the working man to do his utmost. How can he when his little pleasure is taken from him?" Monday until Saturday, are down the mine or in a noisy

Bridgend.

"My wife is affected with a malady which renders any serious walking impossible, and her only chance of fresh air and pleasure is a short run out of about forty miles from the suburbs of London. . . My total mileage in 1919 was only 839 miles. It seldom exceeded this, even in pre-war days. There must be many whose mileage is limited by reason of the fact that the machine is not used during the winter months and inclement weather. To saddle such with the total duty of £4 is unjust."

THOMAS A. VALE.

"This new scheme of extortion must not be permitted to become law, for it only hits hardest those who are least able to bear the added burden. Let us all—motorists, motor cyclists, scooterists, and Auto-wheelists—with unbroken front show in unmistakable manner that we are not to be from snow in unmistanable manner that we are not to brow-beaten or bullied into extortion of a type several degrees worse than highway robbery. All luck to the A.A. for their sporting efforts on behalf of motorists—efforts which cannot but be successful if properly supported by the body of motorists in this country.

Birmingham.

Unit UNION IS STRENGTH.

"Passive Resistance" Suggested.

"I think the blind credulity with which people lie low and trust to the Government to dole them out 'British fairness' is almost pathetic. . . . They are out for tarrness' is almost pathetic. . . They are out for taxes, and they exact them unfairly from any section of the community which is not strong enough to stand up for its rights. A resolution to refuse to pay any taxes until they are placed on a fair basis, and signed by as many people as signed the petrol petitions, is needed to bring the Government to its senses."

DUGGIE. Cambridge. Cambridge.

"Is it not time the R.A.C., A.A. and M.U., and the A.C.U. centralised instead of working independently? We may as well not join a union if there are so many working separately instead of joining together to protect and fight for the motorists' interests. I should like to see one of the many motor unions shine above the others and really do something, instead of writing letters to the Press-we can do that."

Manchester.

"The composition of the committee is, in itself, sufficient to show the motoring public that they are expected to pay the whole of the bill for repairs to the roads, which were destroyed by the Government themselves with their 'war traffic.' Granted, the traffic was necessary, but why 652,000

STORM OF PROTEST.

Letters Typical of Thousands we have Received.

The General Trend of our Readers' Views is that the Average Rider will find his Hobby a Financial Impossibility.

motorists should be called upon to pay for something in which every other person in the land holds an almost equal share every other person in the land bôlds an almost equal share passes my comprehension. Even the proposed scheme of the A.C.U, is unfair. Why should a 3½ h.p. single a few pounds over 200 lb. pay the same as a mile-eating 10 h.p. twin? If they are going to grade the machines by weight, the fairest way would be to start at £1 for 100 lb. minimum and 8s. extra for every 50 lb. This would be fair to all, and then the £1 for the sidecar could stand by itself. All motorists should, on December 31st, 1920, go on strike until the committee get some sense into it. I shall gracefully retire after this year."

Another Tortoise. Manchester.

Hardship to those of Moderate Means.

"Though I am a pedal cyclist, I fail to see why motorists should pay all the tax and cyclists none. Why not impose a tax of, say, 2s. or 2s. 6d. on each pedal cycle? This would help a little to make the tax on motors a little less heavy.

"I beg to suggest that our associations take combined action to press the Chancellor for the following compromise, action to press the Chancellor for the following compromise, which I feel will meet almost the whole objection that motor cyclists have to the proposed changes in the basis of taxation: That licences be issued half-yearly, viz., April 1-1 to September 30th and October 1st to March 31st in payment of half the amounts proposed. If this be allowed, as surely it ought as only an act of elementary justice, we shall then be taxed for the proportion of the year that the great majority of us use the roads. The small minority that are compelled, or desire, to use the roads from October 1st to March would then pay the second instalment."

W. Stiles.

"The majority of working men have to be satisfied with a second-hand mount, and if a sidecar is attached they are asked to paya £4 tax. If one takes the journeys that a worker does throughout the year, it will be found that the mileage does involgnout the year, it was be found that the influence is very low, and during the winter months the machine is generally lying idle. The longest ride I have had was 110 miles, and I do not think many working men exceed this distance. If this £4 tax-becomes law, I, for one, shall have to give it up."

R. H. STACEY.

"I may say that I, as doubtless were thousands of others, was greatly surprised to find that, despite all the views expressed to the contrary in your columns, the committee formed to consider the question still persisted in their unfair tax of £4 for a sidecar machine, and, not content with this, absolutely denied to riders the benefit of the quarterly payment scheme which was granted to car owners. We all realise that extra tax is necessary, and perhaps heavy taxes, and if done on a fair basis motor cyclists will be the last to complain; but as at present worked out, no—the game is not worth the candle!" P. SMITH.

"My wife and I ride a Velocette two-stroke each, thus paying £2 a year tax plus the expense of fuel for two. If paying £2 a year tax plus the expense of their for two. we have one heavyweight between us, we are worse off than ever; the new tax being £4, whereas the two lightweights would only cost £3. If we are to save our sport from being wiped out, let us join as a body and fight this injustice to a finish."



Gimes to Light Lamps

		~ / -		•
May	20th	 	9.20	p.m
,,	22nd	 	9.23	^ ,,
,,	24th	 	9.25	,,
	26th	 	9.27	

Invalid Motor Tricycles.

The taxation proposals include a 5s. tax on "vehicles not exceeding 5 cwt. unladen, adapted and used for invalids."

Holiday Traffic.

During holiday seasons there is always more traffic on the roads, and it behoves motorists to exercise especial care.

Touring in Wales.

A Welsh reader warns intending tourists in the Principality concerning the road between Lake Vyrnwy and Bala. The surface is said to be practically washed out in places, while on the Vyrnwy side a fallen tree partially blocks the road.

Power Alcohol.

• The new Finance Bill embodying the recommendations of the Departmental Committee in regard to the proposed new taxes provides for legalising the production of power alcohol free from the spirits duty which has prohibited its manufacture as a fuel.

Beware of Stolen Machines.

Thieves are still busy. Advices reach us of three stolen machines as follows: Glasgow: 1919 A.J.S., frame, engine,

and gear numbered 11108, sidecar 2283. Liverpool: 1919 Sunbeam, frame 6701,

engine 6116, and gear box 9640.
London (Tottenham Court Road):
Triumph; top tube enamel chipped.

Tool Kit Found.

Mr. S. Harrison, 41, The Grove, Hammersmith, recently picked up a Triumph tool kit and will return it to the owner on correct description of the contents.

Open Events in Ireland.

Although as a rule English riders do not journey across the Irish Sea to compete in the Irish events, those with time for a holiday would no doubt have a hearty welcome from their confrers in Ireland. In addition to the Cork open trial on Whit-Monday, there are two-day open trials on June 25th to 26th and July 31st to August 2nd, particulars of which may be obtained by Mr. W. H. Freeman, 16, Fade Street, Dublin.

Imports and Exports.

Importations of motor cycles for April show a slight increase on the previous month, their number-475—being roughly speaking the average monthly importation for this year. During January, February, March, and April 1,937 machines were imported to Britain, and, although a comparatively small number, they no doubt helped to satisfy the shortage to a small degree.

EXPORTS.

There was a considerable decrease in motor cycle exports last month, the decline on the March figures being no less than 500 machines; the number exported for April being 1,139.

BRITISH EXPORTS, APRIL.
1913. 1919. 1920.
Number of machines 1,544 415 1,139
Value of motor cycles, accessories, tyres, etc. £84,135 £50,454 £125,968

Special Features.

HILL HUNTING IN LAKELAND, OUR AMERICAN NEWS LETTER, LONDON EDINBURGH NOTES.

Are not Cars Big Enough?

Evidently the largest car is not bigenough for some motorists. Last week' issue of The Autocar illustrated luxurious' seven-seater saloon built on .1½ ton commercial chassis.

Fall in the Production of Benzole.

The Motor Legislation Committee poin out that, although no fewer tha 10,000,000 gallons of benzole were recovered from gas alone in 1918, in 191 the production fell to 3,000,000.

French Import Duty.

Motor vehicles weighing less than 2,500 kilogrammes had, up to Decembe 23rd, 1919, to pay a duty of 70% a valorem on being imported into France This was then reduced to 45%, and after wards to 334% ad valorem, but as th United States kept their duty at 45% their force of the control of the

For Motor Car Designers.

"The Automobile Engineer Year Book' (Iliffe and Sons Ltd., 20, Tudor Street E.C.4, price 6s., by post 6s. 6d.) ha now been published for the first tim since the war. The 1920 edition contain the usual features, having copious table of engine capacities, formulæ, and dat of value to the technical man. Tabulate details are given of British, Continental and American car chassis and Britis commercial chassis. An English-Frenc dictionary is incorporated.

Pillion Seats.

The number of pillion seats on the market will soon equal the number of makes of motor eycles,

A.C.U. North-western Centre.
A North-western centre of the A.C.U. has now been formed, consisting of clubs in Lancashire, Choshire, Flint, Denbigh, Carnarvon, Anglesey, and Isle of Man.

Carry your Licence.

Last week end there began a campaign for the examination of driving licences all over the country. Motorists were held up, sometimes in queues, for this pur-pose, and it behoves every driver to remember his licence before starting on

A Welsh Hill-climb.

A Welsh Kill-climb organised by the leading South Wales clubs will take place on Whit-Monday on the Black Mountain, Carmarthenshire. This hill, it will be remembered, figured in the last day of the 1919 A.C.Ü. Six Days Trials. The following classes will be run: Solo 250 c.c., 300 c.c., 500 c.c., 500 c.c., 500 c.c., and 1,000 c.c. Sidecars 750 c.c. and 1,000 c.c. The organising secretary is Mr. W. L. Perkins, The Pharmacy, Ystalyfera, Swanses Valley Swansea Valley.

Team Trial for "The Motor Cycle" Cup.

The thirteenth inter-club team trial for The Motor Cycle Cup, organised by the M.C.C., will take place on 26th June. Instituted in 1904 and revived in 1919, after five years of war, it is considered the "classic" club event of the year and will be looked forward to with enthusiasm by all clubs. This year, B. Alan Hill is the organising secretary. Full details will be published in *The Motor* Cycle next week.



ATTEMPT ON 350 c.c. TWELVE HOUR RECORD.

Last Thursday, F. A. McNab made a plucky effort to establish new record figures at Brooklands. He rode a 345 c.c. horizontally-opposed Wooler (standard model) and, after completing 144 miles 64 yards at an average speed of 40 m.p.h., he was compelled to retire with a broken connecting rod. It is hoped that his next attempt will be favoured with better luck.

A Fast Four-wheeler.

A feature of the Junior Car Club's race meeting held at Brooklands last Saturday was the outstanding success of the 10 h.p. G.N. This little four-wheeler secured five firsts and two seconds in the eleven events.

Works Lectures.

Last week we attended a works lecture at the O.K. factory, when several speakers gave their experiences of Russia under Bolshevist rule. This lecture was given in working hours, and proved most interesting.

COMPETITION DATES: A NORTHERN PROTEST.

Some Objections by the East Midland Centre of the A.C.U.

L AST Saturday a special meeting of club secretaries in the above area was convened at Sheffield to consider matters of vital interest in club life and to protest against alleged "organised opposition" being directed against the open reliability trial of the Ilkley L.C. and M.C.C. to be held on June 5th.

and M.C.C. to be field on June 5th.
S.Representatives of thirteen clubs in
Derbyshire, Nottingham, and East and
West Yorks were present, in addition to
members of the press and the motoring
associations. Mr. S. Raynes (Sheffield and
Hallamshire M.C.C.) presided, and Mr. J.
Simmonds (secretary East Midland Centre
4 C.II) bright described the corrections. A.C.U.) briefly described the correspondence which had passed between himself, Mr. T. W. Loughborough (secretary A.C.U.), and Mr. W. Pratt (trial secretary Surbitou M.C.C.) with regard to the clashing of dates between the latter club's team trial and the Ilkley open trial on

Mr. Simmonds mentioned that the three pen trials to be held in the district were to be mutually supported by amateur teams from each of the associated clubs, and that a broadcast invitation to compete in the Surbiton Club's trial on the same date as the Ilkley trial could only be considered as a serious clashing of nterests.

Mr. J. Norman Longfield (president likey C. and M.C.C.) amplified Mr.

Simmonds's statements. He reminded the meeting that of the twenty open events meeting that of the twenty open events decided upon for 1920 three only were allotted by the A.C.U. to the East Midland entre, despite the fact that the greatest number of clubs (twelve) were there represented. The North-western Centre, comprising four clubs, received two open tied dates. two open trial dates.

On April 14th a trial was announced for May 15th, open to amateur club teams, under A.C.U. permit, for a trophy presented by a trader, and to be held by the Surbiton M.C.C. This date clashed with the Liverpool Club's open speed trials, and an announcement was made in a daily paper that the Surbiton date was changed to June 5th, the date of the Ilkley reliability trial.

In view of this announcement the hon, sec, of the Ilkley Club forwarded a protest against the A.C.U. granting a permit to the new Surbiton club.

Strong feeling was also expressed con-cerning the fact that a policy of silence appeared to possess the press in regard to the matter. Notices of a meeting of protest were not published, and it was felt that the strong press influence on the Surbiton committee accounted for this, [So far as The Motor Cycle is concerned. no report of a meeting was received .- En.]

Mr. Longfield announced that the Ilkley club had already received sufficient entries to make its trial a success, and the protest was made purely on principle, largely with a view to urging upon the A.C.U. the advisability of preventing in future the inclusion of any A.C.U. official or member of the motor press on a club competitions committee.

On behalf of the A.C.U., Lt.-Com. Pierce speaking, as he said, rather as a sportsman than as a paid servant of the Union, cordially agreed with the senti-ments expressed, and regretted that matters had gone to the present length.

A long resolution was then proposed by Mr. Longfield, seconded by Mr. A. Walton (Leeds M.C.C.), and unanimously carried. The chief points were that a vote of censure be passed upon the action of the A.C.U. in permitting another club to hold a trial of the same nature as one already allotted for the same date. Also, that the A.C.U. should consider the undesirability of any member of its committee acting on a club's trial committee, and of the motor press being represented upon the ruling committee of the Union.

No drastic action will be taken until the end of the year, but, if it is still felt that the A.C.U. does not do more for the sporting side of the motor cycle move-ment to the North, the clubs firmly intend to break away and resuscitate the Northern Union of Motor Cyclists.

Lightweights Faster than Big Racing Cars.

74 m.p.h. with a 350 c.c. Single at Liverpool M.C. Speed Trials last Saturday.



An impression of E. Kickham, on his yellow 23 Douglas, crossing the finishing line.

DANCE has again swept the board by putting up the fastest times in every class, with one exception, in which he competed. This now famous young Kidderminster rider was the hero of the hour at Storeton, Cheshire, where. on a private road lent to them by Lord Leverhulme, the Liverpool M.C. held their annual speed trials last Saturday. There were no fewer than 300 entries for the thirty events, and although the actual number of competitors was only about forty, exclusive of the car entrants, the spectators did not tire of seeing these same men ride over and over again. Interested motor cyclists and several thousand of others, who journeyed to the Sunlight estate by trams, taxis, and on foot, showed the greatest enthusiasm right to the end of seven and a half hours' display of speed, such as few have opportunity to witness.

Fastest time of the day was made by Dance on his 3½ h.p. Sunbeam, when he covered the kilometre with a flying start at a speed equivalent to 76 m.p.h., a speed unequalled by the monster cars that came hurtling along the track in a manner perhaps more impressive than the greyhounds of the motor world with engines of one-tenth the size. The course was straight, level for the first half with a Tarmac surface, and on a slight up grade with an even surface of macadam, but covered with shingle for the latter portion. The change from one surface to the other was slightly disconcerting to a few of the less experienced riders, but on the whole the course can be said to be as good a speedway as is possible to find.

A light breeze blew down the course, and as the weather was entirely in favour of an enjoyable half-day's sport, it only remained for perfect organisation to make the whole proceedings the great success it proved to be.

The 300 c.c. Performances.

Some half dozen riders competed in the class for machines 300 c.c. and under (flying start), which was won by Pugh

(2½ Levis) at a speed of 58.3 m.p.h.—truly a good pace for a little two-stroke. Milner with his Diamond, having a converted J.A.P. engine with overhead valves, was not in his usual form, being placed second, having covered the course at a speed of 52 m.p.h. On formula, however, he was placed third, Lidstone (2½ James), who was third on time, taking second place.

Both Milner and Lidstone competed in

Both Milner and Lidstone competed in the 350 c.c. event, but since the winner's speed, with a 350 c.c. engine, was over 74 m.p.h., it was not to be expected that these miniatures would secure a place on time; but in the unlimited class, Milner succeeded in tying for third place against the cream of the meeting. His time was 34s.—a speed of over 65 m.p.h.—remarkable for an engine of only 250 c.c. In the standing start event for this

In the standing start event for this class later in the afternoon, Pugh again made fastest time, with Twentyman (2½ Diamond) second, and Lidstone (2¼ James) third.

Events for 350 c.c. Machines.

The first 350 c.c. event proved to be the fastest, Dance (Sunbeam) making his initial appearance on the course with a speed burst that seemed to surprise every one present.

A little later came Kickham on his yellow painted Douglas. It is safe to say that the great majority of the spectators had never seen 22 h.p. machines move so fast. The victor on time proved to be Dance whose speed was equal to 74.09 m.p.h., while Kickham's pace was 69 m.p.h.

In this event the T.T. A.J.S. made its debut ridden by H. C. Heath—and incidentally, though designed for a long event rather than a short speed burst, it tied for third place. Its performance was watched with interest by those who knew that the engine fitted was of a new design with overnead camshaft which is driven by a chain. Its speed was over 60 m.p.h.

As in the solo event, Dance made fastest time with the same machine with

sidecar attached, his time being 10s slower. Two A.J.S. lightweights of the type that won the last junior T.T. driven by G. S. Boston and G. Cowley respectively, came second and third, the former being 52s, slower than Dance In the standing start event, however with sidecars, Boston was only 3s, slower than Dance, who, with his 350 c.c. machine in the unlimited sidecar class, wo by the same margin from an 3 h.p. Zenith

the same margin from an 8 h.p. Zenth In the solo 550 c.c. standing start even Dance was again in competition with the yellow Douglas, and Heath's o.h.v. A.J.S. but his wonderful little Sunbeam again won 12s. from Kickham, Heath coming

third. The 23 Sunbeam and the 23 Douglamet again in the unlimited (standing start class, when Dauce repeated his forme performance, but Kickham lost 3s, on his time, repeating exactly the time he made against 500 c.c. machines.

It is interesting to view how consistent some of the times were, the best test of aggregate merit. This may be done briefly as under given in the order it which the various events where run:

G. DANCE (2) SUNBEAM).

350 c.c., flying kilom. Unlimited, flying kilom. Joint and the state of the state o	Time. 30%s. 31%s. 40s. 40s. 45% 44s. 37%s. 37%s.	M.P.H 74 71.5 55.9 55.9 49.7 50.8 59.9
350 c.c., flying kilom. 500 c.c., flying kilom. 750 c.c., flying kilom. Unlimited, flying kilom. 350 c.c., standing start 500 c.c., standing start Unlimited, standing start	Time. 32 \$ s. 32 \$ s. 33 \$ s. 33 \$ s. 40 \$ s. 40 \$ s.	M.P.H - 69.2 69 67.8 67.4 57 55.8 55.8

Fastest time made in 500 c.c. Event.

In the first 500 c.c. event Dance made fastest time of the day (76 m.p.h.). For the first time A.B.C. machines and the new Duzmo were seen in competition by Northern riders. Le Vack (Duzmo created a very good impression for this MOTOR (YCLE

htweights Faster than Big Racing Cars .omising sporting mount, which, as many aware, has overhead valves and an taide flywheel. The hum of the B.C.'s certainly pleased the spectators, t each machine had a different note. ey would have done better had they not fiered from misfiring. Ultimately it Ultimately it

s found that the fastest four were: Time. M.P.H. 1, G. Dance (3½ Sunbaam) ... 2958. E. Kickham (2½ Douglas) ... 3258. G. A. Strange (3½ James) ... 3258. H. Le Vack (3½ Durmo) ... 20 ES. -76

I'wo of the riders in this event were of at cheery section of the community who re unfortunate enough to be maimed the war, and it speaks for their pluck ien a one-armed rider will ride a fast I. mount all out in a speed test. Such rider was E. C. Pencock, who rode a rton; the mount also chosen by B. freys who was minus a leg. Despite is handicap, however, Jeffreys secured and place on time in two events.

G. A. Strange, who was riding the ne 3½ twin James that he rode in the t "Six Days," and which he has used oughout the winter, made a very good owing, being grouped with Le Vack d Kickham for second position in both \$ 500 c.c. and the unlimited events. In dition, he was 1s. faster than the nuglas exponent in the 500 c.c. standing ire test.

V. E. Horsman (31 Norton) put up a od performance, and every time he ice. The following is a record of his

nievements on time :

MBH 65.4 55.6 57 48.3 e.e. solo, standing start . . 3 limited solo, standing start 3 (tie) 54.4

H. Le Vack was the only Duzmo rider

various classes, and, treated in the same manner, his record is as follows:

Pos Time, M.P.H. 67.6 55-5

Among the machines of the 750 c.c. class, the pre-war type 5 h.p. Matchless, ridden by J. H. Fox, covered the course solo at a speed equalling 65.5 m.p.h., and G. E. Stobart (5-6 James) in the 750 c.c. class did 56.7 m.p.h., and slightly improved on this among the unlimited side-cars, securing second place in both cases. He was also third in the unlimited standing start event, when his time was 45s. (49.7 m.p.h.).

The big twins did not figure conspicu-ously, A. J. Brewin's 8 h.p. Zenith being an exception. This rider tied with Dance's 23 h.p. Sunbeam in the solo flying start test, making fastest time in the big sidecar event and the run which was decided on formula, in addition to getting a second to Dance (2 Sunbeam) in the sidecars from a standing start. The only other 1,000 c.c. machine to be placed on time was S. A. Mark's Indian, which tied with G. Dance's 23 h.p. Sunbeam in the unlimited sidecars with a flying start, the speed being 55.9 m.p.h.

Neck-and-neck Racing

In the standing start events for solo machines the competitors were sent off in pairs, and several neck-and-neck races ensued, but the road was scarcely wide enough for such races at the speeds which present-day machines accomplish. In the final event duels were keenly enjoyed by the competitors, but in some cases difference in experience and acceleration capabilities quickly separated the duellists. V. E. Horsman (3½ Norton) was sent off with an A.B.C., but his "get-away" was much superior, with the result that a good gap existed between the two all the way to the finish.

It was during this last event—and very nearly the end—that the only accident in the races happened. Mr. Ralli (7-9 Rudge) had attained a high speed, and just after leaving the Tarmac stretch appeared to lose control. He swerved from side to side, and finally crashed, turning several complete somersaults before coming to rest, fortunately without the severe injuries one would suppose would accrue from a fall at speed.

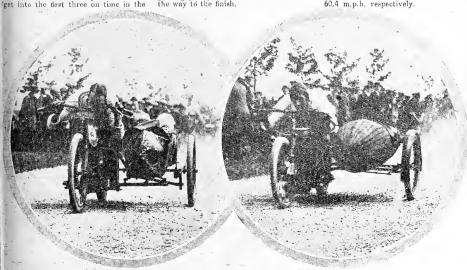
Another accident occurred after passing the finishing point. For some reason Simpkin (3½ Norton) did not slow down in the straight 200 yards allowed beyond the finish, after which there was a slight bend to the gates at the end of the road. Colliding with one of these, he was badly thrown, one of his boots being torn off, but without serious injury to his foot. He escaped with a rather severe shaking and several abrasions on the legs and hands.

The Cycle Cars.

50.5 m.p.h. was, the highest speed attained by the cycle cars. This performance was put up by A. Horrocks in the 1,100 c.c. flying start class on a 10 h.p. Morgan. His time was 44\frac{2}{5}\text{s}, and in the standing start 47\frac{2}{5}\text{s}. or 47.5 m.p.h. F. G. Ellis (10 G.N.) covered the course in 452s. (49 m.p.h.), and N. Svanso (8 Morgan) 48 $\frac{1}{5}$ 8. (46.5 m.p.h.). In the stauding start Svanso secured second place on time (53 $\frac{2}{5}$ 8., 42 m.p.h.) and J. Clegg (6 A.V.) third with 53 $\frac{4}{5}$ 8 41.9

m.p.h.
The results on time given are those announced on the course, and will be checked before the awards are made. several cases riders making fastest time will not necessarily be awarded the medal for this, as sometimes they were entered for formula only. Some of the speeds given, if confirmed, will constitute records. The flying kilometre records for 250 c.c. and 350 c.c. classes stand at 57.6 and

60.4 m.p.h. respectively.



FAST SIDECARS AT STORETON. G. S. Boston (2^a/₄ A.J.S. sc.) and V. E. Horsman (3^b/₂ Norton sc.)

The Western M.C.C. Open Hill-climb.

High Speeds on Good Surfaces.



E. M. P. White (32 Edmund) making fastest time in the 600 c.c. class. A fine speed impression.

THE Glasgow Western Club held its first open hill-climb on Saturday last, the venue being Garshake Hill, near Dumbarton. A very representative entry had been received for the five classes, which were as follow: (1.) Motor cycles up to 550 c.c.; (2.) Motor cycles up to 600 c.c. (3.) Unlimited. (4.) Sidecars up to 600 c.c. (5.) Unlimited. The surface of the hill was in excellent.

The surface of the hill was in excellent condition, and the large number of spectators present saw some very fine ascents. The star performance of the afternoon was that of Geo. Grinton (7-9) atternoon was that of Geo. Grinton (7-9 Harley-Davidson), who, in addition to obtaining fastest time of the day—29s. in the solo clase—made the fastest sidecar ascent, his time in the latter being 50\(\frac{1}{2}\)s. In Class 1, D. S. Alexander (2\frac{1}{2}\) Douglas) made a very fast climb, his time being 37\(\frac{1}{2}\)s. He was beaten on formula by W.

G. Smith (23 Ivy-Precision), who, in putting up the time of 385s., made a very clean ascent.

In Class 3, E. M. P. White (3½ h.p. Edmund) surprised everyone by doing fastest time in the class, J. W. Walker (3½ Norton), who was fancied for the event, being second. Walker, however, reduce the second of the control of the cont made amends in the unlimited class, clock-

made-amends in the unlimited class, clocking 51s., this being the fastest single-cylinder ascent, being only two seconds slower than the fastest time of the day.

Geo. Grinton (7-9 Harley-Davidson) made a very spectacular ascent in the unlimited class. Coming up the gradual slope to the bend at a terrific pace, he nearly ran into the spectators, finishing at speed. In the sidecar class he repeated his success, his time being 1\frac{2}{5}s. slower than in the solo class.

RESULTS ON FORMULA.

		Time.	Merit
I.	W. G. Smith (2] Ivy-Precision)	38 s.	230
2.	*D. S. Alexander (23 Douglas)	3725.	201
	CLASS 2.		
I.	J. W. Walker (31 Norton)	32 ls.	227
2.	*E. M. P. White (3! Edmund)	3115.	218



T.T. ITEMS.

The T.T. Nortons will have cha transmission.

The majority of machines in this year T.T. will be singles, the only exception being the Douglas and the Wooler in t Junior and the Indian Scouts, an A.B.(

Junior and the Indian Scouts, an A.J. and a 34 hp. Douglas in the Senior. Harmony has now been restored in t House of Keys. The I.O.M. Parliame met again last week to put through t necessary legislation to legalise the T.

The majority of machines in the Juni

race will have outside flywheels.

Belfast's representative in the T.T. w

be J. Shaw, who will ride a Norton. H. R. Davies, who tied for second.pla in the last Senior T.T., will ride a 2½ h overhead valve A.J.S. in both events. The Senior entrants now total twent nine, while thirty will ride in the Juni

event. R. Lucas will ride an A.B.C R. Lucas will ride an A.B.U.
Additional entries include Capt.
Lindsay (3½ Norton), J. Norman (3½ Norton), F. J. Redmond (3½ Indian scout)
N. Black (3½ Norton), and T. F. Clayt (2¾ Wooler).

The new taxation proposals habrought an avalanche of protest into copost bag. Every mail during the pmonth has contained bundles of lett from readers who fear that the addition standing charges will place the maint ance of a motor cycle beyond their mea Extracts given of our corresponder views will be found on page 571.



A big twin "all out" on Gershake Hill Dan Brash on his 7-9 Harley-Davidson.

The London-Edinburgh Run at Whitsuntide.

A Procession of Motor Cycles over Sixty Miles in Length. A Useful Time Table for Readers

THE entries for this year's London-Edinburgh Run constitute a record. No fewer than 382 competitors have signified their intention to compete. Solo riders number 168, sidecars 134, threewheeled runabouts 15, and cars 63. This means that before the last competitor is despatched from Highgate, the leading riders will be in Huntingdonshire, sixty miles away. Next week we shall give a complete list of starters; in the meantime, the following are lists of the various makes of machines in the trial and the numbers with which they are

SOLO ENTRIES

		SO	ro	ET	TI	CLES	Š,			
A.B.C.				6		lian				6-
A.J.S.		***		1	Le			***		2 2 3
Allon				1	Let	ı-Fr	ancis	("		2
Ariel	***			2	Me	tro.	Tyler			3
Beardmo			n	1	Ne	w 1:	mperi	al	***	ī
Blackbu	ne Excel	244				ton	***	***		6
British 1				1		J.T.		***	***	2
Brough	***	***		6	Ne	w H	Ludso	n		1
B.S.A.	***	***		2	Ne	w S	cale	***	***	1
Carfield			•••	1	0.1	ί.	***	***		1
Cedos			•••	ī	Par	rago	Δ.			3
Chater-L	ea		•••	1	Ρ.	and	M	***	***	2
Clyno	***		•••	1		and		***		1
Coulson	В		•••	5		deo		***	***	ī
De Dion		***	•••	1	Ko	ver	677	,	***	3
Douglas				10	Rea	idin		ndard	***	1
Dunlop			•••	1	Ru	dge	***	***	•••	3
Duzmo		***	•••	1	Sco		***	***		9
F.N.			•••	2		rhea		***		11
Harley-D	avids			8		ոտլ		***	•••	26
H.B.	***		• • •	1	Ve	ins	***	***	***	2
Henderso			•••	ï	Wo	11	***	•••	***	1
Hobart				2	Wo	oler		***	•••	7
Hoskison	1			1	Zet	ith		***	***	9
Humber			•••	3						
			SI	DEC	AR	S				
A.J.S.				14		ian				3
					Jan			***	***	8
Ariel	•••		•••			tchl			•••	14
A.B.C.	***		***		Ma		ess			1
Blackbur			***	4	2014	OUL		 Iewma:		2
	119		•••							4
Brough			•••	1	Ive.	toΩ.	mperi	#1	***	7
B.S.A.	***		•••	1	NO	J.T.		***		í
British	Exce		•••		n.t	, ı. ı.			•••	
Bradbury			•••			and	M	***	***	1
Clyno	***		•••		Roy			;	***	1
Chater-L	ea	***	•••	2	Ket	tain;	g Sta	ndard		3
Donglas							Ruby		•••	ī
Dot					Res		***			3
Diamond			•••	1	Ku	ige		***	***	1
Enfield			•••	1	Sui	ıbea	m	•••	***	8
Harley-D				14	Tri	nmp		***	***	9
Humber			•••			lkin	1.	***		2
Henderso	n			4	Zer	nith		***		6

	THR	EЕ	WH	EЕ	L CYCLE	CA	RS.		
Castle	Three		***	1	Merrall-E	3row	Ω		1
L.S.D.	***		***	1	Thurlow		***	***	1
Morgan			***	9	T-B		***		2

The Route Time Table.

Below we give the schedule times of the official pilot car. The first competitor's time is half a minute later, the rest following at half-minute intervals. The pilot car, driven by Mr. W. H. Wells (29.5 h.p. Chandler), leaves Highgate at 8 to-morrow evening (Friday), the first solo rider at 8.0½, the leading sidecar at 9.26, and the first competing car at 10.42.

		tance fro	oni	Time
Name of town.	1	London.		due.
			F	RIDAY, P.M.
Highgats		0		8. 0
Barnet		61/2		8.21
Hatfield		151.		3.51
Welwyn	٠.	201.		9. 7
Baldock	 	- 3212		9.45
		401		10.10
	• • •	50%		10.42
Eaton Secon Buckden	• •	5615		
Stilton		701/2		11.42
			SATU	RDAY, A.M.
Wansford		791/2		12. 9
Stumford		641		12.24
Grantham		10515		1.28
Newark		119:4		2.57
Retford		139 %		3.57
Bawtry		148%		4.25
Donuaster		157		4.50
Wenth, idge		1681		5.25
Ferrybridge		173		5,39
		18217		6. 7
	٠.	194		6.42
		209	• •	7.27
	• •		• •	
Skipton		218		8.39
Settle		234		9.27
Kendul		2631/2		10.55
Windermere		27112		11.19
Amblestd:		2761/2		11.34
Kirkstone Pass		27912		11.46
Patterdals		285		12. 8
				P.M.
Penrith		300		1.45
Carlisle		318		2.39
Lockerbie		34215		3.52
Beattock		3561.		4.34
Moffet		3581		4.40
		366	5.5	5.33
Romanno Bridge		391		6.48
Romanno Bridge	• •	40015		
Penicuik				7.17
Liberton		4071.		7.38
Edinburgh		4101		7.50

Our Lakeland correspondent made the ascent of Kirkstone Pass last week-end in order to gain first-hand knowledge of the difficulties with which the London-Edinburgh competitors will have to contend on Saturday. He reports that the surface has seldom been better.

Hints to Competitors.

The following hints by a member of this staff, who always competes in this event, may be found of service.

Competitors should not forget to wind their watches before the start.

It is best to drive with a little in hand,

so as to have plenty of time in case any adjustments are necessary on the road.

Spectators along the route are requested to place their lamps pointing in a northerly direction, so that they do not shine in the eyes of the competitors dur ing the hours of darkness.

Lamps should be amply powerful. Last year we suffered a great deal by having a good but rather small head lamp, which would have given plenty of light had one been riding alone, but the more powerful lights of others showed a shadow on the road for a considerable distance, which was most disconcerting. The ride is a long and strenuous one.

We advise competitors not to touch alcohol until the conclusion of the event. The stimulating effects of alcohol are only momentary, and leave the competi-tor more tired afterwards. There is always a good spread of food at the Swan Hotel, Biggleswade, and the coffee and tea which can be obtained there, as well as refreshments, are most sustaining for the night journey.

It would be perhaps advisable to take

on hoard spare carbide at this point.

The sun sets at 8.51 p.m., so that lighting-up time will be about 9.30 p.m., though, of course, there will be plenty of hight after this for some little time.

The sun rises at 3.1 a.m.

The moon will be three days from the first quarter; the new moon being on Tuesday.

Motor Cycle Research.

Splendid Progress of the Association.

UCH of the preliminary work in connection with the Research Association for the motor cycle aud cýcle car industries has now been done, and before very long the work of the Association will commence. Major Watling, of the British Cycle and Motor Cycle Manufacturers' and Traders' Union, advises us that the Association will not be confined to members of the Union, but open to others, provided they are British.

A large number of motor cycle manufacturers have definitely given their support to the Association, among whom may

be mentioned the following:
John Marston, Ltd. (Sunbeam).
New Imperial Cycles, Ltd.
New Rover Cycle Co., Ltd.
H. Collier and Sons, Ltd. (Matchless).

Norton Motors, Ltd. (A.J.S.).
A. J. Stevens, Ltd. (A.J.S.).
Ariel Works, Ltd. (Ariel).
Sun Cycle Fittings Co., Ltd. (Sun-Vitesse).

Enfield Cycle Co., Ltd. (Royal Enfield). Birmingham Small Arms Co., Ltd. (B.S.A.)

F. E. Baker, Ltd. (Beardmore-Precision). Ruby Cycle Co., Ltd. (Royal Ruby). Alldays and Onions, Ltd. (Allon).

Humber, Ltd. Portable Tool and Engineering Co. (Duzmo).

Phelon and Moore, Ltd. (P. and M.). Burney and Blackburne, Ltd. (Blackburne).

The Scope of the Association.

The work of the Association will not deal only with design, but will institute research right at the source, therefore tube manufacturers, including Messrs. Accles and Pollock and other producers of raw and semi-finished material, will be found among the members. Tyre manufacturers have a research association of their own, but every other hranch of the motor cycle industry will be represented by such firms as J. B. Brooks, Ltd. (saddles), Coventry Chain Co., Ltd. (chains), Best and Lloyd (lubricators, etc.), Tan-Sad Works (accessories), and several makers of lubricants.

It is to be hoped that the manufacturers of electrical units, such as magnetos, plugs, generators, etc., will join the Association in force, as it is obvious to all riders that these parts play an important part in the development of the successful motor cycle.

The user will be represented by a special sub-committee of the A.C.U., which body is pledged to give its support, and has shown the keenest interest in the work. The A.A. and M.U., as representing a large number of users, also might lend

For years it has been appreciated by both maker and user that such an association as this promises to be is not only very desirable, but absolutely only very essential if the British motor cycle is to hold its present position in the world of mechanically propelled vehicles.

Exeter M.C. and J.C.C.

Thirty members took part in a very enjoyable run to Chulmleigh on the 8th inst.

Ilkley M.C. and L.C.C.

Over 150 members of the Ilkley and Yorks Clubs were present at the suc-cessful gymkhana held at Collingham Bridge on the 9th inst.

Oxford University M.C.C.

The above club will hold an inter-University hill-climb on Kop Hill, Princes Risborough, on June 6th. Particulars of this event will be published at a later date.

Doncaster and District M.C.C.

A meeting was held at the Red Lion Hotel on the 11th inst., and the club's programme drawn up. The opening run will take place to Bridlington on Whit-Monday, starting from headquarters at 9 a.m.

Southport A.C.

This club is in a good position financially, and a comprehensive programme has been drawn up for this year. One of the principal events will be a speed test on the foreshore, which will probably take place on the 29th inst.

North London M.C.C.

Everything points to a most enjoyable Whitsun week-end being spent by members who will join the club in the run to Sonning-on-Thames on the 22nd inst. All necessary arrangements have been made regarding accommodation.

Worcester and District M.C.C.

A most successful social run was held on the 2nd inst. Between sixty and seventy enthusiasts journeyed from Wor-cester to Ross-on-Wye, where after tea some experimental hill-climbing took place on a steep bank.

Kidderminster M.C.C.

The results of the knock-out hill-climb, held at Hapton Bank on the 15th inst. were as follow: Class 1, G. E. Prichard (2½ Viper). Class 3, B. N. Norris (3½ Norton). Class 4, B. N. Norris (3½ Norton). Class 5, F. J. Adam (7/9 Indian).

Eastern Valley M.C.C.

This club held a successful fast hilltune care pera a successini last fillicimb on the 15th. The results of the two classes were as follow: Solo.—1, "W. Furnel (2\frac{3}{2}\) Douglas); 2, Miss F. Perry (2\frac{3}{2}\) New Imperial). Sidecars.—1, J. Williams (8 New Imperial sc.); 2, W. H. Olivar (6 Eufold sc.) Oliver (6 Enfield sc.).

Middlesbrough and District M.C.C.

Despite the rough state of the road on Ormsby some very good performances were made on the occasion of the hill-climb held on the 1st inst. The results were as follow: Class 350 c.c.: 1 C. (7-9 Indian sc.), 44 secs.

CLUB NEWS.

Week-end Club Events.

Week-end Club Events,
May 21.—Hull M.C.G. Run to Harrogate.
May 21.—Public Schools M.C.C. M.C.G. LondonHuy 21.—Public Schools M.C.G. M.C.G. LondonHuy 21.—Public Schools M.C.G. M.C.G. LondonHus 21.—Neccestle and District M.G. Run to GenHus 22.—Neccestle and District M.G. Run to GenHus 22.—Bridgweeter and District M.G. and L.G.G.
Lincolo.
May 22.—Bridgweeter and District M.G. and L.G.G.
Run to Course.
May 22.—Reading and District M.G. Speed Trial.
May 22.—North Derbyshire M.G.C. Hill-elimb.
May 22.—Reading and District M.G. Run
May 22.—Rose and District M.G. Run
May 22.—Black and District M.G. Run
May 22.—Counterland County M.G.G. Run
May 22.—Counterland County M.G.G. Run to
Duncon.
May 22.—Son-Thannes.

May 2:23;—North London M.C.C. Run to Sonning-on-Thames, M.C. Run to ClactonMay 32;—Sastern Counties M.C. Run to ClactonMay 2:24;—Niddlesbrough and District M.C.C.
Scottish, Tour.
May 2:24;—N.M.C.F.U. (Wolrerhampton). Weekmay 2:24;—Siriningham M.C.C. Lycett Trophy
May 2:3;—Fromsyrore M.C.C. Secret Run.
May 2:3;—Fromsyrore M.C.C. Secret Run.
May 2:3;—Tochester, Chatham and District. Weekcad Run.
May 3:4;—Tochester, Chatham and District.
May 3:4;—Toches Dieu, May 3:4;
May

May 33.—Leicester and District M.C.C. Run to Grace Dieu. May 33.—N.M.C.F.U. (Portsmouth). Run to Hampton Court. May 23.—Wakefield and District M.C.C. Run to Scarborough. May 23.—Woolwich, Plumstead, and District M.C. Team Trial.

Team Trial. 3.-N.M.C.F.U. (Leeds). Tour of Winder-

May 32.—N.M.C.F.U. (Lecels). Tour of Winder-May 33.—Stulptridge and District M.C. Week-end Social (N. Wales). Members Tann Trial. May 32.—Woolvich, Plumstead, and District M.C. Members Tann Trial. May 32.—North West Centre A.C.U. Rally to Knutsford in the M.C. (Mills in M.).

Knutsford.

May 24.—North Wales M.C.C. Hill-climb.
May 24.—Hull M.C.C. Run to Sutton Bank.
May 24.—Dublin and District M.C.C. Novice Trial.
May 24.—Plymouth and District M.C. and L.C.C.
Run to Neegang.
May 24.—Newcastle and District M.C. One Day
May 24.—Inhabeted (Laugeston).

Trial.

May 2;—Dunhered (Launceston) and District
M.C.C. Trial to Exeter.

May 3;—Tork and District M.C. Run to Flamborough.

May 2;—Il grrington M.C. Run to Thornton

Heath, May 24—Bedford and District M.C. and L.C.C.
May 24—Bedford and District M.C. and L.C.C.
May 24—Rikey M.C. and L.C.C. Societ Run and
Gymkhana.
Gymkhana.
May 24—Launceston and District M.C. Reliability
May 24—14.

May 24.—Scarborough M. and M.C.C.
Meeting.
Mey 24.—Dorchester M.C.C. One Day Trial.
May 24.—Dorchester and District M.C.C. Run to
Briddington.
May 26.—Helensburgh M.C.C. Flexibility Trial.
May 26.—Helensburgh M.C.C. Run to Bostow
Way 26.—Lets and District M.C. Run to Bostow
May 26.—Theston and District M.C.C. Run to
Redwinstore Commettion.

May 26.—likeston and District M.C.C. Run to Eductivatione, May 28.—Hull M.C.C. Competition. May 26.—York and District M.C. Run to Brid-lington. May 27.—Eastern Valley M.C.C. Run to Ross.

Manchester M.C.

It is the intention of the club to compete for the cup offered for the best attendance at the A.C.U. rally at Knutsford on the 23rd. Members will meet at the Nag's Head, Bucklow, at 2,50, when club colours will be issued before praceeding to Knutsford.

Lincolnshire A.C.

The motor cycle section of the above club will hold speed trials at Thonock Park, near Gainsborough, on the 29th.
Full particulars may be had from the
hon. secretary, Mr. W. F. Richardson,
"Hill Crest," Yarborough Road, Lincoln.

. Newcastle and District M.C.C.

Twenty-two competitors entered for the puncture-finding competition held at head-quarters on the 14th. Mr. Wood proved the winner, locating the pin hole in 24ss.

Dover and District M.C.C.

A motor cycling club has been started in the neighbourhood of Dover, to be known as the Dover and District M.C.C. The secretary is Mr. L. H. Hobday, Buckland House, Doyer.

Surbiton and District M.C.C.

The speed trial for the Low Cup and club medals will be a two-lap all comers handicap held at Brooklands on the 29th inst. The necessary arrangements have been made with the B.M.C.R.C.

Dewsbury and District M.C.C.

At a general meeting held recently at the club headquarters a presentation was made to Mr. A. Filton, who is shortly going abroad. Mr. Filton has presented a silver shield to the club to be won in competition.

Coventry and Warwickshire M.C.

On Saturday, June 5th, a reliability trial to Bath and back for the Manville Trophy has been arranged. Several noted hills will be included, such as Portway, Birdlip, Rising Sun, and Sudeley.

Goldthorpe and Thurnscoe M.C.C.

A new club has recently been formed in the Thurnscoe district. The hon. sec., Mr. F. N. Greenoff, Thurnscoe East, will be pleased to hear from any motor cyclists interested. The opening run will take place on the 30th to Cleethorps.

Greenock and District M.C.C.

Recently a new club was formed in Greenock and named as above. Any local motor cyclist desiring to join should get in touch with Mr. J. Duff, 44, Brisbane Street.

Middlesbrough and District M.C.C.

The results of the 100 mile reliability The results of the 100 mile renability trial for the Scott cup, held on the 8th inst., were as follow: 1, C. W. Smith (3½ Sunbeam); 2, J. E. Stoddart (4 Douglas sc.); 3, N. Wesson (7-9 Indian sc.); 4, J. McNamára (7-9 Indian sc.).

Keighley M.C.C.

On Saturday a hill-climb was held over a half-mile course on a gradient (maximum) of 1 in 63. The factest machines in each class were handicapped according to times in the final. Fastest time and winner of Coulton trophy, A. Jackson (3½ Norton), 46s.; 2, J. Spencer (23 Douglas); 3, E. Coulton (4 Trumph sc.). Fastest sidecar, A. Shuttleworth (7-9 Rudge ec.).

Helensburgh M.C.C.

The results of the recent hill-climb held' by this club at Garshake Hill were as by this ciud at Garshage IIII. were as follow: Class 600 c.c.: 1, D. S. Alexander (3½ Norton); 2, J. McIntyre (4 Triumph). Class over 600 c.c.: 1, D. S. Alexander (7-9 Indian); 2, J. B. Young Alexander (7-9 Indian); 2, J. B. Young (6 James). Class over 400 c.c. sidecars: 1, D. S. Alexander (7-9 Indian sc.); 2, A. McCulloch (6 A.J.S. sc.).

MISCELLANEOUS ADVERTISEMENTS.

IMPORTANT NOTICE.

Owing to the Whitsun Holidays, the issue of "The Motor Cycle" for May 27th must be closed for press earlier than usual All copy and instructions for Miscellaneous Advertisements in that issue must, there'ore, be in our hands not later than first post on Thursday, May 20th

PRICES.

ADVERTISEMENTS in these columns First 12 words 3/-, and 3d, for every adional word. Paragraphs of under 8 words charged double rate. Each paragraph is arged separately. Name and address must counted. Series discounts, conditions, and iglal terms to regular trade advertisers will Name and address must quoted on application.

Postal Orders and Cheques sent in payment for vertisements should be made payable ______ & Co. ILIFFE & SON3 Ltd., and erossed_

easury Notes, being untraceable if lost in nsit, should not be sent as remittances. All advertisements in this section should be ompanied with remittance, and be addressed the offices of "The Motor Cycle," 20, Tudor est, London, E.C.4, or 19, Hertford Street, ventry. To ensure insertion letters should posted in time to reach the offices of "The for Cycle," by the first post on Friday

All letters relating to advertisements should be the number which is printed at the end of h advertisement, and the date of the issue which it appeared.

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NUMBERED ADDRESSES.

or the convenience of advertisers, letters may be reset to numbers at "The Motor Cycle" Office, and the desired, the sum of 6d, to defray the cost of stress to number at "The Motor Cycle" Office and the desired, the sum of 6d, to defray the cost of stress of the sum of 6d, to defray the cost of stress of the sum of 6d, to defray the cost of stress of the sum of 6d, to defray the cost of the sum of 6d, to defray the cost of the sum of 6d, to defray the cost of 6d, and the sum of 6d, to defray the cost of 6d, and the sum of 6d, to defray the cost of 6d, and the sum of 6d, to defray the cost of 6d, and the sum of 6d, and for each of 6d, and for 6d, the case of motor cycles offered for sale under a box ther, as it is unusual for these to be sold without first glaspeed by the intending purchaser, advertisers will litate business by embodying in their advertisements e mention of the district in which the machine red may be seen and tried.

DEPOSIT SYSTEM.

STERM.

stood with the telegraph of telegraph of the telegraph of the telegraph of the telegraph of telegraph of the telegraph of the telegraph of the telegraph of telegraph of the telegraph of the telegraph of the telegraph of telegraph of the telegraph of the telegraph of telegraph rous, but have not advised us to that effect.

SPECIAL NOTE.

Readers who reply to advertisements and receive no er to their enquiries are requested to recard the mea as an indication that the goods advertised have ldy been disposed of. Advertisers often receive so y expairies that it is quite impossible to reply to none by oost.

WAUCHOPE'S SPECIAL LIST

MATCHLESS Combination, 1918, 8 h.p., spare wheel, detachable wheels, acces-sories, Mitchell's seat on back carrier, J.A.P. twin engine, excellent condi-ROYAL RUBY Combination, late 1919, hood, screen, all best accessories, as

ROYAL ENFIELD and Sidecar, 6 h.p., accessories included, ready for the

IFULAN Combination, 19147-7-0 h.p. dise wheels wheels wheels hold of the first hold €125 Ð

santes, utsavettuss condution, ready for the road 1,914, splendid machine 1.0.M. RUDGE, 1919, 3 jh.p., fast and reliable machine 2118 or 2.NIH, 1912, 4 lh.p. 567 10 RUDGE, 1912, 3 jh.p. 587 10 RUDGE, 1912, 3 jh.p. 485 0 ZENITH, 1912, 4 h.p. 248 0
RUBGE, 1912, 3½ h.p. 255 0
DOUGLAS, 1916, as new, 2½ h.p. 265 0
DOUGLAS, 2½ h.p., 1916, as new nevery detail, never used 58.8.A., 3½ h.p., 1913 522 10
DOUGLAS, 2½ h.p., 1915 529 10
FORWARD, 2½ h.p., 1915 529 10
FORWARD,

2-stroke, 2-speed

CLYNO, 1920, 2½ h.p., new, 2-stroke,
2-speed, free engine

PEARSON & SOPWITH, new 1920, 2½ h.p., ... £75 0 2-stroke, 2-speed, clutch, and kick-

Astroke, 2-speed, chutch, and kicks starter. 2571 10

ROYAL ENFIELD, 2 hp., new 1920, 2-stroke, 2-speed 2-stroke, 2-speed 2-stroke, 2-speed 2-stroke, 2-speed 2-speed

Wauchope's

9, Shoe Lane, Fleet Street, London, E.C.4.

'I'hone: Holborn 5771. Grams: Opificer, Fleet. Lon lon

Important Notice.

Second-Hand Machines.

THE increasing demand for motor cycles and the shortage of supplies is a temptation to the unscrupulous to misrepresent the dates of second-hand machines, and sometimes these are advertised incorrectly.

The year of manufacture should be verified by reference to the makersthe engine number usually sufficing for this purpose.

Attention is also directed to our Deposit System which is intended for the protection of our reader.

MOTOR CYCLES FOR SALE.

A.B.C., T.T. bars, in stock; makers' price.—Tilleys,
The Esplanade; Weymouth. [2905]

14 The Esplanate, weymonen.

24 Wanted for A.B.C., June delivery definitely nomised by makers, Advertiser bought Norton instead.—Smith, Causeway, Blackbeath, Birmingham.
[2224]

A.B.C.—Delivery expected this month certain, £10 deposit paid Jan., 1919; will sell deposit for £1S.—E. J. Heath, Contractor, West Bromwich.—X1734

A.B.C., 1920.—The Lavton Garages offer exceptional delivery facilities. Enquiries invited.—The Layton Garages, Bicester, near Oxford. 'Phone: 35 Bicester, T.A.: Integrity, Bicester. [2083]

T.A.: Integrity, Bicester.

A.B.O.—Book early and prevent disuppointment.
Specification and full particulars will be sent on application.—The Spidlags Motor Co., Ltd., Spidla

distributing agents for Lincolashire. [0013]

1914 A.B.C. Combination, 3½b.p. twin, Bosch mag.,
overhauled and in excellent could be been thoroughly as the control of the could be supported by the cou

Ablngdon

19²⁰ Abingdon King Dick, 3½h.p., 3-speed, slightly used; £105.—Frank Whitworth, Ltd., 139. New St., Birmingham. [X1817

4 h.p. Abingdon, 1918, clutch, engine nearly new, speedometer, horn, smart; 40 gns., lowest.—373, Acton Lane, Acton. [3008]

3½h.p. King Dick, N.S.U. 2-speed, C.B. sidecar, lamps, etc., ready for immediate service, good throughout; £58.—85, Church Rd., Willesden. [2174]

1914 Abingdon, re-enamelled and overbauled, good tyres, new helt, Bosch, B. and B., reliable and last; £38, bargain.—Badham, Zion, Begelly, Penbrokeshire.

10 20 6-7h.p. Abingdon Twin Combination, lamps, horn, wind screen, not done 500 miles: £175: Guaranteed.—Frank Whitworth, Ltd., 139, New St., IX1820

[X1820]

19 16 King Dick Abingdon Combination, 6b.p. twin, variable gear, lamps, speedometer, very fast; appearance and mechanical condition are splendid; our trial or examination allowed; £115.—Pagin, 2, Station Rd., Aldershot.

DAN GUY, Weymonth,—Sole agent for A.J.S. Enriv delivery dates. [2202 19²⁰ A.J.S. Combination, new; £235, or near offer. —H. Keating, Ely, Cambs. [2923

A J.S., 1916, 3-speed, 25th.p., splendid condition; £75,-62, Churchill Rd., Croydon, [2640]

CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premiums. [9993]

A.J.S.-Brighton, Hove and district.-Turpin's 22 and 29, Preston Rd., Brighton. [0202] 19 20 A.J.S., just deliveerd, unregistered; £240.-17, Wellington St., Eastwood, Notts. [2774

6 h.p. A.J.S. and sidecar, good condition, new bargain, £105.—Crown Garage, Cannock. A.J.S. Combination, 1916, 5-6h.p., spares, perfect condition.—Leach, 20, Vine St., Lincoln. (X1607

23b.p. A.J.S., 3-speed, K.S., chain drive: £60.— Boulton Bros., 11, Newport Rd., Stafford. [1742]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. Clo

A.J.S. 1920 6h.p. Combination, fully equipped, spare wheel, hood, screen.—Parker's, Bradshawgate, [X1594] Bolton. A J.S. 1920 Combination, brand new, complete with all lamps, horn; £235.—Freeman, Brighton Rd., Redhill.

A.J.S. Combination, all accessories, excellent condition, any trial; £150.—Price, 292, High St., Lewisham. [2630

19 20 A.J.S. Combination, brand new, fully equipped, 3 lamps horn, etc.; £250.-2, Nightingale Rd.,

LO 3 lamps. Lower Clapton. 19 18 6h.p. A.J.S., 3-speed, perfect condition, very little used; £160.—Cole, 137, Chatsworth Rd., Lower Clapton, E.5.

A.J.S. 1920 Handsome 6h.p. Combination, unridden; £250, or offers.—Apply, after 6 p.m., 46, Gladstone Av., East Ham. [2571

19¹⁷ A.J.S. Combination, in good order, any trial here; first cheque over £130 secures.—Elkin, Weston Rd., Stafford. [X1597

1920 A.J.S. Combination, with lamps and just delivered; what offers? Torkshire. 4,216, c/o The Motor Cycle.

A J.S., A.J.S. 2-speed, hand clutch, all chair drive, all accessories, Stewart, long exhaust; £48.—91, Elmere End Rd., Beckenham. [1765]

A J.S. Combination, late 1916, in perfect condition, with all accessories; £155, or nearest offer.—Wakefield, Photographer, Sandbach. [2856] A.J.S., 1916, 2-speed, clutch, horn, lamps, receut expert overhaul, little used since; bargain, £70.— Richards, 160, Welliogton Rd., Bilston. [3022]

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. A.J.S. combination, 1918, detachable wheels, free engine, kick start, accessories; £185. [1600] 19¹⁹ A.J.S. Combination, late, spare wheel, screen, horn, etc., excellent condition; seen any time; £205.—26, Morton St., Royston, Herts. [2572

19 20 A.J.S. Combination, makers' specification, de-livery this week; highest over £225.—Merion Lodge, Westhagley, Stourbridge, Worcestershire. [3028

10 20 A.J.S. Combination, delivered 6 weeks ago, run in, therefore better than new, Klaxon horn: eash, £225.—Phillips, 10, King St., Bridgwater. [2019

19 19 A.J.S. Combination, black and gold, fitted all lamps, horn, etc., 4 disc wheels, in magnificent order; £215.—2, Nightingale Rd., Lower Clapton.

A J.S. 1920 Combination, practically unused: £242/10.

—Clifford Wilson Manufacturing Co., 70, Royal
Hospital Rd., Chelsea, S.W.3. Kensington 7113. 1267

A.J.S. Combination. 3-speed, underslung sidec hood, screen, luggage carrier, ready for Wh sun tour; £13).—Alderton, Reigate, Surrey. Phon 154.

A J.S. Combination, 1918, mechanically perfect, 5-6h.p., coachbuilt sidecar, lamps, etc. price £155.—T. Atkinson and Co., Back Brook St., Libos, [X1563]

A.J.S. 6h.p. Combination, military model, black finish, delivered 1919, fully equipped, tyres and condition as new; 170 gns.—Bennett, 19, Monument Park, Wigan. (X1722

A J.S. Combination, 1916 guaranteed, hood, screen, apron, spare wheel, 2 new Dunlops, splendid order appearance; any trial; £145.—376, Manchester Rd., Bolton, Lancs. [2952]

19 20 A.J.S. Combination, hood, Lneas horn, spring sent, lamps, all accessories, as de spring sent, lamps, all accessories, as delivered, 250 miles, perfect condition; £240.—H., 41, Freelands Rd., Bromley, Kent, S.E. [2332

A J.S., military modlel, Binks, nearly new Middle, ton family sidecar, speedometer, lamps, horn, usual accessories, tyres extra good; offers over £160.

-E. J. Iremonger, Retford.

A.J.S. 1915 4h.p. Combination, perfect mechanical order, Lucas lamps and horn, Stewart speedometer, wind seriem, and laggage grid, all new tyres; £125,-F. Wilderspin, Chatteris, 'Phone: 34. [5,17]

A J.S. 1920 Combination, Lucas dynamo lighting, mudshields, speedometer, sidecar, hood, side curtains, spare wheel case, every accessory; £265,—41, Wolverhampton St., Dudley, Worse 2 R.p. A.15., 1916, 2-cyced, hand clutch, quick degrees, and the state of the state

A J.S. 6h.p. Military Model, 1918, delivered Ang., 1919, Amac single lever, new A.J.S. sidecar, spare wheel, wind screen, lamps, etc., condition per lect; £185.—Heath Villa, Northfields, Stamford, [2560]

THE BIRMINGHAM HOUSE

FOR MOTORISTS

87-91, John Bright St. 'Phone: 662 Mid.
'Graph: "Lytcar, B'ham.'

Agent for these famous

Motor Cycles •

A.J.S. ENFIELD TRIUMPH JAMES HUMBER EDMUND ROVER

INDIAN NORTON BLACKBURNE CONNAUGHT **NEW IMPERIAL** CALTHORPE METRO-TYLER

ZENITH

I can give early delivery of many of these machines if your order is placed NOW.

My Premises

are now in course of reconstruction & extension.

The alterations include

Large new Showroom 7,800 sq. feet, and Service Depot.

■ On completion I shall ■ 💂 be in a position to show 🖪 my large stock to greater advantage, and be of yet greater service to my clients than in the past.

MOTOR CYCLES FOR SALE.

A.J.S. Combination, late 1919, Sh.p., perfect dition, spare wheel, wind screen, luggar accumular flating, speriometer, 2 horns, stadile-pillar; 210 gps.—Wade, Pembroke Co

A.J.S. 6h.p. Combination, 3 speeds, K.S., hand of Lucas lighting set, tools. Tan Sad, spares, used, condition excellent and appearance as \$125. or best offer.—Bramall, The Cottages, Creft. Bridgeford, North Stafford.

A.J.S. 1919 Combination, black and gold, seat-pillar, 1920 valve springs, semi-T.T. Lucas and P. and H. head lamps, 2 spare evaluate cord and Clincher, black disc wheels; 52 Heys, Gun Station, Ightham, Sevenoaks.

2 3h.p. A.J.S., 1916, 3-speed, hand clutch, gear a just completely overhauled, brand new it Watford speedometer, Hunt electric lighting, I horn, perfect condition throughout; best offer 280.—Clossop, Explosives, Cliffeat Hoo, Roches

A J.S. 6h.p. Military Model, purchased from meagents with 6 months warranty in August, with Henderson Elite sideor, riddee under 500 complete with Lucas lamps and Klaxon horn, etc. £190.—Apply for appointment to the Boreen, Late near Statuse.

P.O.C.H. have a late model A.J.S. combin spare wheel, wind screen, luggage grid, el-and acetyfene lighting, fully equipped.—Foir offer House, 5, Heath St., Hampstead (near Hampstead Statios). Plone: Hampstead 3752. Hours 9-7 childing Saturdays.

19 18 A.J.S. Combination, green, small solo us vately, A.J.S. sidecar forand new January, to match, screen, stormprof apron, spare wheel, niles only since, unscratched, new Watford trip accept, horn, lamp, tools, refinements fitted by cinched lockable metal toolbox, condition periest through the professional states of the professional states o

A J.S. (autumn 1919) 6h.p. Combination, wheel, all lamps, speedometer, clock, m Lucas horn, hood, stornoproof apron, spee strengthened luggage carrier, spring seat ord warting delivery, foot prunp, tools, tyres un tured, fully insured, in perfect condition, trial, on others, Surrey,—Box 744, c/o The Moder of

A J.S. Specialists, The Walsall Garage, Wolvert ton St., Walsall Tell: 444. Can give favon deliveries of these graud combinations. Book early your spring outfit.

Alldays

A LLON, 1916. 25th.p., any trial; £38 -Derby 1 Garage, Mortlake. A LLDAYS-ALLON in stock; £85.-At Gourl Fallowfield, Manchester. [

1014 Alidays 4h.p., 2-speed, in good condition:

ALLON; immediate delivery.—Hewin's Garages, the real service firm, Totnes.

NEW 1920 Allon, 2-speed, clutch, and kick str £85.—Taylor, Crown Hotel, Matlock. [X

A LLDAYS Lightweight, less unit and back £12.—Harris 53, Regent St., Swindon. [X 1920 Allon, clutch, kick start, 2-speed, deli-

A LLON, 25th.p., single speed, late 1919, run 200 miles; £60.—Tilleys, The Esplanade,

month. 1916 Alldays Allon, 2-speed, lamps, horn, el periect running order; £55.—22, South Croydon.

A LLDAYS Allon 1917 254h.p., 2-stroke, 2-speed perfect condition; 250.—36, Arundel Sq. B. bury, N.7.

19 20 Allon, scarcely used, kick start, etc., land accessories, insurance; £78.—Clarke, 35, Win Rd., Wanstead.

19 Allon 25 th.p., 2-speed, complete, new tion: 60 gps.—Roberts, Trotsworth Virginia Water.

A LLDAYS Allon 254h.p., 1915-16, just overhau in splendid order; £47/10.-12, Thrale Streatham. S.W.

19 Allon 2-strcke, 2-speed, with lamps, b. Tan-Sad: £75.-57, Plumstead Common Plumstead, S.E.18. [X1

A LLDAYS Allon, 1920, ridden 100 miles, per and indistinguishable from new; £85, or offer.—Pearse, Ilminster.

A LLDAYS-VILLIERS 25th.p. 2-stoke, 5-clutch, good tyres, needs slight repair; accept -207, Railton Rd., Brixton.

19 a Allon 25th.p., E.I.C., B.B., all on, low age, late model, as new, guaranteed; £57. Payne St., Deptford, S.E.S.

A LLON de Luxe, latest model, 2-speed, clutch, lastric, condition perfect as delivered last mon £82,-81. Fotheringham Rd., Enfield.

B.S.A.

3.A. Combination, 31-th.p., K.S.-Metcalfe, 6, Strode Crescent, Sheerness. (X1799 3.A.-The Walsuli Garage, Walsuli, Booking orders tor all models; rotation deliveries. [7216]

15 41th.p. B.S.A., countershaft, K.S., all chain; £78.-King, Egrove Faria, Oxford, [1728]

Erg.-Kills, Extove Faria, A.A., chain and bold drive, Montgomery sidecar, lamps; £140.-Pickering, Mardol, Shreswbury, L. H. Shara, 1913, 2-speed, Bosch, B. and B., ranning order; £56.-Menzies, Ladgelll, Abington. [2194]
Th 1917 B.S.A. Combination, in splendid comittion, lamp, etc.; £150.-50, Princes St., Peterborouski, 1931

| 1991 19 4¼h.p. B.S.A., 3-speed, practically as new; £110.-Cole, 137, Chatsworth Rd., Lower Clupton, [2078]

l.A. 1917 414h.p., 3-speed, countershaft, kick start, clutch, just as new; £85.—Dempsey, 69, South Claphan. [3196

A.S.A. Combination, lamps, Klaxon, knee first-class condition; £120.-15, Warwick t, Holborn.

3.A. 44hp. Model K Combination, lamps, amres, as new; £115, hear offer.—Box 4,161 Motor Cycle. 11818

19 B.S.A., 3-speed countershaft, sidecar and pillion, all accessories; £135.—Tucker, Henfield, Clare, Woking. [1798]

Av., twosins.

A., 1919 All-cluin Combination, accessories, complete, perfect condition; £145, no offers.—103. "auf's Rd., Highbury. [2718 b.p. B.S.A. 2-speed C.B. Combination, like new, eagine overhauled: £85.—19, Wilcox Rd., Southern, London, S.W.8. [212]

PE 1919 B.S.A., No. 1 Montgomery sidecar, hamps, spare tyre, wind screen, etc.; £130.—Apply, fictoria St., Leannington. [X1521

16 B.S.A. Combination, 41/4h.p., 3-speed, all-chain, kick start, lamps, just overhauled; £110,-78, Croxted Rd., Dulwich.

LA., 1916. Canoelet coachbuilt sidecar, speedo-meter, lamps, accessories, new condition; £105.— Javid Lane, Shadwell, E. [2457

i.A., 3½h.p., 2-speed, free engine, any trial, with £4 worth of spares; £50.—Lewis, 15, Rich Terrace, Tredegar, Mon. [1940]

I.A. 1920 Coachbrilt Sidecar, No. 2, brand new; first cheque for £34/15 secures.—Byfieet Auto-e Co., West Byfieet, Surrey. [3262

19 B.S.A. Combination, Empire sidecar, Lucas lamps, Klaxon; 138 gns.—Franklyn, Elmwood, wood Rd., New Eltham, Kent. [2135]

A. 1919 Model K, 3-speed, fully equipped, very little nsed, guaranteed perfect: £110.—Vertch, Fish-er, 114, Askew Rd., Shepherd's Bush. [2791

A., 3-speed countershaft, new sidecar, complete with lamps, guaranteed condition; any trial; £110.

Replingham Rd., Southfields, S.W.18. [2226]

Replingfam Rd., Soutuneses, 19 B.S.A. and Cancelet Sidecar, horn, lamps, screen, and luggage grid, new condition through-screen, and luggage grid, new condition through-£145, lowest; Harris, 26, Melen St., Redditch. (X1567

A, late 1915, 3-speed, clutch, kick start, new cyl. and piston, new tyres, Klaxon, perfect con; sacrifice 70 gns.—15, Summerhill Rd., Dartford. 19 B.S.A. 41/h.p. Combination, B.S.A. sidecar, completely equipped with lamps, horn, etc.;

-Kays, 8, Bond St., Ealing. Phone: Ealing.

9 B.S.A. 4½h.p., clutch, 3 speeds, all chain drive, complete with lamps, horn, and tools, in perfect is order; trial any day.—Morel, Jesus College, fige.

A. 31/h.p. 1912 Combination, belt drive, Mill clord sidear, Capao carburetter, Bosch mag. 2 p. pedal start; £68.—Maudes', 100, Gt. Portland mondon.

A. 3½h.p. 1912-13 Coachbuilt Combination, helt drive, 2 speeds, clutch, pedal start, Bosoh, lamps, zmeter, etc.; £70 — Humphries, Wellington, set. (D)

A.—Early deliveries of new models, B.S.A. re-placements sidecars, screens, hoods, etc., always ck.—County Cycle and Motor Co., 307,314, Broad firmingham. [4691]

A., 1918, Model H, electric lighting, bulbons sideoar, screen, Watford speedometer, Stewart, carefully driven; Derby; £130.—Box 4,182, c/o dotor Cycle.

44 B.S.A. and Cancelet Sidecar, 2-speed, in perfect running order; trial given; owner taking r of an A.J.S.; 285.—Green, Corn Merchant, 48, col Rd., W.1.

3 B.S.A. 3½h.p., 2-speed motor cycle and coach-built sidecar, good condition, enamel and 5, almost like new; £100.—Cole, 137, Chatsworth ower Clapten, E.S. [2483]

ALLEN-BENNETT

Indians

1919 Models £125.

Powerplus Models 7-9 h.p. 3-speed, clutch and kickstarter, all completely overhauled, re-enamelled and plated, new condition and appearance, finest value ever offered. Cash Price

£125

or £62 10s. down, and 12 instalments monthly £5 19s, 9d.

SIDECARS

to suit from £35.

We will send on 24 hours approval, or on "The Motor Cycle" Deposit System.

TRADE SUPPLIED.

Allen-Bennett Motor Co.

(The Motor Cycle Specialists)

9, 10, 11, Royal Parade, WEST CROYDON.

Croydon 2450.

'Grams: * "Track, Croydon."

MOTOR CYCLES FOR SALE.

B.S.A and 1919 Sidear, lamps, new tyres, splendle number, 2195; on view, Radick more Heath, new York, 1975.

B.S.A. 3thib, T.T., clutch, Beech, good tyres, Bamps, mechanical hou, fine condition, good goer; 242.—Phone: Latchmere 4312, 12, Temple Sheen Rd., Mortlake, S.W.14.

19 13 3½hp. B.S.A., 2specil, enclosed Rucch, Binks carbinette, flistsches munits order, 255, in near other a supp. also conclibill side-or, £13/10.—Turby, 52, High St., Rutchall, Kent.

19 20 B.S.A. Combination, lamps, Stewart hora, Cowry specienter, wind screen, engine and chain, spars, etc., only done 300 miles, as n w; £160.—15, Lyon Rd., Harrow. [293

B.S.A. 1915, contactshaft 3-speed, stored 2 years Canoolet sideem, lamps, born, speedometer, his gage grid, spares, 3 good tytes, insurance; any tital; £110,-12, Hurst 8t, Bitmungham, (Xi712

100 GNS.—B.S.A. coachbuilt combination, 1915, thin, 3-speed countershaft, kick start, all-chain, complete with lamp, tools, cheap.—Chapman, Stanley Houe, Tideswell, Derhyshire. [1735]

Stanley Hote, Tideswell, Derhyshire.

19 16 B.S.A. Combination, bulbous back siderar, with screen, all chain, 3-speed countershaft, owner, 20, Canterbury Rd. Croydon.

B.S.A. 1912 35/hp, Combination, wicker sidesar, exemply and weekend. — Allen, 17, Graaville Rd. Child's Hill. Cricklewood, 1812 1813 Canterbury Rd. Croydon.

B.S.A. 1914 35/hp, free d, kick start, chain drive, lamps, speedona or cancellent order, gone in for car; £620, bargain.—Bateman, Grosvenor Hotel, Station Hill, Kiddermiaster.

LATE 1919 B.S.A., 41/h.p., 5-speed, countershaft, engine No. 31700, in perfect order, low mile-age, lamps and spares; best offer over 100 gns.—E. Dorrington, The Chestnuts, Wistow, Huntingdon,

F. O.C.H. have a 1915 B.S.A. Model H. nally equipped, excellent order.—Fair Offer Car House, b. Henth St., Hampstead (or. Hampstead Toxible Station). "Phone: Hampstead 5752. Hours 9-7, including Saturdays."

1920 B.S.A. Combination, chain-driven model, with 3 Lucas (Ring of the Road) lighting sets, and 5 separate generators, handle-har mirror, horn, etc., not ridden 100 miles, perfect: £160.—70, Milverton Rd., Erdington, Birmingham.

32 h.p. B.S.A. 1312, 2-speed, clutch, pedal start, between the control of the con

B.S.A. 1917 44/h.p. C.B. Combination, chain-cumhelt model, sidecar nearly new, with lageage
carrier, aprob, etc., fully equipped, all new; this oath
is it really good order and condition; price £125.—
Watson, 181, Clapham Rd., S.W. Phone: Briston
2884.

1017 44/h.p. B.S.A. and Coachbuilt Sideear, all-chain drive, complete with wiad screen, lamps, Klaxon, tools, spares, perfect condition; insurance, all risks, paid to March, 1921, transferred to purchaser; £120, all on, no cffers.—W., 70, Crescent Rd., Wood Green, London, N.22.

B.S.A. 1/1/n.p., Supped constraint, high constraint plants make the plants make the plants and all the milty slied, large plants make the plants make the plants of the pl

Catthorpe.

19¹⁹ Calthorpe-Jap, 2-speed, clutch; £58.—Taylor's Garage, Wednesbury. [9996

Calthorpe 2-stroke, 2-speed; ready to ride away; £48/10.-4, The Square, Carshalton. [3080] Calthorpe J.A.P., 23/h.p., perfect condition: £45. -Highatt, 47, Baker St., King's Cross. [2706

CALTHORPE Junior Precision, 2-speed, free, good condition; £25.—Browne, Dolphin, Thetford. [2924

19 19 Calthorpe, 254h.p., 2-speed, accessories, excellent condition; £55.—36, David Lace, Shadwell,

CALTHORPE-J.A.P. Lightweight, Enfield 2-speed; £45.—Cole, 137, Chatsworth Rd., Lower Clapton, [2080]

19 20 Calthorpe-Jap, 254h.p., 2-speed, new; £73/10; immediate delivery.—Clarke and Co., Queen St., [2871

19¹⁷ 2³4h.p. Calthorpe-J.A.P., Enfield 2-speed, good condition; seen week-ends.—70, Butlin Rd., Luton, Beds.

23h.p. Calthorpe-Jap, 2-speed, 1916, overhauled; £50,-1, Norwood Rd., Herne Hill. 'Phone: Brixton 1964.

CALTHORPE 2-stroke, Enfield 2-speed, Jnne. 1919, insurance lamps, etc.; £56.—Dovey, 3, Tudor Rd., Hayes; Middlesex. [2488]

Calthorpe.

CALTHORPE-J.A.P. 2½h.p., 2-speed, horn, lamps, splendid condition; £45.—17, Chivalry Rd., Battersea Rise, S.W.

Battersa Rise, S.W.

CALTHORPE 1920 J.A.P., Enfield 2 speed, broad new, just arrived; at makers' price.—Wilkins, Simpeon, oprosite Olympia, London.

10 16 Calthorpe 2%hp. J.A.P. engine, just overhandle, perfect running order, lamps, horn, 100 m.p.g.: £55, or offers.—Diubble, R.A.F. College, Crastell, Lincoln

D16 Calthorpe Lauded, perfect running of Lauded, perfect running of the Lauded of office of office of office of office office of office office

1014 2La. Calthorpe Junior, 2-speed countershort, vorv little used, condition throughout us new, tyres uncut, lamps, generators; hargaio, £32.—7. Killerney Rd., Wandsworth, S.W.18.

CALTHORPE Motor Cycles.—25/h.p. J.A.P., 2-speed model, 71 gns.; lady's model, well dressguarded, 68 gns.; 2-stroke, 2-speed model, 68 gns.—P. J. Evans, 83-91, John Bright St., Birmingham. [0174]

Campion.

2 3 h.p. Campion-Precision, 2-speed, new tyre, belt, lamir, very smart, good running order; 236.—H. Almond, Highfield Rd., Shepperton. [2789]

1920 6h.p. Campion-Jap, 3-speed S.A. countershalt mg-gar, B. and B. carburetter, Thomson-Bennett mag, all chain drive, not yet unpacked; Coventry.—Cffers to Box 754, c/o The Mutor Cycle. [X1693

Citiers to Box 754, c/o The Matter Cyc...

2 h.p. Campion-Lap and C.B. Sidecar, 3-speed ArnD2-strong gear. Besch onag, ride away; 58 gns.,
or offer; seen any time-Humphries Garage, Herne
Hill, S.E.24. 'Phone: Brixton 2154. Private owner.

[3204]

CEDOS, the ideal lightweight; book your order now for delivery this month.—Hewin's Garages, Ltd.. the real service firm, Tauaton and Totoes. [1824]

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2 11.b. Centaur 3-speed Kick-start Combination, £45: 42. Humber lightweight, Grado gear, footbeard, kistarter, £55; would exchange for Douglas 2 or 3-speed, or Enfield.—6, Chestnut Villes, Ditton Hill, Surbiton.

Chater-Lea

CHATER-LEA No. 7 Combination, latest, fully equipped; £135.-46, Huxley Rd., Edmonton, N.18.

19 20 Chater-Lea 21/h.p., 2-speed, 2 stroke, in stock. —Frank Whitworth, Ltd., 139, New St., Birmingham. [X1819]

CHATER-LFA Combination, 8h.p., 3-speed, country shaft, all-chain drive; ready for tour; 85 gns.—4, The Square, Carshalton.

CHATER-LEA 8h.p. 3-speed C.B. Combination; £95; overhauled and repainted; perfect.—109, St. Leonard's Rd., Mortlake. (X1700

4 h.p. Chater-Lea, Bosch, Senspray, free engine, clutch, overhauled, ride away; £40, or offer,—157 Shepperton Rd., Islington, N.1. [2415]

CHATER-LEA 41/th.p. Sporting Model, fast and nowerful, good tyres, lamps, long exhaust, splendid condition; £45.—87, Dalmally Rd., Croydon, [1691 CHATER LEA, No. 7, H.S., long base, 1915 combination, just been enamelled and plated, 1920 colours; £130.—22a, Cornwall Rd., London, S.E. [2848]

colonrs; £130.—223, Corowan and Location Chair CHATER-LEA 8b.p. Combination, 3-speed, chain drive, clutch, just overhouled, all accessories bar-gain, £90.—32, Hambledon Rd., Southfields, S.W.18, [2229]

19 Chater-Lea, 2-stroke, lamps, horn, speedometer, tools, spares, 2-speed genr, under 5,000 miles; 60 ms.: arter 7 o'clock.—36, Briscoe Rd., Hoddeedon, Herts.

19 Chater Lea Sh.p. Combination, latest improvements, presents 5 lumps tools, prums, Klasxon, speed-meter, seenally eprung sidecar, saddle and tear sent, fast, a pleasure to drive; trial after 7; £220,—252, Kl. Ann's Rd, Tottenhaue.

DIA And S Ru., IGUERBABL.

NO. 7 Chater-Lea Combination, with 6h.p. J.A.P. eagine, clutch, 3-speed gear box, handle starting, Bosch mag, coachbuilt sidecar and pillion seat, in first-class running order and condition; price, including spares, etc., £150; cower bought car.—Can be seen Briarwood, Polygon Av., Barlow Rd., Levenshulme, Manchester.

(2908)

Chater-Lea-Antoine.

CHATER-LEA-ANTOINE 7-9h.p. twin, Amac, tyres tubes new, engine throughly overhauled, rebushed, adjustable pulley, mag, perfect, wicker sidecar, as new; £40, quick sale.—Edwards, Underfield, Elstree.



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Brand New.
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overhauded by makers, complete with lamps
and horn, splendid condition.
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Cars.

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CHATER-LEA-DE DION, 3h.p., Bosch meg, carburetter, low, fast; call after 5 o'clock; ride away.—A. Hurreo, 10, Sussex St., Victoria.

Chater-Lea-Fafnir.

CHATER-LEA-FAPNIR 1914 6h.p. Combination speed countershaft, being overhauled, re-enum chandred, sidear and pillion renpholatered match, nearly new tyres: £100.—Doran, 19, Westberger Bark Rd., Baryewater.

Chater-Lea-Jap.
CHATER-LEA-JA.P. 6b.p. Twin, coachbuilt
car, Bosch, B.B., 3-speed and obttch, 'be
order; £55; call alter 6.—Dawson, 102, East Dul
Rd., S.E.22

6-8h.p. Chater-Lea-Jap, C.B., B. and B., B. just overhauled and fitted 3-speed S.A., best over £100.—Capt. Ryder, 43, Newlands I Sydenham, S.E.26.

CHATER-LEA 8h.p. J.A.P. C.B. Combination speeds, chain drive, as new, lamps, horn, speeder, £15 worth of spare parts; £88.—35a, VaRd., Acton Vale, London.

Sh.p. Chater-Jap, 3-speed, chain drive, and Pur sidecar, fully equipped, hood, lamps, etc., e leat condition throughout, not dirt cheap, but g £115.-85, Church Rd., Willesden.

CHATER-LEA-J.A.P., practically complete, assembling, good 6h.p. twin engine, U.H. low Irame, spring forks, round tank, 26x2½ w guards, band brake, bars, footrests, etc.; first for lot, £25.—Short, South Ceroey, Cirecester,

Chater Lea Precision.

19²⁰ Chater-Lea-Precision, 2-stroke, 3½h.p., n new, complete; £50.—Sweetman, 47, Ridley Sonth Wimbledoa.

Chater-Lea-Zedel.

1913 Chater-Lea-Zedel, 3½h.p., F.E., stored anelled, perfect condition, all accessories, Tyne pillion seat; £60.—167, High St., Hampton Hill. [

Clarence.

CLARENCE Motor Cycles, 1920 models, 2%
delivery: price £78.—Write for specification, Brant
Foland St., W.

Clyno. DAN GUY, Weymouth,—Sole agent for Clynos, stroke from stock.

19²⁰ Clync Lightweight, in stock to-day.—B Bros., Burnham-on-Sea.

CLYNO.-Brighton, Hove and district.-Turpin's and 29, Preston Rd., Brighton.

5-6h.p. Clyno, 3-speed, kick start, in good condit £80.—Dodd, 104, Plough Rd., Battersea. -[1

19 16 Clyno Combination, 6-8h.p., perfect; bare £105.-Grossmith, 34, Roman Rd., E.3. [] CLYNO 2-strokes, immediate delivery.—A. J. and Co., Ltd., Newmarket. 'Phone: 214.

5 6h.p. Clyno Combination, all-chain drive, in prinning order; £70.—Taplin, 159, Hornsey Rd.

19 20 Clyno Lightweight, 2-speed, clutch, ridde miles; 71 gns.—Box 4,258, c/o The Motor C

19 20 Clyno, 234h.p., 2-speed, new; immediat livery; £75.—Clarke and Co., Queen St., I

CLYNO Lightweight, 2-speed, little used, climble where, hought car; £65.—Pailthorpe, Longdo Exeter. CLYNO, 1920 engine, 2-speed, 2-stroke, lat hora, speedometer, 800 miles; £70.—Blumer,

lington.

CLYNO Combination, 5-6h.p., in good going or 3-speed, K.S.; price £110.—French, eugin Uckfield.

CLYNO Combination, 6b.p., 2-speed, K.S.; Editor of p.m.-Beard, 50, Leverton St., Ken Town, N.W.5.

CLYNO 5-6h.p. C.B. Combination, Lucas lamps, good tyres, like new; £90.-259, Brownhill Catford, S.E.6.

CROW Bros., Guildford, West Snrrey Clyno age have large contracts for 8h.p. combinations 2%h.p. lightweights.

CLYNO 2-speed 2-stroke, Lucas lamps and he almost new, done 300 miles; £65. — Barns Iverley, Stourbridge.

16, HAMPSTEAD RD., LONDON, N.W.1.

Puone No.: Museum 141).

Puone No.: Museum 141).

WALCHOFF'S. 9. Shoe Lane, London—24;
Clyuos, new, 1920 models, 2-speed gear; 25
delivered from stock.

MOTOR CYCLES FOR SALE. Douglas.

13 h.p. Daughs, 2-speed, late, fully equipped, 14 lent condition; £60; after 7.—69a, Hambalt aphana Common.

OUTGLAS 25th.p., 2-speed, exceptionally fas enamelled, nerfect condition, lamps; £62/10.-fxton Rd., S.W.9.

DIGLAS, Immediate delivery from stock, 25 day, 5-speed; list price, 2100,—Cleme and Lawe, 7.5, 18h St. Woolwich, 19th St. Woolwich, 2500 and 18th St. Woolwich, and one shightly used, 267/10.—Cattac Motors, d. Coblam, Survey.

bham, Surrey. [1696]
Douglas 25,h.p., just overhauled, 2-speed,
polythese, korn, tools, perfect condition.—18, Maifs2,
Cambridge. [X152]

OUGLAS 23 h.p., single speed, nice condition, runs well; £26/10.—A. J. Young and Co., Ltd., New-arket. 'Phone: 214.

Phone: 214. New [0198]
OUGLAS, 1914, perfection itself, no connection with the Army trash; £60.—51, Maplethorpe Rd. conton Heath, S.E. ortion Heath, S.E. [2045]
OUGLAS 2'sh.r., late 1914, fast, fine condition limbs, tools, shield, etc; 50 gns.-16, Oatfield, etc; 5

hand boak, skidd, etc; 50 gns.—16, dakters un.
1, Amerley, S.E.20.

OUGLAS, 22-kpp. 2-speeds, 1916, Lavas, 1919, and horn, in good order; E55.—Tilleys, replanade, Weymouth.

OUGLAS 25thp., late 1915 T.T. model, fast over-handed and renovated; £55.—Woodgate, 543, Cov-try Rd., Birmingham. [X1330]

production of the production o

18, McMondond, Surrey.

Ap. Douglas Combunation, 2-speed, kick start, hood, screen, all lamps, rice lot; £110, or effer—103, 110 or or Lane, Camberwell.

MITH'S—Douglas 1916 22:h.p., in excellent conditions of the combunity, 86, Chalk Farm Rd. (opposite all Farm Tube Station).

9 20 (April) 23,h.p. Douglas, lamps, run 250 miles lamps, run 250 miles

secent. Paddington, W.2. 2496

OUGLAS 1915 2-h.p., recently overhauled, fast, lamps, home, some spaties; bargain, £55.-14, [cert. d. Rd., Sonth Woodford.

OUGLAS, single speed, in perfect order, very fast:

£45; evenings after 6, Saturdays 2 to 6.—26.

£454; evenings after 6, Saturdays 2 to 6.—26.

£452; evenings after 6, Saturdays 2 to 6.—26.

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£452; evenings 4, Saturdays 2 to 6.—26.

£45

Market Place, Romford.

OUGLAS 21-hp. 1916, perfect running crede, P.
and H. lamp set, horn, etc.; £60.—Fairland, III.
OUGLAS 21-hp. 1916, th.p., 5-speed, clutch, kick start, III.
T.T. bars, discs, lamps, horn, as new. £80.—97
vern Rd., West Kilburn.
Bhp. Douglas, 2-speed, just as new, bought late
4 1919; bargain, first £75.—51. Claremont Rd.
Anadra Park, Manchester.

Que the set of the speed of the set of the set

3.220 OVG/AS 220 4b.p., magnificently equipped with water lighting, electric horn, bulb horn, etc.— kirk, Brack-huxgato, Bolton, bulb horn, etc.— [X1995]
13 Douglas 2½hp., 2-speed, kirk start, clutch, liquendi running order: £45.—Walker, 16, quendi running order: £45.—Walker, 16, gulendi running order: £45.—Walker, 16, gulendi running order: £45.—\$006 [W. 1995]
16 Douglas 2½hp., 2-speed model, renovated, indistinguish 2½hp., 2-speed worder, p. 2006 [W. 1995]
UCGIAS 2½hp., 2-speed worder, worder, p. 2016]

), Marlborough Rd., Coventry. [X1811]
OUGLAS 251h.p., 2-speed uncrated Dec., 1919,
absolutely perfect, exceptionally smart; £65.—60.
lingford Av., North Kensington. [2921] 65.—60, [2921

Douglas 2%, no. 1 horn speedometr, one 90 miles; 100 gns.—30, Clavering Av., South St., Speedometr, one 90 miles; 100 gns.—30, Clavering Av., Speedometr, Speedome



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Dunlop, Palmer, Kempshail, Avo Wood-Milne, Beldam, and Bates. (Ex Government Stores.)

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Size.	Make,	Our Price.	List Price.
	Avon Combination Palmer Cord 3-rib	55 /- 47 /6	90/- 68/9
26×23 to fit 2} rim.	and Rubber Studded	5 7 /6	90/-
"	Dunlop Ex. Hy, Rub. Stud. Wood-Milne Ex. Hy, 4-ply Keygrip	52 /8 47 /6	72/- 68/6
26×21	Beldam Ex. Hy. R. N-skid. Dunlop Combination Steel	40/-	61/3
(O.S.)	and Rubber	60 /- 45 /- 62 /6	92/6 67/9
,	Dun'op Heavy R.N.S United States R.N.S	55 /- 62 /6 60 /-	78/9 100/-
	Palmer Cord 3-rlb Kempshall Anti-skid Bates Special Heavy	52.6 60/-	93/6 69/6 91/6
-12	Moseley Ribbed Extra Hy.	50/-	76 -

MOTOR CYCLES FOR SALE,

Douglas.

G IBB, Douglas Specialist, Glonecster, gives personal after tion to all orders. All spaces at unikers' prices tocked. No profiteering.—'Phone: 852.

1917 4h.p. Douglas Combination, 3 speeds, Kelling, Condition, 1 speeds, Elfor Condition, Elfor Low-th, 6, Mount Pleasant Rd., Ealing.

19¹⁶ Donglas 2⁵₁h.p., excellent condition, ove, hauled, lamps, horn; £63; after 6.- Pugh 23, Allerton Rd., Stoke Newington, N.16.

DOUGLAS 23,h.p., 1916, lamps, horn, tools, Thomson Bennett mag, excellent condition: £65.
Villiers, Ranmore, Buxton Lane, Caterham. 12837 Villiers, Ranmore, Buxton Lane, Caternam.

DoutGLAS, 25-lib., in new condition, new tyre, back and front, new enamel tank: £65, et chet.

-Frank Smith, 24a, Church Rd, 27090.

23-lib., Douglas, as new, malest's colours, new tyre, 424 newsprose, reviv to Whitsun. 55 sms.—Huwward, 54, Kingsmead Rd, Tulse Hill, S.W.2. [1703]

4 h.p. Donglas Combination, 3-speed, K.S., clutch, new C.B. sidecar, fully equipped, an exceptionally surf on this 120 gn--17, King Rt., Watord. [2193]

DUGLAS 1915 22;h.p., fortboard, all accessories, excellent condition thromshout; inde away; best offer over £50.—L. 15, Lathon Rd., East Hum. [7898]

oner over 250.—L., 18, Latinoni Rd., East raini. (1895)

19 20 Donglas Combination, 3 lamps, Klavon, East—

-Dawson, Textile Mills, Holywell, Flinishire. (293)

DUGLASES, 25,hp., 1916 and later, enamelled and plated, in perfect mechanical order; £59, —Owen, 59, Scholefield Rd., Upper Holloway. (X1636) DOUGLAS 25,h.p., 2-speed, uncrated Dec., 1919, fast, and absolutely perfect, makers' colours; 62 cms.— Dentist, 216, Portobello Rd., Notting Hill, W.10. [1646

DOUGLAS 214h.p. 2-speed, enginy and magneto overhanded by manufacturers, enamel fair, lamp set; £45.-105, Marney Rd., Clapham Common. [2804

DOUGLAS 1913 2-speed 274h.p., just overhanled, engine exceptionally good, excellent bargain; £45, -24, Sandwell Rd., Handsworth, Birmingham. [2695]

DOUGLAS 234h.p., 2-speed, 1916 model, splendid condition; 860.—Newnham Motor Co., 223, Haumersmith Rd., W.6. 'Phone: Hammersmith 80, [9198 DOUGLAS 254h.p., 2-speed, W.D. re-issued machines, guaranteed sound order; £65 each.—Elee and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3.

DOUGLAS 4h.p. Combination, 1918, 3-speed, chirch, K.S., aluminium discs, new lamps, condition as new; any trial; £150.—92, Benlah Rd., Thornton Heath.

1920 4h.p. 3-speed Donglas Sidecar Combination, engine No. 10042, purchased new February, 1920; price £155.—Marsh, Burton Bandalls, Longaborough. [X\frac{1}{7}48]

DOUGLAS 23,h.p., 1916, perfect condition, complete, acetylene lamps, Klaxon horn; 60 gas.—Apply, R. Confield, Imperial Works, Morden Rd., Mitcham. R. Confield, Imperia wors, Advance [2552]

D'UGLAS 254b.p., uncrated 1919, Thomson-Beanett omag, Amac, Hutchinsons, buffer forks, lomps, horn, perfect condition; £75.—32, Durants Rd., Ponders End. [2954]

DOUGLAS, 4h.p., new condition, countershaft, start; bargaio, £80, or near offer.—Nicholls, mont House, 6, Cavendish Rd., Merton. Tel.:

23b.p. W.D. Douglas, done only 700 miles, disc wheels, first-class condition throughout: £85. no offers. — Chauffenr, Oakhyrst Grange, Caterham, Surrey.

248.—254h.p. Douglas, 1914, 2-speed, lamp, mechanical horn, and toolhags, tyres and engine splendid condition, 1919 Amac.—Andrews, 16, Heath Drive, Hump-

19 15 Douglas, 25,h.p., 2-speed, free engine, sem T.T., re-enamelled, excellent condition, read to ride away; £60.—Westley, 12, Rectory Rd., Barnes, S.W.15.

W.D. Douglas, 25th.p., practically new unregistered, thoroughly overhauled, heavy taluminium footboards; £65.—Apply, Strawherry Vale Farm, East Frinciley. [9425]

DOUGLAS, 254h.p., T.T., 2-speed, Lucas lamps, born, footrests, discs, long exhaust, perfect and smart machine; 258.—Rogers, 5, Spencer Park, Wandsworth Common. [1883]

Common.

DOUGLAS 4h.p. Sporting Combination, Skiff side-car, 3 speeds, new belt, copper exhaust, Klaxon, mechanically perfect; £110.-8, Glengarry Rd., E. (1636)

DOUGLAS 254h.p., W.D., practically unused, perfect throughout, with lamps, generator, horn: £60; Saturday arternoon or Sunday morning.-60a, Kirkdale,

Sydenham.

1915-16 2°;h.p. 2-speed Douglas, splendid condi-tion, plating and enamel, makers' colours, fast, horn, pump, etc.; £50.—67, Little Heath, Old Charl-ton, S.E.7.

1919-20 4h.p. Douglas Combination, all 1920 improvements, absolutely as new, and with accessories; £155.—Arthur G. Daw, 114, Brixton Hill. 'Phone.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the Issue.

MOTOR CYCLES FOR SALE. Douglas.

ONE 4h.p. Douglas, 3-speed, clutch, kick start, disc wheels, fully equipped, appearance and condition new: £38.—Apply, A. Brown, 2, Austin St., Shoreditch, London, E.2.

10 20 Donglas Combination, brand new, fitted with large P. and H. lamps and rear, born, and special Easting screen; £187.-2, Nightingale Rd., Lower Clapton.

4 h.p. Douglas Combination, C.B., 3-speed and kick, bewly enamelled and plated, 1917 model, over hauled; £110. — 19, Wilcox Rd., South Lambeth, London, S.W.8. [2128]

19 15 2%h.p. Douglas, excellent condition, 2-speed, electric lighting, tyres good; £60, or exchange beavyweight.—Write, Rayward, Mill House, Leigh, Reigate, Surrey.

3 hp. Douglas, 1916, equal to new, Douglas colours, 4 265; also 1917 4h.p. combination, reyal blue sidecar, £115.—72, Longridge Rd., Earl's Court. 'Plone: Western 1344.

54 GNS.—Douglas 25/h.p. W.D. model, 2-speed, new Colours, excellent condition; sacrifice for cash.—31, Halford Rd., Fulham.

1916 Douglas, mileage 4,000, mechanically faultless, trip speedometer, lamps, horo, knee pads, mudshield; £65, or ear offer—10, Charlton Rd. Blackheath, S.E. [2777]

1918 4h.p. Douglas Combination, complete with lamps, tools, etc., makers' colours, in first-class condition and running order; 115 gns.—Taplin, 159, Horasey Rd., N7.

DOUGLASES 23th.p. always in stock at competitive pinces, open till 7 p.m. week days, 5 p.m. Satur days.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tule Station).

19¹⁴ 2²4h.p. Douglas, just overhauled for £10/15, condition as new, not W.D., Lucas horn, Douglas footboards; nearest £55, bargain.—25, St. George* Terrace, Canterbury. [1793

DOUGLAS, 234h.p., 1916, 1915, 1914, only wantseing; bargains, £50, £45, and £40 respectively also quantity spare parts.—Sulina Garage, Sulina Rd...
Brixton Hill, S.W.2.

DOUGLAS 25th.p., 1915, super-power, combination, Avro sidecar, 2-speed, disc wheels, electric lights, perfect condition; £75.—Montrose, Windmill Rd., Clapham Commoo. 3197

19 16 25th.p. Douglas, re-enamelled, maker's colours, recently overhauled, trial, C.A.V., Amac, good tyres, P. and H., pump, horn, tools; 70 gns., or [1766]

19 19 Douglas 25th.p., 2-speed, in first-class condition, low mileage, complete with acetylene lighting set, horn, tool kit, spares, footboards; 85 gas. -42, Mayfield Rd., Coventry. [X1662]

19 18 4h.p. Douglas, 3-speeds, K.S., therengely over hauled, in splendid condition; £85.—Apply mornings between 10 and 12, or by appointment—296, Wightman Rd., Horosey. [2698]

DOUGLAS 2%h.p., soiled, in crate, 65 gns.; severalnew and second-hand for sale: also Douglas combination.—Garage, 5, Eglon Mews, Berkley Rd., Primrose Hill (near Chalk Farm Tube).

DOUGLAS Combination, 1919, with all accessories and in perfect condition, £155: Douglas 2%h.p., 1920, lamps, horn, not ridden 200 miles, perfect, offers.—Robinson, Lon-ica, Rhubiaa, Cardifi.

4 h.p. Donglas, 3-speed, K.S., clutch, polished aluminium discs, legshields, lamps, horn, Tan-Sad, Rom tyres, condition as new: 100 ens.; seen any evening.—42, Archibald St., Newport, Mon. [2138]

10g.—42, Archimia St., Newport, Mon. (21)8

ATE. 1919. Douglas Combination, 1920, clutch, mileage 600, perfect condition, fitted electric light, 2 new 4 volt 60 amp. accumulators, tools; 2165

—Tillion, Easton St., High Wycombe. [1935]

Tillion, Easton St., High Wycombe. [1935]

DOUGLAS, 1914, 2½h.p., 2-speed, free engine clutch, kick start, as new, 11 months' wear only, all accessories, tools complete; 270, or near offer.—Phone: 549 Tillony.—Nash. 48, High St., Grays. [2582]

549 Tilbury.—Nash, 48, High St., Grays. [2582]

DOUCLAS 1918 4h.p. Combination, 3-speed, blue Douglas sidecar, new tyres, lamps, horn, tools, auron, etc., fine condition; £120.—Edgell Cottage, High Rd., East Finchley (next Oak Lane). [2858]

DOUGLAS 25/h.p., military models, W.D., renovated, carefully selected and tuned up, always choice of several; price £60; seen any time.—Watson, 181, Clapham Rd., S.W. 'Phone; Buxton 2984, [3225]

10 16 2%h.p. T.T. Deuglas, 2-speed, buffer head, makers coloris, Dunlop and Hutchinson, enamel perfect, lcoks, runs, and is cound to new; £65; seen any time—Learned, Greenbank, Weybridge. [2814]

DOUGLAS 2%h.p., 2-speed, Oct., 1915, done 10 months' ridiog, guaranteed throughout; £60; fitted up regardless.—Call or write, Benfield, 4, 8t. Mildred Terrare, Westgate Bay Av., Westgate, [2283]

4 b.p. Douglas Combination, 1919 model, completely cquipped with lamps, horn, tools, etc., original tyres, good condition, in good order, enamel very good; best offer over £140.—15, Holywell St., Oxford, [X1627]



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Roy H.

MOTOR CYCLES FOR SALE.

Douglas.

Douglas, 4h.p., 3-speed, K.S., clutch model, 280 or offer, mants sell, Douglas, 25/h.p., 2 speed, as new 560-P. Dutton 131, Sumatra data, W. Hampetead, N. W. 185, N. 185, N

DOUGLAS 25/h.p. Colonial Model, 1915, 3-epec clutch, T.T. bars, fine condition, new back by and belt, new electric lighting and speedometer; pix 475.—193, Wellington Rd., Heaton Norris, Stockpor

19 19 4h.p. Douglas Combination, hood, wind screen Tan-Sad, discs, speedometer, Cowey, horn, lamp tools, not ridden 400 miles; £150.—Webber, 247, Fb bam Rd., South Kensington. 'Phone: Kensington 1286.

T Appears Ridiculous to Advertise when you has no stock, but we are giving deliveries to the earlierd. Place your order at once if you want divery.—Eli Clark, Douglas Agent, 196, Cheltenham Re Bristol.

19 20 Douglas 23/h.p., hand clutch, kick start, speed, fitted with lamps, legshields, Klaxon, ruo miles, guaranteed in brand new condition; co \$120; nearest offer accepted.—12a, High St., Aahtor Kent.

1918 Douglas 4h.p., sporting model, alumining magainent condition, ±80.—Greenwood, 60, Stud Station, S.W., after 7 p.m. (near Stockwell Ta Station).

DOUGLAS 1914 234h.p., specially fast, platic enamed new, footbeards, aluminium discs, le exhanst, fully equipped, insurance, only need section 255.—Phone: Chiswick 1516.—38, Grosvenor Etchiswick

1920 (March) Douglas 4h.p. Combination, elect lighting, aluminium discs, Easting wind-ser-Cowey speedometer, perfect condition; best offer 6 4.5 beyond having ear.—Mobbs, 22, Bath St., Abj don, Berks.

DOUGLAS 1915-16 23/h.p., black, T.T. bars, tools, horn, knee grips, long copper exhausted by the property of t

19 (Oct.) Gouglas Combination, coachbrace, screen, side screen, lamps, Cowey houn, every small mileage, breand new condition, E165, near offer; photograph on application.—Capt. D. Kit

F.O.C.H. have a 1919 4h.p. Dongias combinate new type clutch, fully equipped, excellent or —Fair Offer Car. House, 5, Heath St., Hampst hear Hampstead Tube Station). Phone: Hampst 1752. Hours 9.7, ieelunding Saturdays.

23h.p. Douglas de Luxe, 3 speeds, kick start, chu de electric lighting: engine No. 29498, condit a revent de la company de la company de la company of the company de la company de la company de la company lowest.—Hall, Durley Park, Keynsham, Bristol. [2]

DOUGLAS C.B. Combination, 4h, p., 3-speed, 1, start, re-enamelled blue, plated, and reupl stered, new 'C.A.V. mag, new lamps, horn, belt, i pneumatic pillion seat, splendid mechanical condit and very smart; £125.—Gilbert, 20, Petherton I Highbury, N.5.

DOUGLAS 4h.p. Combination, 1918 model, new so box complete from makers, new C.B. sidecar chassis, mag, carburetter, saddle, from twoled, ybelt, all brand new, re-enamelled and plated, with lameter, neadly for the road; £145, or nearest.—75, C berwell Grove, S.E.S.

DOUGLAS 1916 2%b.p., makers' colours, 2 belt, Stewart speedometer, compensated psring lost tyres as new, pump and tools; 65 gos.; after 6 p. 232, Elmburst Mansions, off Maoor St., Clapby Phone: Brixton 1921.

1019 Donglas, 4h.p., W.D., uncrated May, 11 special conchbuilt sidecar for adult and chood, Cameo, Watford, F.R.S. lamps, Tan-Sad, 2 tyres, spares, thoroughly overhauled by expert, per condition: £140; trial any time.—Thomson, Nurman, Waitham Abbey, Essex.

2 3h.p. Douglases, frames store enamelled, fransitants, and toolbags. We are in a position to sujimmediately; prices from 270. Also we can suany Bouglas spares, including one or two trainply to R.L., Motor Works, 36, Frogmore, Bristol.

19 20 Douglas Combination, P. and H. lamp, match), Cowey speedometer, legishieds, Klavon, e plete tools, only been ridden 14 times, owner olderlvery Matchless; £120, or would take less with accessories according to conf. Cort of the combination of the combinat

1920 Douglas 2%hp, April, 3-speed model, Ct. Speedometer, P. and H. £4 lamp set, Kla Pan-Sad, aluminium discs, Pedley grips, may perfect mechanically and otherwise, appearance because the second of the second control of

MOTOR CYCLES FOR SALE. Harley-Davidson.

919 (Late) 7-9h.p. Harley-Davidson and Millford Sidecar, electrical model, as new; £205,-J. ebden and Son, 149, St. James St., Burnley. [1732

919 Harley-Davidson 7-9h.p., 3-speed, tank re-enamedided, new tyres, big head hump, sideour higs, nutto like new; £120.-125, High St., Merton, S.W.19.

12269

9 19 Hardy-Davidson 7-9h.p., Bosch max, lamps, supperds, clutch, hand and toot, kick start, excelt condition; £138.—J.B., 34, Bloomsbury Sq., W.O. (3012) 920 dt.p. Harley-Davidson, brand new, 2 brake, lamps, speedometer; list price, £158.-14, sen Mansions, Queen's Club Gardens, West Kengard, Mansions, Queen's Club Gardens, Mansions, Man

918 Harley-Davidson 7-9.p., mag. model, 3-speed, condition and appearance as new; £125; only rattord. (2390)

ARLEY-DAVIDSONS, 1919 models, choice of 3, res 2100 each.—Bacon, 7, Batoum Gardens, Hamersmith. [2195]

orsmith.

918 Harley-Davidson 7-9h.p. Combination, 3 speeds, tyres good, latest sidecar, and little used, hamps, n, etc.; accept £145, or best offer.—277, Cambeiwell I, S.E.5.

TUMBER 312h.p., Bosch, B. and B., 2-speed, clutch, in very good condition throughout, Miller lump, horn, etc.: £29.—R. Watson, 152, High St., Aldergh, Smfolk. [1636

TARLEY-DAVIDSON Combination, 1919, hood and serveen, lovely outfit, as new throughout; also 1918, no condition; first reasonable offer secures.—304, Fulm Rd., S.W.10.

TARLEY-DAVIDSON 7-9h.p. Late 1918 Combina-tion, all acrossories and spares, new condition oughout, go anywhere: £160.—A.W., 23a, Bamber (West Kensington.

9 19 Harley Combination, discs, lamp, Klaxop, Headerson Elite sidecar, just re-enamelled and ated, as new, new tyres, any trial; £220, or near er; mag, model.—Below.

920 Harley same as above; £150, or near offer,-

Q 20 Harley Combination, as above, Lucas dynamo lighting: £250, or near offer.—Malburg, 108a, rgbley Rd, Tuinell Park, N.W.5 (falcing Tufnell rk Tube, Charing Cross and Highgate line). [3051

ARLEY-DAVIDSON 7-9h.p. Combination mag. model, new Aug., 1917, wind screen, discs, speedete, electric horn and Klaxon, in first-class_order; 60.—25, Buttersea Rise, S.W. [2746]

ARLEV DAVIDSON. 7-9h.p., mag., late 1915. Gloria sidecar, new chains, new 760×90 rear e, recently overhauled; best offer over £120 secures, lennett, Bediord Rd., Sandy.

ARLEY, late 1919, electric model, and genuine Harley sports sidecar, discs, touring and racing s, spare tyre, condition perfect: £205. Etherington, St., Marzaret's Rd., Twickenham.

9 20 Harley-Davidson Combination, 7-9h.p., new March, mileage 900, perfect condition, disc cels, speedometer, lamps, horn, tools, etc.: £200.— lier, 11, Scroope Terrace, Cambridge.

9 15 Harley-Davidson, mag. model, and projectile sidecar, ir sound condition, tyres nearly new, sail round, spares, very sporty; best offer round 30.—Harris, 92, Higb St., Witney, Oxon. [2056

916 Harley-Davidson 7-9h.p. Combination, just been overhanled at a cost of £60, 1920 colour, 1ps, tools etc., first-class condition, any trial tweed; £135.—Austin, 3, Oliver St., Rugby. [2367]

ARLEY DAVIDSON Combination, huxrious out-fit, dynamo lighting, disc wheels, electric horns, almost new; a bargain, £185; owner bought car, 74, Barcombe Av. Streatham Hill, S.W.2. [2678 ARLEY-DAVIDSON, 1917 model, not W.D., enamelled red, with baudsoup black coach sideora, anno lighting, in perfect order, with all accessories; 0.—Cleare and Lowe, 125, High St., Woolwich, [3132]

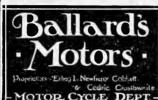
O.C.H. have a 1919 Harley-Davidson war model; £110, a bargain.—Fair Offer Car House, 5, Heath Hampstead (hear Hampstead Tube Station). Phones papeted 3752. Hours 9-7, including Saturdays.

20 Flat Twin Harley, confortable sporting [2557] speind to match, 4-point attachment, 3 documents, appearance, mechanical condition perfect under price, £165.—Capt. Buck, 7, Orleans Rd., N.19.

226.5 beck sidecar, double screen, Tan Sad step, elec-model, lamps, speedometer, Klason, bulb horns; jordalire; delivered fortuight; list price-Box 752. 772. The Motor Cycle. [1718

ARLEY-DAVIDSON, 1920 (March), electric model, 800 miles aluminium discs, tools, spare, 3s, perfect cendition internally and externally mel as new; this is a genuine bargain, £192.—
k Adrian St., Dover.

16 Harley Combination, electric model, bulbons beer hood, screen, spring pillion, discs all lad, just paid Harleys Els for overhaul, receipt al, genuine bargain; best offer round £145.—85. Knolly, Rd., Streatham [3073]



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1920 H.B., 27 h.p., Blackburne-Burman 2-speed, kick-starter, and hand control clutch. In stock

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List.

1020 BRITISH EXCELSIOR, 2-stroke, 2-speed. In stock

1920 COULSON-B., 23-b.p., Blackburne, 2-speed. la stock Lief 1920 NEW HUDSON, 2-stroke, 2-speed, legshields, tully equipped. In stock List

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Sturmey-Archer 2-speed, kick-starter,
and hand control clutch. In stock :. £87 10

B.S.A 4 h.p. Combination, 3-speed, lamps horn, speedometer windscreen, Tan-Sa I, perfect condition. In stock . £125 0

1916 DOUGLAS, 27 b.p., lamps, born, tootboards, etc. In stock £75 0

1916 INDIAN, clutch model, lamps, horn, In stock £88 0

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Large Stock of 5-8 and 8 h.p. J.A.P. Spares.

We want to buy SOLO3 or COMBI-NATIONS, 1918-1919 and 1920.

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TRY IT THIS WHITSUN. IT PAYS.

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BALLARD'S MOTORS. 92, Gloucester Road, S.W.7.

Telegrams Kensington, 6312.
Telegrams Etembalmot Southkens, London

MOTOR CYCLES FOR SALE.

Harley-Davidson.

Harley-Davidson.

HARLEY-DAVIDSON Combinations, not war junk, pulsasses, beat lamp est, horn, and all complete ready lamp est, horn, and all complete ready. Beat lamp est, horn, and all complete ready. Beat lamp est, horn, and all complete ready law bond St., W.I. Maylair; 4792.

19 18 Harley-Davidson, electrically entipped, speed, orneter, not war models, gunranteed, overhanded in U.S.A., brand now sidecary; £100; exchange considered, Bathhone Brox, and Johnson, Importees, Jameides Ru, Carring, Kingsley, Northmopton. [2428]

1916 Harley with Cancelet coach siderar, lugrance carrier, Easting wind serven, new Pulmers, mid-serven parties, parties

19 8 Inter-Davideon 7-9hp, Coschbuil Combina-chanical born, splendid condition, electric lightning, ma-chanical born, September 18 (1997), 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 1997, 199

4,273, c/o The Motor Cycle.

SELL or Exchange Late 1915 Harley-Davidson, 45th.p., with torpedo sidecar, lamps, horn, tools, spare new chain, dise wheels, clutch model, kick starter, Bosch mag. 2-speed gear, excellent condition, good tyres, stored nearly 3 years; accept 100 gps., or exchange good 2-seater car, with cash adjustment—Sum. Infantire, Essex.

lun, Braintree, Essex.

12110

HARLBY Gloria 1915 Combination, with magnificately one outlite, electric hard, accumulators, and all accessories, completely overhanded and repained latest control of the combination of the c

1919 Harley-Davidson Combination, electric roudel, with lamps, horn, 3 speeds, hand and look clutch, speedoneter, in first-class condition, exception of the condition of the co

Hazlewood

5-6h.p. Hazlewood-Jap, 3 speeds, clutch, kick start, lamps, etc., new condition; 85 gns.—2. Crabrook Villas. Guildford Rd., Farnborough, Hants. [2965]

1920 Hazlewood Combination, new, 6h.p., expensive necessories, splendid machine; £200 net.—Cellular Clothing Co., Porchester Rd., Mapperley, Notting [X1353]

HAZLEWOOD 4h.p. Twin J.A.P. Combination, 3-speed, kick start, lamps and accessories, splendid condition, enamel and plating not scratched; £85,-21, Ritherdon Rd., Balham, S.W.17. [1982]

1916 5-6h.p. Hazlewood-Jap, 3-speed countershaft, coachbuilt continuation, lamps, horn, speedometer, as new; 2110; lightweight part exchanged.—The Montagn Engineering Works, 51, Montagu St., Kettering.

HAZLEWOOD, 5-6h.p. J.A.P., K.S., Bosch, speed mster, overhauled this season, new Bicks and heavy Dunlop, 3-speed, wide carrier, accessories,-Robinson, 145, Northcote Rd., Wandsworth, London.

Robinson, 145, Novincote rad, "assessing 12981

HAZLEWOOD Combination, 5-6bp, JAP, 12981

Aspect clutch and kick starter, attractic stageing, a really reinhole outh; 1816, plus preving and carriage from works, or on Harnold system of easy payments 42 extra-Harnold Most Showrooms, 116-118, Brompton Rd. (opposite Main Building), London, S.W.1 [5183]

Henderson.

H ENDERSON 4-cl., in good condition; £67/10— Douing and Co., Winchester, HERDERSON Combination, smart, must sell, seen any day except Satu-day or Sunday.—2, Maylair Ter., Morden Rd., Merton.

1920 Henderson Combination, registered May 11th, and not done 150 miles; accept £220.—McClure's Garage, Stoke-on-Trent. [3033 -Mr-13033

HENDERSON Combination, very latest model, all lamps and accessories, not done 100 miles; £255, or very neer offer.-15, Victoria Rd., Addlestone. [3184]

N EARLY New 10h.p. Henderson, QZ type, mileage negligible, speedometer, electric lighting, eidecut with bulbous back, owner buying car; £215, no offers.—15, Victoria Rd., Sheffield. [1697]

H ENDERSON Combinations actually in stock ready to ride away, new and second-band, from #160 upwards.—W. H. Grimes and Co., 18, Bruton Place, Bond St., W.1. Mayfair 4792.

1920 Renderson, 4-cyl., run in by an engineer, and in perfect mechanical condition, fitted with inxurious 2-seater sidecar, and equipped with all accessories, the whole comprising a first-class cutfit.—Offers to Box 3,955, c/o The Motor Cycle

Hobart

HOBART, brand new, 2-speed, 2-stroke, 2½b.p., £67/10.—Sibley 106, Market Place, Romford [2762

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B31

Hobart.

HOBART, late 1919, 2-stroke, dynamo lighting, all accessories, perfect condition; £55.-1, Boscombe Rd., Blackpool. [1805]

Rd., Blackpool.

HOBART 1920, as new, under 300 miles, all accessories; bargain, £50.—Dougal, South End [2644]

HOBART 2-stroke, 2-speed, 2½h.p., actually in stock, brand new: no premium; 275.—Plant, Forward Egarage, Teignmonth. (2957)
HOBART-VILLIERS, 2-speed, 2½h.p., as new, low mileage, fully equipped; 255.—91, Murdock Rd., Handsworth, Birmingham.

19²⁰ Hobart-Villiers, 2-speed model, £67/10; single-speed, £60; brand new; immediate delivery.—Clarke and Co., Queen St., Louth. [2869 HOBART 1916 24/b.p. 2-stroke, 2-speed, chain-cum, footboards, climb anything, perfect condition; £52 lowest; evenings, private; buying combination—Hilliard, Harlow, Essex. [2185]

Hoskison.

Hoskison.

11 OSKISON, 1920, speeds, kick start; list price.—
Walton, Stourbridge Rd., Lye, Worcestershire.
[1099]

Humber.

HUMBER 31/2h.p., less ignition; cheep.—12, Salem Place, Bath Rd., Exeter. [2568

BEDFORD Garage Walsall, di Humbers; rotational delivery. district agents to: HUMBER 2%h.p. Twin, excellent running order: £35.—Surridge, Ongar, Essex. [2021

HUMBER, Roc 2-speed, 1910-11-12-13.—J. Con-nolly 1s. Carmelite Rd., Coventry. [X1803

1h.p. Humber, Bosch, ride away, good condition; £25, offers.—84, Clarence Rd., Clapton. [1779] 2 1h.p. Humber and sidecar, sporty lot, perfect run-2 ning order; £45.—Apply, 3, Maple Rd., Surbiton. [2057]

H UMBER, 1914, 2b.p., as new, all accessorer & £32/10.—Sibley, 106, Market Place, Romford. [2757]

HUMBER 2%h.p., Bosch, B. and B., good running order; £30.—Griffiths, 66, Hayward's Rd., Chelten-[2292 ham.

HUMBER 3/2b.p. Combination, 2-speed; £65; lamps, etc.-16, St. Mary Abbott's Ter., Keusington, [2589]

HUMBER 31/2h.p., perfect order and condition, lamps, London. 235.—Brewne, Home Cottage, Twickenham, London. [1810

1915 Humber 4h.p., w.c., Fulford combination, 3-speed, kick sturter, decompressor; £95.—Jarocki, 287, City Rd., N.1. [2139]

HUMBER 3½h.p. Combination, free engine, clutch, handle start, chain driven; price £20. Johns, Valley, Saunderstoot.

valley, sanndersloot.

3 h.p. Humber, Sturmey-Archer hub gear, light 2 C.B. sidecar, perfect condition; what offers, 52, High St. West, Glossop.

1 UMBER 34h.p., 2-speed, handle start, in good condition throughout, with C.B. sidecar; 255.—85, Church Rd., Willesden.

6 h.p. Humber, with sidecar, excellent condition and new tyres; bargain, £100 for quick sale.—H. B. cowler, 41, Union St., Ryde.

LYUMBER 34hn. 2-speed head that

HUMBER 3½h.p., 2-speed, hand start, stored during wur, 5,000 miles, like new, equipped; £50,-19, Lewisham Rd., Highgate Rd., N.W.5. [2134]

31h.p. Humber, 2-speed Roc gear, haudle starter, 2 ride away; £45; Seuspray, P. and H. lamps.—Roseville, Braywood Av., Egham, Surrey. [2730]

Roseville, Braywoon av., Egman, Jones, H. Willer, 3½hp., 1914-15, 3-speed, clutch, kick starter, enamelling, tyres, condition good, take starter, enamelling, tyres, condition good, take starter, enamelling, tyres, condition good, take starter, enamelling, tyres, 275, King Edward Rd., Covered tree.

E ARLY Delivery of the Celebrated Humber machines from the accredited agents.—The Lankester Engineering Co., Motor Cycle Dept., 63, Brighton Rd., Surbiton

H UMBER Twin, late model, little used, 3-speeds, clutch, K.S., lamps, horn, fast, powerful, reliable, new condition throughout; 46 gns.—102, Hamilton Rd., Wimbledon, S.W.19.

HUMBER 31/51.D. Coach Combination, 3 speeds, kick start, clutch, 1914, just overhauled and renovated, lamps, speedometer, etc.; 70 gns.; any trial.—44. Sun St., Waltham Abbey.

19 14 Humber Mah, p. and wicker sidecar, 3-speed, clutch, K.S., decompressor, new Palmer cord, excellent condition; £58; not Thursday evening.—30, Arlington Mansions, Chiswick, W.4.

HUMBER Combination 31/sh.p., wicker sideear, bandle starter, eew piston and new Palmer tyre, recently overhauled and in good running order; 250, or near offer.—Medcaif, 39, Ware Rd., Heriford. [2334

31h.p. Humber, 2-speed, handle start, 1913, low 2 riding position, excellent condition, all on £40; Cunnolet Minar, used only 1919, £15; or best offers— 160, Kytwicks Lane, Sparkbrook, Birmingham. [230]



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The Ideal Heavyweight THAT WILL CARRY THE BIGGEST LOAD UNDER ANY CONDITIONS

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3 H.P. LEA-FRANCIS AND OTHERS.

89. Gt Portland Street London. MOTOR CYCLES FOR SALE,

Humoer,

ATE 1919 Humber Fint Twin, 3½hp., chnest m

3-speed, h.e. chutch, automatic carbactetar, lant
horn, tools, quantity sparee, invitorace, rinder 4 multiple 2005, or best offer.—Box 737, c/o The Mater Cycle
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2005, or best offer.—Box 737, c/o The Mater Cycle
2005, or best offer.—Box 737, c/o Humber.

HUMBER 3//hp., with C.B. sidecar, fitted w Archer bub geen, 1 speed, clutch, kick start, Sturm Archer bub geen, 1 speed, clutch, kick start, Sturm good condition, both internally and externally, or 470, or would sell separately, 57, Allesley Old & Coventry, [X15]

Indian. 5 6h.p. T.T. Indian, clutch; trial; £55, or best-

19²⁰ 7-9h.p. Indian and Grindlay sidecar, wind screhood, speedometer, dynamo lighting; £240.

7-9h.p. Indian, clutch model, and coachbuilt sided very fast; £90.—Cole, 137, Chatsworth Rd., Lo Clapton, E.5. INDIAN 7-9b.p. Combination, as new; £115.-Homesdale Rd., Bromley, Kent. [26

INDIAN 7h.p., 2 speeds, Millford side equipped; 285.-34, Balfour Rd., Ilford.

NDIAN Combination, 7-9h.p., perfect condition, etrial.—Hunter, 9, Pennell St., Lincoln. [X16]

19 18 7-9h.p. Powerplus Indian, in new condition in 19 120 gus.—Taplin, 159, Hornsey Rd., N. [16] DAN GUY, Weymouth.—Sole agent for Indians. N combination from stock, makers' list price. [22]

1918 7-9h.p. Powerplus Indian; in very fine cortion; £130.-Taplin, 159, Hornsey Rd., N.7.

INDIANS, 1919 powerplus models, equal to be £115.—Owen, 59, Scholefield Rd., Upper Ho [Xit

19 15-16 7-9h.p. Chitch Model Indian, perfect, 8 £65; with sidecar, £72/10.-1, Otbello St., Lin [266]

INDIAN Combination, 7-9h.p., kick start ride away; must sell.-72, Mill Lone, stead.

INDIAN Combination, late 1914, thoroughly of hauled, any trial; £100.-9, Broadway, Winchm Hill, N. 1916 7-9h.p. Spring Frame Indian, lamps, to spares, perfect; offers.—10, Butler St., New F. Blackpool.

19 20 Indians; prompt deliveries.—E. Brown, Ind Specialist, 3 and 7a, Parker Lane, Burn Tel.: 194.

EGERTONS, Northgate, Ipswich, are booking et delivery for Indian Scout and Powerplue mod Phone: 962.

Phone: 962.

INDIAN 7-9h.p. Combination, 1914, 2-speed, clut
K.S.: £75. - R. Wallas, 75, Leeside Cresce

INDIAN Scout, booked December, Delivery what offers?—Montague, Gloucester Villas, ford, Middlesex.

INDIAN 4h.p., 2-speed, clutch in perfect conditional lamps, etc.; £70.—D.A.H., 7, Onslow Place, So Kensington, S.W.1.

INDIAN Combination, 7-9h.p., K.S., 2-speed, lsm tools, etc.; £90, bargain.—Surgery, 484a, F ham Rd., S.W.6. INDIAN 7-9h.p. Powerplus, 3-speed, kick start, 1919, little used, and equal to new; £13 County Garage, Rhyl.

19 19 (Dec.) Powerplus Electrically Equipped Ind combination; £200.—Addiscombe Court, Addiscombe Rd., Croydon.

INDIAN 1915-1916, 3-speed, kick start, foot of makers' colours: drive away; nearest £80. High St., Wandsworth. 6-9h.p. Indiaa, wer model, new, 3-speed; bargein, £1: smaller machine considered part exchange.— Broomwood Rd., S.W.11.

1915 7-9h.p. Indian, clutch model, discs, lan Klaxon, etc., fine order; ride away; photo: 27: 6, East Drive, Brighton.

19 14 T.T. Clutch Model Road Racer Indian, in g. condition, stored 3 years, lamps, born; 26; 32, Somerby Rd., Barking.

1914 Indian 7-9h.p. Combination, spring frame, splendid condition; price £95.—49, Annesley The Hyde, Hendon, N.W.9.

Inc Hyde, Hendon, N.W.9.

INDIAN Combination, 1914, 7-9h.p., 2-speed, club
spring frame, electric light; £95.—George, 2, Wi
side Parade, Finchley, N.12.

19 14 7-9h.p. T.T. Indian, clutch, good to Klaxon, accessories, fast; £55;—Fram Lodge, Russell Hill, Purley.

INDIAN 7-9h.p., 2 speeds, clutch, speedometer, lan coachbuilt, sidecar, and examination; Ell Heighton, Elton, Peterboro'.

19¹⁶ 5-6h.p. Indian, 3-speed, clutch and K.S., lan etc., mileage under 2,000; £95.—Glenbro Hersham Rd., Walton-on-Thames.

B32 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the Issue.

MOTOR CYCLES FOR SALE. J.E.S

E.S., 1920, attached Humber strengthen of 3-speed eyele, new tyres, milenge under 250; £30.-151, nge Park Rd., Leyton. [2609

J.H.

J.H.

7.AUCHOPE'S, 9. Shoe Lane, London, E.C.4.—
7.9h.p. J.H. Combination, 1915, M.A.G. engine, attershaft Sturmey-Archer gear, all-chain drive;
[6861]

June

19 Juno Combination, 4h.p. J.A.P., Stutiney-Archer countershaft 5-speed, K.S., Empire light-fit sidecat, splendid condition; £105.—69, Thuilby Wembley.

Keiry.

ERRY 254h.p., tide away; also twin about 216h.p., in mining order; both coil; £12 each.—(iates, ghee, Tring. [2524]

thp. Kerry, in good running order, mag. splendid condition; seen after 6 p.m.-36, Ordnance St John's Wood, N.W.8. [2838]

i.ea-Francis.

£A-FRANCIS, 1919, 3l-h.p., accessories, tools-£100.-266, Lordship Lane, Dulwich. [1900] 2A-FRANCIS, August, 1919, mileage under 600; £100, no (ffers.-216, Wolverhampton St., Dadley, [X132] 20 (New) Lea-Francis M.A.G., and cancelet side-ear; £157.-J. Hehden and Son, 149, St. James Burnley. [1731]

14 Lea-Francis 14 Lea-Francis, new Swan sidecar, the whole as asw, guaranteed; £125, near offer; seen any .-14, South Ter., Bosham, Sussex. [X1807]

A.FRANCIS 1914-15 31 h.p., 2-speed, free en chain drive, in splendid condition; £85 ker, 33a, Horsefair, Kidderminster. 14 (Late) 2-speed Countershaft Lea-Francis, with Cancelet Minor sidecar, lumps and horn, ready de away; £85.—Goodall, Defford, Worcester. [X1683

de un; 120. — (1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. — 1980. —

15½ Lea-Francis; A1042, 5-speed, K.S.. hand and foot clutch, accessories, mechanically per-£75.—Lio~, 32, Stockwell Rd., S.W.9. Phone: ton 1957.

:VIS 1916 staby, all on; £42.-62, Churchill Rd., Craydon. [2638 WIS 1920 Popular, delivery from stock.—Morriss 139 Finchley Rd., N.W. [1716

IN GUY, Weymouth.—Sole agent for Levis motor cycle. 2-stroke from stock. [2204]

WIS, 25th.p., late 1916, perfect; £43.-A.C., 36 Ractoo Rd., Fulham, S.W.6. [1750]

VIS Popular, 1916, in top-hole condition, good tyres; £59.—Oswell, Hadley, Salop. [X1713

17 Levis, 2-speed, in fine order; bargain, £45.— Dowell, High Rd., Byffeet, Surrey. [2337

p. Levis, 1915, in excellent condition; £45.— Dudley Rd., Pendlebury, Manchester. [2

VIS Popular, good order; bargain, £40.—East View, Chase Court Gardens, Enfield. [3060] 16 Levis Popular, excellent condition, lamps, horn, tools; £42; after 6.-51, Doughty St., orn, W.C. [2888]

16 Levis, single speed, fully equipped, tyres new; £47/10. Apply evenings after 6, Saturd 6,-26, Nightingale Place, Woolwich.

VIS 21/h.p., just fitted new rings, bearings renovated, as new; £48, or nearest offer.—P St., Whitchurch, Salop. 'Phone; 74.

20'Levis, practically new, only ridden few miles; £58, or nearest offer; seen by appointment only, hardson, 163a, Sutherland Av., Maida Vale. W.9. Nacion, 1938, Statement, and can supply early, this famous 2-stroke.—District agents, The all Garage, Wolverhampton St., Walsall. Phone: [Procedure]

BY Levis, 1914, 2½h.p., in splendid condition, very last, climb any hill, tyres perfect, very little £33, no offers.—Powley, 84, Downs Rd., Walmer, 1753

VIS 2-stroke, 1919, electric lighting set, little used, 125 m.p.g., beautiful little mount, like new; tereaings after 7.30.-4, Forest Hill Rd., East tich.

VIS 21/4h.p., 2-speed, 2-stroke, lamps, pnmp, and horos, jost been overhauled; a snip, £45.—A. J. ell, 5. Bloomfield Rd., Bromley Common, ley, Kent.

[2476 VIS 214h.p. 1920 Popular Model. - Viviac Hardie end Lone, Ltd., nuthorised agents, 24 stock St. (off Oxford St.), Bond St., W.1. 'Phones in 6559. - Viviao

Sole London and District Agents for A.J.S. and British Excelsion Motor Cycles, also Watsonian Sidecars, Contracting Agents for Triumphs, B.S.A., Hendersons, Enfields, Calthorpes. Allons, ABC.'s, New Imperials, Clynos, etc.



HELMETS ARE A NECESSITY TO EVERY MOTOR CYCLIST.

Leather fleece and Teddy lined ... 25/-Tan leather fleece lined

MOTOR CYCLE SUITS.

Guaranteed waterpriof. Jacket, double breasted, with belt and wind cuffs, seat-Overalls ... Postage 9d.

PISTON RINGS IN STOCK PISTON RINGS IN STOCK mads to fit the following engines: Jam's (2-stroke), Levis Villiers, 4 h.p. Douglas 1/6 each; New Hudson, (2-stroke), Baby Triumph, 1/9 each; Precision, Triumch, B.S.A, Rudge, P. & M., Clyno, 2/s each; 4‡ h.p. Precision, Bradbury, 2/6 each, Postage 3d-extra

MOTOR CYCLE VALVES

to fit all motor cycles; Douglas, 2\frac{3}{2} and 4 h.o.; Enfield, 2\frac{3}{2} and 3 h.p.; Peugeot, 3/5 e-ch. Triumph, P. & M., B S.A., A.J S., 5/- each. Rudge, 5/3 each. Postage on valves, 3d.

A.K. KNEE GRIPS, very strongly ma e of leather and rubber. Will fit any machine (postage 4d.) ... 12/-LEATHER KNEE GRIPS, well made and padded (post, 4d.) ... 8/*

IMMEDIATE DELIVERY

of a varied selection of new 1920 Motor Cycles, also a number of carefully used machines of standard make. Call and inspect them at our Kensington branch, or send p.c. for list.

H. TAYLOR & CO., LTD. Showrooms: 21a, STORE ST., W.C.1. 52-53, SUSSEX PLACE, SOUTH KENSINGTON. Wholesaie: 38, ALFRED PLACE, W.C.1

Garage-Tottenham Court Road. Phones: Museum 1240; Kensington 7250, Telegrams: "Dynametro, Westcent, London."

MOTOR CYCLES FOR SALE.

Lincoin-Eik.

3th.p. Lincoln-Elk, 1914, new Grado gear, over-handed, enamelled; £45,—Lt, Gandy, Rodney, Brockenhurst, Hants. [1734]

L.M.C. 2 h.p. L.M.C., all accessories, fast, first-class condition throughout; £50.—Steele, Harpley, Nor-[2005]

L.M.C. 1912 4h.p., single-geared, just overhanded, splendid condition, reliable, last; £30; saterfice.

-Oliver, 120, Bollobridge Rd., Acton, W.3. [2366]

L.M.C. 1919 4 An.e., 3-speed, K.S., as new, just overhauled by makers, all accessories; quick sule, best offer over £85.-47, Jesus Lane, Cambridge. 2309

1920 L.M.C. Combination, 5-6h,h., run 600 miles, lamps, Cowey horn, wind errein, Stewart speed-ometer; best offer over £175.—S.M.O., York Honce, St. Aldate's, Oxford.

MARTIN-J.A.P. 4hp., o.h.v., very fast and sporty machine in sphendid condition, lumps, new tyres, variable puller; 180.—Spelman, Plough Inn. Fen lutton, Cambruise.

2 h.p. o.h.v. Martin-Jap, engine No. 5713, Brampton of durks, E.I.C., Senspray, Hutchinsons, in good condition, can be ridden away, 490; also Witsendam coarchault S.C., Levis fittings, 10 gns.—186, Albert Rd, Stechford, Brimningham.

Martinsyde

REX G. MUNDY for early delivery of Martinsyde combination.-1, Duke St., Richmond. [0207 MARTYNSIDE-NEWMAN Combination, delivery second week in June; £5 deposit paid; London; what offers?—Box 4,253, c/o The Motor Cycle. [3095]

Matchless.

MATCHLESS, 6h.p., o.h.v., variable gear, 1913; £75.—Corah, Northfield, Birmingham. [2742]

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Matchless combination, 1918; £160. [3169

MATCHLESS Combination, new, at list. Model H. electric.—Grimes, Bruton Place, Bond St., W.1. [1387]

19²⁰ Matchless Model H Combination, brand new, unridden; offers.—Box 4,241, c/o The Motor Cycle. Cycle.

CROW Bros., Guildford, West Surrey agents for this first-class outfit. Matchless in name and [3173]

onality. MATCHLESS, 1920, lamps, horn, spare wheel, guar-Manteed brand new; £235.-12, Wellington St., Eastwood, Notts.

19¹⁸ (November) Matchless Combination, spare wheel, lamps, etc., in splendid condition; 150 gns.—Phillips, East St., Rye.

MATCHLESS Combination, 7-9h.p., 1914, excellent order, stored 3 years, lamp, etc.; £110.-120. Newington Canseway, S.E.

MATCHLESS Twin Combination, with policy for £125, any trial; accept £100.—Robinson, 145, Northcote Rd., Battersea.

Sh.p. Matchless Combination, M.A.G. engice, 3 speeds. lamps, speedometer, screen, etc.; £145.—34, Kingscote Rd., Addiscombe, Croydon. [3042]

Sh.p. Mattchless Combination, Binks carbinetter, 2-speed, kick starter, like new, and guaranteed per-fect; £110.—Lewiu, Broughton, Kettering. [2927

MATCHLESS 1919 Combination, condition as new, lamps, electric horn; price £180; alter 4 o'clock.—185. Powis St., Woolwich, S.E.18. [1891]

MATCHLESS-J.A.P. 4h.p., twin-cyl., countershaft, o.h.v., T.T. bars, 3 speeds, lamis, horn.— Samman, 33, The Parade, Golder's Green, N.W. [2966

19 20 Model H Matchless Combination, spring frame, spare wheel, Lucas's lamps, screen, etc.: £230.—
Judd, 93, Vauxhall St., Kennington Lane, S.E. [1684

BRAND New 1920 Matchless Combination, M.A.G. engine, standard equipment: 230 gos.—10, Bedford Rd., Bedford Park, W.4. 'Phone: Chiswick 1747. [1613 19 Matchles Victory Combination, guaranteed, 4 interchangeable wheels, full kit tools, hood, lamps, horn; £190.-113, Rodney Rd., Walworth, S.E.

MATCHLESS 1918-19 8h.p., enamel, plating as new, 1920 type sidecar, lamps, Klaxon, Cowey speedometer; £170.—Driscoll, 58, Woodfield Rd., Ealing. LZOUE

1919 Model Matchless, spare wheel, 3 unused Lucius lamps, complete, Klaxon, Cowey, Easting, nuscratched; £175.-4, Bridge St., Bishop's Stortford, [2671

MATCHLESS-M.A.G. Special Combination, full enument, just overhauled, nickel plated and enamelled, as new; after 6.—4, Pattison Rd., Child's field. MATCHLESS, 1913, J.A.P. 4h.p. fixed engine, Bosch, B. and B., fast, sporty, condition splendid: £55; after 6 p.m.—Reynolds, 68, Burleuh Rd., Enfield. [2473 fixed engine,

Matchless.

19 Victory Model 8b.p. Matchless-Jap, fully equipped, hood, wind screen, lamps, horn, and spare wheel; £185.-501, Commercial Rd., Portsmooth.

Sh.p. Matchless Combination, Enfield sideor, Klaxon, lamp set, hood, speedometer, re-enamelled and overhauled; £120.—Thompson, 22, Sidney Av., Palmers Green.

MATCHLESS Sh.p., 2-speed, double-seated sidecar, hood and screen, in perfect condition and running order: £90, or exchange.—B.A.B. Motor Co., 130, High St., Harlesden.

M ATCHLESS 8h.p. C.B. Combination, 2-speed, free engine, K.S., new tyre, lamps, speedometer, etc., ready for touring; £98, or offer.—184, Stanstead Rd., Forest Hill, S.E. [3246

MATCHLESS 1915 Combination 7-9h.p., M.A.G. engine, dynamo lighting set, screen, speedometer, all accessories; £115.—Caig, Snnnymead, Breck Rd., Wallasey, Chesbire.

19 13 Matchless 6h.p. J.A.P. Combination, coachbuilt sidecar, lamps, horn, tools, excellent condition; £120; seen after 6; apply side doc-239, Balham High Rd., S.W. [1892

MATCHLESS Combination, 6h.r., countershaft gears, 3 lamps and generators, horn, speedometer, snumerhill Rd., Dartford. Clifton Mount, Snumerhill Rd., Dartford.

19 15-16 Matchless-M.A.G. 8B Combination, splen-ard did condition, hood, screen, lamps, horn; any part dismantled for inspection; £150.-5, Bloomfeld Rd., Bromley Common, Kéut. [2477

MATCHLESS 3b.p., V.S. 2-speed gear, sidecar, Mamps, born, wind screen, in good condition, trial; seen by appointment; £90.—Spinks, 26, Ormiston Rd., Greenwich, S.E.10.

1920 Matchless Combination, Model H, fitted stan-born, etc., brand new and naregistered; £250.-2. Nigbtingale Rd., Lower Clapton. [2179

19 14 6h.p. Matchless-Jap Combination, Bosch mag., variable gear, lamps, horn, speedometer, mirror, tools, spare tube and belt, perfect running order; £85.—1, Melrose Rd., Merton Park, S.W.

Ch.p. Matchless Victory Combination, brand new and indistinguishable 1920 model, car tyres, spare wheel, discs. 3 lamps, car generator, tools; £155.—Bunce, 106, Church St., Chelsea, S.W.3. [2987

MATCHLESS.J.A.P., 8h.p., 2 speeds, Binks carburgetter, Bosch mag., coachbuilt sidecar, lamps. horn, spares, etc., rebushed, enamelled, and overhauled; £95.—Goode, Woodville Terrace, Argoed.

MATCHLESS, 1920, Model H, spring frame combination, dynamo lighting, spare wheel, speedometer, bood, screen, born, mirror, legsbields, cost £250; accept same; Sussex.—Box 4,256, c/o The Motor Cycle.

1914 5-6h.p. Matchless-Jap, complete with Lorentz-borner pound, and spare tubes, latest Kenith controlled by the complete with case hours, buretter, Bosch mag, Best's lubrication, sond and good appearance, fast; cheap at £55.—Homestead, Birchington.

MATCHLESS New Spring-frame Model.—Orders model on view. Replacements for Matchless models of all dates in etock.—Tassell, 1a, Bloomfield Rd., Plumsteind, S.E.

1914 8h.p. Matchless Coachbuilt Combination, countershaft gears, chain drive, lamps, speedometer, Riacoa, lugage grid, jertol carrier, etc., excellent running order; 298.—436, Whitehorse Rd., Thornton Heath, S.E.

1914 8h.p. Matchless-M.A.G. Combination, 3-speed, kick start, chain drive, speedometer, luggace grid, petrol carrier, apron. Easting wind screen, just overhauled, repainted; £110.—Lt. Tarner, Maresfield Park, Uckfield.

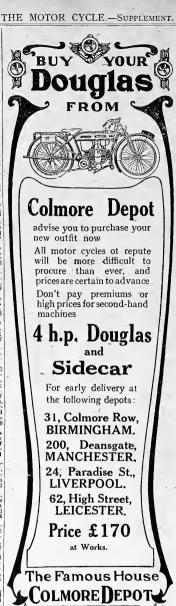
19 20 Model H. Matchless Combination, just de-livered, dynamo lighting, spare wheel, Watford speedometer, enclosed drive, and all latest fituents, un-scrafched, many spares; offers above £255.—Sewell, Elgin Lodge, Edenbridge, Kent.

MATCHLESS 1915 6h.p. Combination, 3-speed Matterney-Archer geor, kick start, 1919 Middle-ton coachbuit sidear, full equipment, excellent co-dition, ready for Whitam tour; £90.—Brewer, 1, 10man Rd., Earlsneid, S.W.18.

Sh.p. Matchless-Jap C.B. Combination, 2-speed, electric lighting, splendid machine, too powerful present owner; exchange good 4hp, combination and cash, or sell £150; seen Saturdays only—Claude Smith, Church Rd., Kirby Muxlee, Leieseter.

MATCHLESS Combination, 1919, Victory model, ex-cellent running order, just thoroughly overhauled, 4 interchangeable wheels, full set lamps and tools, speedometer, recently repainted and varisbed; £175.— Gerald Wadman, fcklesham, Sussex.

1915 Matchless Combination, 7-9h.p. M.A.G., 3-speed, chetch, countershaft, kick start, sileot chain drive, coachbuilt sidecar, luggage and petrol carriers, Easting vind screen, nechanically and condition perfect; genuine durani, £125.—8u, George Laue, Lewishum. [2956]



MOTOR CYCLES FOR SALE. Matchless.

19 14 Matchless 8h.p. Combination, Gloria sistematic particles and overhauled, and in good appearance, all in going order; can be seen at any time; £100, or brother.—T. Middlebon, Studfold, per Settle, York

19¹³ 6b.p. Matchless and Coachhuilt Sidecar heavy oversize tyres, 2-speed, kick start, lent condition, sidecar body new, speedometer, lamp set, etc., any trial given; price £110; London week-ends.—Box 4,272, c/o The Motor

MATCHLESS Model H., luxurious fully equations for the spring frame combination, dynamo lighting tachable wheels and spare, rear driven speedometer, car hood with side curtains, screen, Lucas horashields, etc., mulcage 500; offers over 2255-Fishe New Park Rd., Brixton Hill. 'Phone: Brixton 3

MATCHLESS Combination, M.A.G. engine, Lucas dynamo lighting set, speedometer, wirror, interchangeable wheels, spare wheel, large fortable sidesar with hood, wind screen, lugange or petrol carrare, and pillon seet, a haxuntous out great control of the petrol carrare, and pillon seet, a haxuntous out woodside Parade, Flichley, N.Z.

MATCHLESS Combination—Bock your orders Ross, 86, High Road, Lee, S.E., Ior 1920 s Irame 8h.D. Matchless combination. A model a cn view at above address. Deliveries gnara strictly as per order received. Retail price as ran time of delivery. A harge assortment of second motor cycles of all makes always in stock.

Maxim.

19²⁰ 3h.p. Maxim-Balm 2-stroke, just delivered gain, £63.—67, Newton St., New North

Metro

METRO- fitted 1919 T.D.C. engine, new, Bosc quires carburetter; £30.—Bateman, 31, New Croxley Green.

METRO-TYLER, 2-speed, in stock, £74; or discs, £77/5.—H. A. Saunders, 31, High Hampstead, N.W.3.

METRO-TYLER, long exhaust, disc wheels, act in stock, a real sporty 'bus.—Hewin's Gai Ltd., the real service firm, Totnes.

METRO-TYLER 1919 25/h.p., disc wheels, 2-s long exhaust, perfect; 268.—Hewin's Gai Ltd., the real service firm, Taunton.

METRO-TYLER, delivery from stock of 2-models at list price; 274/12/6; extended if desired.—Elce and Co., 15-16, Bishopsgate Camomile St., E.C.3.

METRO-TYLER, August, 1919, discs, T.T. nickelled exhaust, footboards, mechanical tools, pump, mileage 1,000, guaranteed perfect c tion; £53; deposit system.-Percy Hart, Bra Wylam, Northumberland.

3h.p. Minerva, incomplete; enclose stamp for deta 35, Arthur St., Rochdale. [X

31h.p. Minerva Combination, mag., low; ride i 238.-37, Welbury St., E.8.

MINERVA 234h.p., Bosch, B. and B.; £23.

MINERVA, 25th.p., new B.B. carburetter; & 9, Nelson St., East Ham, E.6.

MINERVA 21/2h.p., low frame, all complete; away; £32.—F.T., 77, Canbury Av., Kingsto Thames.

31b.p. Minerva, E.I.C., B. and B., overhauled, hoards, good running order; £22.-24, I Park Fields, Putney.

MINERVA Twin 4½h.p. and Indian sidecar, 1 B. and B., all red, perfect running order; -110, Brixton Hill, S.W.

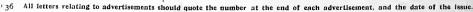
MINERVA 234h.p., mag., B. and B., nice low me £20; seen week-ends or evenings.—Parratt Argyle Villas, Station Rd., Billericay. 4 h.p. Minerva twin, mag., B.B., good condition, away; \$30.-254, Earlsfield Rd., S.W.

MINERVA Twin, Bosch, B. and B., overhauled, in good order; £25.—Plant, Forward Gereignmouth.

MINERVA 3½h.p., Grado, mag., B. and E. feed, spring forks, drop frame; £20.-5, Holdings, Woodcote, Wallington, Surrey.

MINERYA, 2%, b.p., Druids, U.H. mag., B. and new Clinchers, frame very low, guaranteed a throughout; £25/10.—Langford, Branstone Rd.,

11. D. Minerva and Sidecar, N.S.U. 2-speed, Is of 22 cerburetter, spring forks, good tyres, side willow body, side door, storm cape and apron, of tity of accessories and spares, had very little wear, in first-class condition; trial; £40 the low offers; might separate—65, Hornsey Park Rd, H.



Moto-Reve

CO-REVE 2¹4h.p., good running order; £22 16, Culmore Rd., Peckham, S.E. [25

PO-REVE 21/h.p. Twin, mag., spring plendid condition; first cash £22 sect 18, Darley Rd., Wandsworth Common. CO-REVE Twin, 25th.p., 1912, stored since 1914, works overhaul, new Binks and belt, good tyres; n, £28.—Bates, Aintee, St. Cathernie's, Lincoln.

Motosacoche.

rosacoche: 3\dh.p., 1914, in good running con-lition; £55, or near offer.—144, London Rd., orley. [2776]

p. Motosacoche Lightweight, Bosch, Druids B. and B., tyres good, good running order; after £25.-67, High Rd., Lee. [2374]

p. Motosacoche, new condition, variable pulley, Bosch mag., h.c. clutch, ride away; seen any £32.—D., 9, Victoria Rd., Berkhamsted. [2491 POSACOCHE 3th.p., 1916, 500 c.c. twin M.A.G. engine, Eufleld 2-speed, free engine, kick starter, oudition; £50.—50, Harold Rd., Upper Norwood. 61

5.] 21-h.p. Motosacoche, mag., variable geat, nice condition, auxiliary tank, lamps, horn, etc., good £20, plus 100%—T. P. Wheeler, Stone House, onger, Wixford, Alcester.

New Hudson

n New Hudson, 3-speed, ride away; best over £50.—1, Brookfield Terrace, Lytham, Luncashire, 1790 4 New- Hudson, 25th.p. J.A.P., clutch and speed; £50.—110, Mill Lane, West Hampstend O New Hudson 2-stroke; list price, £75; Iron stock.—Moss, Son and Bros., Liphook, Hants V HUDSON, 25th.p. J.A.P., 3-speed, clutch, no eavy Dunlops; £50.-164, High St., Croydon V HUDSONS, immediate delivery.—A. J. Young nd Co., Ltd., Newmarket. 'Phone: 214. [0193 nd Co., Ltd., Newmarset, Floor, St., V HUDSON 2¹4h.p., 2 speeds, 2-stroke, just de-livered; £75. — Tilleys, The Esplanade, Wey. [2903]

4 New Hudson 3½h.p., 3-speed hub, kick sta enamel and tyres good; £55.—Bell, Gt. Cast amford. V HUDSON Combination, 4h.p., August, 1919 splendid outfit; nearest £135.—Box 747, c/c lotor Cycle. [X1613

HUDSON 4h.p., 1914, 3-speed, etc., excellent condition; £55.—Hughes, Cwar-las, Uplands, Pon e, Glamorgan. [1807 excellent

UTIFUL 1920 (May) New Hudson Lightweight: speeds, faultless, unscratched; offers.—19, field, Prestwich.

New Hudson, 1913, 3-speed, coachbuilt sidecar, erfect order; £65.—1, Norwood Rd., Herne Hill.; Brixton 1964.

HUDSON 1919½ 2-speed 2-stroke, lamps, horn, and B., Thomson-Bennett; £60, or nearest.— chbeck St., Spalding. [2187]

chbeck St., Spalding. [2187]

'HUDSON 1914 Combination, J.A.P., Saeed, utch. Bosch, good condition; £60.—Chauffen, f. Fernhurst, Haslemer. [1983]

4 2½hp. New Hudson, 5-speed, clutch, lamps, tec., complete, any frial; 40 gns.—Hammond, oo Rd., Shepton Mallet. (X1598)

'HUDSON 2½hp., 2 speeds, 1916, lamps, etc., exhields, footboards, in good condition; £455–848, hasplang, Funborough, Hants. [2538]

Twin New Hudson Combination, Armstrong 3-ed hub gear, Bosch mag., 2-seater sidecar; -Taylor, Chemist, Ashford, Kent. [X1665]

7 HUDSON 2-stroke, 2-speed, hrand new, per-ect order, done only 100 miles, complete, horn, \$70, or offer.—Frank Smith, 24a, Church Rd., m. (2349

D Big Six New Hudson Coachbuilt Combination. lamps, and luggage grid, etc., tyres unpunc-£155, no offers.—Apply, Paterson, Londor al, E.1.

'4HUBSON Coach Combination. 3-speed, in fine ondition, good tyres and all accessories, private cheap; £73, or nearest.—Box 4,282, c/o 7hc Cyete.

p. New Hudson Combination, 1913 model, 3-speed, in good order; £50, or near offer.—Stern agineering Works, Streatham Hill, S.W.2. 'Phone: Streatham.

New Hudson, 2-stroke, 2-speed, 214h.p., 2 new lamps and tyres, fools, Klaxon, insured, over-decarbonised, perfect condition: £47.—49, Rd., Acton, W.



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NEW HUDSON Lightweight in stack, 1920 model, 2-8 speed, E75, new; one single speed 31-ghp, moter cycle, E50, second-hand; can be asen in any time.
Mayne and Sons, Station Garage, Beacons-li-bl. 1973

Mayne and Sons, Station Grange, Bewondick, 1973

920 New Hudsons, both T.T. and tourist models, catalogues and any investigation by return; good service and quick delivery.—Paskell, The new Hudson Deput, 45, Gray's Inn Rd., W.C.2. Thome: Gentral 11571, Gity Depot; 44, Fin-bury Pavenent, E.C.2. Ramsetalle, 1, London Rd. Thanet; 91, Hall 1763
Ramsetalle,

New Imperial.

CROW Bros., Guildford-New Imperial-Jap agents and expert repareds since 1914. [2066]

NEW IMPERIAL 27th.p., 2-speed, ride away; £45.

NEW IMPERIAL, 1915, 25th.p., 2-speed, good condition: £40.—Boiley, Sherbourne Hill, Wartwick, [X1332] NEW IMPERIAL-J.A.P. 254h.p., 2 speeds, 1916, new tyre; 47 gns.—81, Dundec Rd., South Norwood

13044

19 16-17 New Imperial, 2¹h.p., 2-speeds, in splendard condition; £49.—Rose's Garage, Uxbridgent NEW IMPERIAL, 2⁵h.p., 2-speed, 1916, lamp 57, 18, E. w.; £43.—Vinl, 31, Cunrose St., Paunistent, 1916, lamp 68, Paunistent, 1916,

S.E. [2951] NEW IMPERIAL J.A.P., 214h.p., 2-speed, 1916, in good order; £45.—Fox, Springfield, Caistor, Lin-(2865)

19²⁰ New Imperial 6h.p. Combination. miles; 1,200, excellent condition; £150.-54, York Rd. Aldershot.

NEW IMPERIAL-J.A.P. 2-speed Lightweight, in splendid condition, lamps; £50.—Best, 8, The Crescent, Sutton. [2655]

Crescent, Sutton.

NEW IMPERIAL, 2!(h.p. J.A.P. engine, suit short man or hoy; £55, or nearest offer; deposit.—Harricave; Lurgashall, Petworth.

[3265]

NEW IMPERIAL 2!(h.p., 2-speed, 1915, lamper, barrie belt, etc., cond condition; £44.—Tislef; Church Lane, Farnham, Surrey.

19 19 Imperial-Jap 2° jh.p., countershaft, clutch, starter, new throughout, £20 accessories; £7 10, King's Rd., Kingston-on-Thames.

19 16 23th.p. New Imperial, lamps, horn, accessories, carefully used, trial; £49.—Enic, 36, Stockwell Park Rd., S.W.9. (nr. Swan, Stockwell). [1993

NEW IMPERIAL-J.A.P., 254h.p., lamps, tools, knee-grips, splendid condition; ride away; £48; seen any time.-36, Alexandra Rd., Kingston Hill. [2238

NEW IMPERIAL Combination, latest hulhous back sidecar, 1919, Nov., mileage 400, lamps, etc., any trial; £150.—Stanley Biss, Waltham Abbey. [2734]

I MPERIAL-J.A.P. 25th.p., 1917, 2-speed lamps, horn, nearly new tyres, recently overhauled; £50, or offers.—Mercer, Mill House, Paddock Wood. [1745]

NEW IMPERIAL, 21:26.D. J.A.P., 19161; 2-speed, clutch, kick starter, excellent order and condution; £50.—W. Fox, Harrow Drive, Romford, Essex, 21:96 23h.p. New Imperial-Jap, ex-works Feb., 2-specy countershart, K. start, hand chitch, fully equipped seen by appointment; £76.—12, Trinity Rd., S.W.17 2-speed

19) New Imperial Sh.p., new Jan., 1920, small nileage, accessories, perfect, not W.D. model; 2150; after 7.—8, 52, Vineyard Hill, Wimbledon Park, 13003

New IMPERIAL-J.A.P. 2°-h.p., 2-speed, 1930, and accessories, good condition, E44 or near Accessories, good condition, E44 or near Accessories, sond condition, E45, p. 25, p. 25,

NEW IMPERIAL 2½b.p., 2-speed, clutch and K.S., splendid condition; 559.—Yewham Motor Co., 223, Hammersmith Rd., W.S. 'Phone: Hammersmith 80.

19 (October) New Imperial, 8h.p. J.A.P., Ful-ford sidecar, lamps, horn, spare chain, tube, etc.: £140.—Apply, The Ferns, Glade_Rd, Marlow, Bucks [1839]

NEW IMPERIAL-J.A.P., 1917-18, 2-speed, £48: also Bradbury, Bosch, B.B., £28: both with kunps, horn, etc., and in good running order.—5, Janet St. Millwall, E.14.

N EW-INPERIAL 1919 (Juos) 2³/₂ Jan 2-spee I, Lucas head lamp, born, knee grips, spares, tyres excellent, fast, good climher; 65 gns.—8, Parolles Rl., Highgate Archway. (2945)

NEW IMPERIAL-J.A.P., 219h.p., 2-speed, late 1916, heen stored 21g years, just overhauled, new back tyre, excellent condition; £54.—Davies. 56, St. Quintin's Av., W.10.

Acton, w. [1968]

HUBSON 1915-14 3½h.p., 3-speed, F.E., new Spring Fork

Klavon, accessories, splendid con£65; after 6.-9, Hamilton Gardens, St.

All letters relating to advertisements should quote the number of the spring for th

New Imperial.

New IMPERIAL_JA.P. Sh.p. Combination, W.D. model, 3-speed, clutch, K.S., fully equipped, P. and H. lamp set, T.W.R. rear and side, Klaxoa horn, Cowey speedometer, Easting wind screen, sprung lugsage grid, spare petrol can carrier with can, 8in. kace guards and undershield combined, reaching to rear madguard; done 2,235 miles, new Dec, 1919, photo or request, wonderful hill-dimber; any rial; offers.—Ramm, 150 Chebard, Godstone. Phone: 10 Godstone. (243)

Norton

NORTON 4h.p., 3-speed, 1915, overhauled; 60 gns. -Woolgrove, 449, Foleshill Rd., Coventry. [X1584 NORTON Big Four, 1919, machine only, excellent

19 15 31/4h.p. Speed Norton, never failed, adjustable pulley, fast, lamps, etc.; £74.—Lawrie, Hodgson House, Eton. [1999]

FOR Sale, 1920 Norton, lamps, horn, tools, unscratched; £140.—R.L., c/o Martin, 36, Frogmore St., Bristol.

NORTON Big Four, 1920, just delivered; owner leaving country; as new; £130 cash,—F., 146, Castellain Mansions, Maidu Vale. [1643]

1920 4hrp. Norton Combination, Lucas lamps and horn, mirror, speedometer, as new.-J. Hebden and Son, 149, St. James' St., Burnley. [1730]

B.R.S. NORTON, 1915, splendid condition throughout, will do 60, new tyres, lamps, tools; offers over £75.-63, Stratton Rd., Shirley, Southampton, TE 1919 Big Four Norton Combination, 19325, Lucas lamps, horn, speedometer, perfet, £170.—'Phooe: 4744.—501, Commercial F

1916 Sports Norton 3½h.p., 3-speed countershaft, plated exhaust, Capac carburetter, lamps, born, overhauled by Nortons, guaranteed perfect; £100, or nearcst.—8a, Blue Ball Yard, St. James St., Piccadilly.

1 1919 (Aug. 30th) 3½h.p. T.T. Norton, excellent control dition, very fast, all accessories, including power and head lamp, Klaxon, Wattord speedometer, and discs, rnu 1,100 miles; £95.—Julian, 84, Broad St., Reading, Phone: 1024.

1000 Norton Big Four, all enclosed chain drive, 3 speeds, kick starter, done 40 miles, fitted with head and rean lamps, knee grips and Sterling leg guards, a superb outfit; £160.-2, Nightingale Rd., Lower Clapton.

B1 Febr. Norton, 1920 (April), Norton spritting for unwinderent summer date, extra Binde back recommer deep P. and T. back and many sideour and tail separate seuerators, one journer, 50 milles, got car; best offer before noon, Saturday, 22nd.—Noble, 53, Clunch St., Altincham.

BIG Four T.T. Norton, 1916, chain-cum-belt, Sturre are countershaft, foot clutch, electric lightime (accumulator), Cower speedometer, brand new O.S. Dunlop back, just overhauled, fitted with 1919 sporting model; caouclet, apron and Easting screen, mechanical horn, will separate; £140.—T. Dollis Garage, Church End, Finchley S. [1958]

52 1h.p. T.T. Norton, omplete with Philipson, speedo22 meter, all accessories, and full tool kit, new
mag. and new carburetter, also spare mag. just
thoroughly overhauled and re-enamelled, and necessary
new parts fitted, any speed from 5 to 60 m.p.h. and
80 m.p.g.; any trial willingly any time; £99; Lincoln
district.—Box 4,261, c/c The Motor Oyle. [3108

Gistrict.—Box 4,201, c/c Intermediate Vyce.

NORTON 1920 Big Four Sporting Combination, as Inners, 3 Locas lamps, separate generators, Lucas Intermediate Vyces, and the separate properties, and the separate vyces of the separate vyces of the vyces, etc.; first ofter over £220.—Tel. : 538 Central Liverpool. Lyons, Monte Bello, 85. George's Mount, New Brighton, Cheshire. Atter 7.30 p.m. [1755]

N.S.IJ

N.S.U. 1910 31/h.p., 2-speed, clutch, wicker sidecar, in good condition and running order; £35.—Oliver, 120, Bollobridge Rd., Acton. [2367

L ATE 1914 N.S.U. 3h.p. Twin, 2-speed gear, enclosed Bosch, absolutely sound and faultless, very fast; price £42.—Greaves, Harby, nr. Melton Mowbray. [5180

3 th.p. N.S.U. with 2-speed N.S.U. gears, B. and B. 2 carbutetter, mag., just overhauled, but not completely assembled; £15.—Taplin, 159, Hornsey Rd., N.7. [5180

N.S.U. 1913 25/h.p., overhead inlet, spring frame, Bosch, tyres nearly new, appearance and mechanical condition perfect; £23.-R. Watson, 132, High St., Aldeburgh, Suffolk. [1635] Aldeburgh, Suffolk.

6 h.p. Twio N.S.U. Combination, 2-speed counter-shaft gear, kick start, enclosed Bosch, B. and B., Matchless forks, new Duulops, lamps, etc.; £54.—9, 18la Rd., Plumstead Common, S.E

N.U.T.

1 020 N.U.T., only done 150 miles; what offers?— Gewer House, 11, Radford Rd., Leanington Spa, Warwickshire. [X1709]

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N.U.T.-We are sole wholesale and retail agents
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SHROPSHIRE.-N.U.T. sole agents for the count demonstration model in stock. Orders booked strict rotation for early deliveries.—Jemes Garage Church Stretton.

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N. U.T., immediate delivery, brand new 1920, dynan
N. U.T., immediate delivery, brand new 1920, dynan
shown!) best offer above this secures for Whitam
after 6.—Crowhurst, opposite Thames Ditton Statio

N.U.T. 1920 Model 31/th.p., Luces dynamo liguto electric horn; 140 gns, complete.—Authorised to don agents, Viyon Hardie end Lace, Ltd., 24, vitch state (or Carlot St., W.I. 'Phose Marie St., W.I. 'Phose Marie St., W.I. Book now for early delivery.

O K.-UNION 2-stroke, just delivered; £50.-Tille The Esplanade, Weymouth. [29]

19 14 O.K. Junior, 2-speed, in sound running order £35.—Ryder, Heathfield, Sussex. [29] 19 20 O.K. Junior, 2-speed; £65.—Kays, 8, Bond S Ealing. 'Phone: Ealing 1827.

O.K., Mark V., excellent condition; £36.—App. 40, Saxon Rd., Southall, Middlesex. [18] O.K.-UNION, actually in stock; 48 gns.; to climb any hill,-Meeten, Dorking.

O.K. Union; deliveries from stock.—Hewin's Gages, Ltd., the real service firm, Taunton a Totnes.

19 20 O.K. Villiers, 2-speed countershaft, in stor Birmingham.

23h.p. O.K., 2-speed gear box, perfect order, go condition; accept £32/10; no dealers; any tri -H.S., 52, Christchurch St., Ipswich. [X15]

-H.S., 52, Christenucu etc., Arnior, Mark V., exc P.O.C.H. have a 1919 O.K. Junior, Mark V., exc Cellent order.—Fair Offer Car House, 5, Has St., Hampstead (nr. Hampstead Tube State Phone: Hampstead 3752. Hours 9-7, including

19 17 O.K.-J.A.P. 234h.p., 2-speed, new Cowey spe ometer, Tan-Sad, electric lamps, accumulat horn, ia perfect order, little-used, £58; without acc sories, £49, hargain.—B.A.B. Motor Co., 130, Hi sories, £49, ... + Harlesdea.

O.K.-J.A.P. 2%h.p., 2-speed countershaft, Am E.I.C. mag, new heavy Dunlops, Cower speed meter, large P.H. lamp set, pump, tools, etc., perforder: £59; owner bought combination.—H.O., 2] Bow Rd., E.5.

0mega

OMEGA, 1918, 2-stroke, 2-speed, good tyres; £45 Sibley, 106, Market Place, Romford. [27 19 19 Omega-Jap, 2-speed, all accessories, splent condition, very fast; best over £50.—330, Ess [22]

Rd., N. 19²⁰ 2³⁴h.p. Omega Model C., 2-speed, clutch, a kick starter; list price 74 gas., plus 26/- carria -Taylor's Garage, Falmonth.

OMEGA-J.A.P., 2-speed and model de luxe; and 79 gns. respectively; early deliveries,-and Son, 29, Station St., Lewes.

OMEGA-J.A.P., the tamous lightweight, 2-speed, gas.; clutch and kick start, 79 gas.—Louis Ford, opposite G.P.O., Easthourne. [22]

OMEGA, 1917, 28thp., 2-speed, chain-cum-bel E.I.C. mag., B. and B. carburetter, 2 Mille lamp, horn, spare belt and chain, esw lunlap the back, just overhauld, perfect running order, see every day; 245.—Spooner, Priory St., Stockie ford, Nuncaton.

P. and M.

P. and M., 1914, 2-speed, standard machine, go order; £55.—Riches, Harlow, Essex. [262]

P. and M., 1920, new model, delivered, unus offers.-Box 741, c/o The Motor Cycle. [X1

P. and M. Coachbuilt Combination, 1914, 2 lamps; £66.-202, Munster Rd., Fulham.

P. and M.-Brighton, Hove and district; prompt of livery.-Turpin's, 29, Preston Rd., Brighton.

P. and M., 1916, very nice condition, all on war model; £85,-198, Sheen Lane, S.W. P. and M., 1919, as new. 31/2b.p., kick starter, lamp horn; £80.-37, Ommaney Rd., New Cross, S.E.1

P. and M., 1918, practically new; £78, no offers. 2, Harewood Rd., Collier's Wood, Merton, S.W.

19 15-16 P. and M. Combination, rebuilt by m 1918. perfect condition; £85.-8, Craven

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PRECISION 1913-14 3% h.p., engine perfect, Bosch, B. and B., single, adjustable pulley, low position, owner leaving town, ride away; £40,-Cottrell, 2, Belmont Rd., Tive-ton. [2321]

19 194 Precision 5 th.p., 2-stroke engined light-weight, sloping top tube, saddle tank, fast, good hill-elimber, beautiful condition; 47 gas.—Leechman, 35, Lee Park, S.E.S.

MOTOR CYCLES FOR SALE.

P. and M.

P. and M., R.A.F. Model, new tyres, chains, lamps; £80: after 7 p.m.—1, Salcombe Villas, Vine-ard, Richmond. [3076]

1918 P. and M. Coachbnilt Combination, smart out-fit, perfect condition; £100.—72, Longridge Rd., [2734]

P. and M. Combination, 1913, running order, all accessories, ride away; £56; no offers.—18, Tower t., Hucknoy, F.S.

P. and M., W.D. model; £78.—Clifford Wilson Mann-facturing Oc., 70, Royal Hospital Rd., Chelsen, W.3. Kensington 7113.

D. and M. Coachbuilt Combination, late model. lamps, spares, etc., trial; £95.—Herbert, 16, lorian Rd., Putney, S.W.

 and M., 1917-18, R.A.F., good condition; £7
 sidecar to fit if required.—Cooper, 47, Blackharame, Addiscombe, Croydon. [27] £75

). and M. 3¹/₂h.p., 2-speed, K.S., very nice machine; £85.—Newnham Motor Co., 223, Hammersmith d., W.6. Phone: Hammersmith 80. [9202 9 P. and M., in perfect condition, just been thoroughly overlanded, receipt shown; £86.—32, uphand Grove, Hackney Station, London. [2731

DHELON and Moore, ex-military stores, overhanded and sent on approval, 278; complete with B.S.A.), 2 sideen £115—Mandes', 100, Gt. Portland St., undon. Also Paris St., Exeter.

Date Lairs Ot., Easter, 1922.

20 P. and M., delivered this week," mechanical lubrication, ratchet brake, all accessories, 1 are insurance, registered; best offer.—Box 4,237, c/o Motor Cycle.

9 18 gunnateed P. and M., as new, spare new picton on thoughout; my trial; hest offer over £75; after 50, Green Av., Northfields, W.13.

919 P. and M. Combination, just overhauled, new Senspray, rings, gndgeon, chains, tyres, special body, good lamps, horn, tools, sparcs, excending dition; nearest £93.—Major Harrison, Hayle, Corn-

10.C.H. have a 1919 P. and M. combination, fully equipped, excellent order.—Fair Ouer Car House, Reali St., Humpstead (nort Hampstead Tabe Station) ower Hampstead 5752. Hours 9-7, including Satur. 8917,

and M. and Sidecar Complete, lamps, etc.; £105; 1915, 4h.p., 1919 gear, tyres almost new, excelt condition, sidecar coachbuilt, roomy, well sprung, rier; photograph on application.—Mignon, Durring, Worthing.

and M., 1915, little used, with Millford sidecar, cower speedometer, 3 Lucas lamps and generators, as hour, spare type and 2 tubes, spare choics and complete outlit; owner ridden; £150; after 65, Vanshull Bridge Rd, S.W.I.

55, valuxani isruqe Ru, S.N.I. [2016] and M. Combination, 1920, actual show model automatic lubrication, hand brake, inxariously of Cower speedometer and automatic lubrication and number plates, legisles, petrol can and carrier and number plates, legisles, petrol can and carrier policy transferred; any Fairey, 23, Lonsdule Sq., Barnsbury St., Islang N.1. [2061]

P. and S.

AUCHOPE'S, 9, Shoe Lace, Fleet St., London.— P. and S. 2-stroke, 2-speed model, Villiers 68, £69/15; kick start and clutch models, /10; from stock.

Peco.

CO 2-stroke 2 (h.p., 2-speed countershaft, good condition; 244; lamps.—Last, 185, High St., ersea. [2489]

Peugeot

p. Peugeot, mar, sidecar with child's seat, 2-speed, R. 250.-64, Shirley Park Rd., Addiscombe. D. Twin Peugeot, Bosch mar, lamps, hom, new B. and B., ranning order: £30.-29, Heath 100 Heath.

h.p. Twin Peugeot, 2 speeds, clutch, waterproof
Bosch, Amac, lamps, horn, toolbag; ride away;
offers.—18, Kirkgate, Ripon. [2726

Precision.

h.p. Precision, B. and B., T.T. bars, splendid con-dition; £32.-19, Bonfield Rd., Lewisham. [1632 p. Win Precision. 2-speed, overhauled; £38.-1 Norwood Rd., Herne Hill. Phone: Brixton 1964

14 Precision 41/h.p., 3-speed, clutch, torpedo coach-built sidecar, new tyres, good order; £60, near -Stoart, Barkway St., Royston, Herts. [2242] -Stoart, Baikway St., Royston, Acets. ECISION, '29th.p., 1913, Bosch, Senspray, Joot-boards, lighting set, good running order; £24, no. -10, Gorleston Rd., West Green, London, N. 13217

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1920 SPARKBROOK, 2-stroke, 2-speed, as new, all lamps and horn, 267 10
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PREMIER Lightweight, 2½h.p., perfect condition, fast.—Foskett, 86, Mildmay Rd., N.1. [2717]

32h.p. Premier 2-speed Combination; seen and tried any time.—Chesney, West Hondey, Surrey, 1693
21h.p. Premier, single speed, new tyres, lumps, hour; 255.—The Nook, Herkomer Rd., Bushey, Bette

3 h.p. Premier, M.L., B. and B., good running of £20.—Borrow, Paduell Farm, Cowplain, Co. Hants.

19¹³ 2½h.p. Premier 4-stroke, Bosch, nice tion; £25.—Hammond, Waterloo Rd., Sh

PREMIER 214h.p., Bosch, B. and B., 3-speed and clutch, perfectly reliable; £40.-148, Station Rd.,

PREMIER 25th.p., last, silent running, guaranteed sound; 30 gns.—Barrington, 14, Arundel Rd., Croydon. [2972]

31h.p. 1913 Premier Coach Combination, lamp. 22 etc.; a bargain, £48.—Heath, Uplees Marshes, Faversham. [2430

PREMIER 24h.p., in splendid condition, completely overhauled, accessories; £29.—Box 4,264, c/o
The Motor Cycle. [3106

Inc. Moor Cycte.

1 4 Pennier Cancilhuilt Combination, 35:h.p., 3-speed, clutch, kick start; £70.—Harold, Darf View, Townstal, Darthuoth.
2 182 Kenyshall, all on; £38.—11. Torridon Rd., Hither Green, 8.E.6.

1959 31h.p. Premier and Wicker Sidecar; £40; back weel. 22 damaged, engine perfect; no offers.—Miss E. Holland, Eastry, Kent. [2324 Ah.p. Premier Countershaft Countination, Millford coachbuilt sidecar: \$75; solo taken part payment.

-King, Egrove Farm, Oxford.

3 1h.p. Premier, countershaft, coachbuilt combination, 2 stored during war, ready for long tour; nearest £80.—26, York Rd., Swiadon. (X1677

280.—28, Tork Rd., Swiedoa.

31h.p. Premier-Brown Motor Cycle, Besch, B. and
2 B. variable, lamps, to evertanied; £38/1011 More Britanie, lamps, Leeds.
32 h.p. tender, multi gear, Simms, B. and B., TT.
32 h.p. tender, multi gear, Simms, B. and B., TT.
33 h.p. tender, and plating as new, ride away; nearest £45; after 6.—538. High Rd., Tottenham.

PREMIER 7-9h.p. Combination, clutch, 2-speed countershoft, splendid condition, torpedo car; bar-gain, £110.—Hartnell, 2, Jelf Rd., Brixton, S.W.2. [2673

PREMIER 1912, enclosed Splithorf mag. Amac, in splendid condition throughout, enamel, plating, tyres very good; 224/10.—R. Watson, 132, High St. Aldeburgh, Sunfolk.

PRENTER, late 1914, carefully stored during war, 21/4n, n. total mileage 800, as new, adjustable pulley, lamps; 39 gns.; Liverpool district.—Box 4,266, c/o The Motor Cycle.

2 h.p. Fremer Combination, almost new, 2-speed 1 countershalt, kick start. Bosch, Dunlop heav, lamps mechanical order, splendid condition through-out; £70, or sell apart.—Perrott, Challon, Wantage, [2487]

Berks. 12467

PREMIER 3/shp, and sideon, 3-speed, new Capac untomatic carburetter, excellent lamp and horn, spure new heft, scarcely used since outbreak of war, in perfectly sound condition; price £55.—Apply, Minss Bios., Windsor St., Chettsey, Surrey.

Priory.

WAUCHOPE'S, 9. Shoe Lane, London, E.C.4.— 254h.p. Priory 2-stroke, new 1920; £67/10.

Quadrant.

2 1h.p. Quadrant, Amac, footboards, good tyres, complete: £8-38, Orehard Rd., Snnbury. [1658] 4 h.p. Quadrgut, Bosch, B. and B., ride away; 227/10.

4 h.p. Quadrgut, Bosch, B. and B., ride away; 227/10.

4 h.p. Quadrgut, Bosch, B. and B., ride away; 227/10.

After 6.]

29h.p. Quadrant Motor Cycle, battery ignition, good running order; £20, or offers.—Graham, Bromley St., Workington. [2898]

QUADRANT Combination, 3-speed, kick starter, little used, ready for road, bought car; £120.—Pailthorpe, Longdown, Exeter. [2565]

41h.p. Quadrant, 3-speed, clutch, pedal start, Bosch 22 mag., lamps, horn; £55; efter 5.30 p.m.—25, St Margaret's Rd., Elmers End, Backenham. [1743 4 h.p. Quadrant, also 3h.p. motor cycles, spring lorks, Bosch, B.B. carburetter, good condition, low build —Particulars, 230, Normanton Rd., Derby. [1725]

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Quadrant

QUADRANT 4h.p., Lucas lamps, hora, good condi-tion; £30, or exchange lightweight.—7, Rod-borough Mews, Chippenham Mews, Harrow Rd., W. [2796]

QUADRANT Combination and Solo, new, at list price of £135 and £105.—Clifford Wilson Manulacturing Co., 70, Royal Hospital Rd., Chelsea, S.w.3. Keastagton 7113.

Keasington 7115.

WAUCHOPE'S. 9. Shue Lane, London.—New Quadrant combinations and solo machines, 4(4),p., 3-speed, clutch and K.S. models, all-chain drive, 1920 models; book now; deliveries in 10 days, 5 (1988).

1h.p. Quadrant, 1912, Bosch, B. and B., Whittle Debt., new tyres and tubes, fine hill-dimber, 100 m.p.g., spriog forks, lamps, etc., re-canaelled; bargain, £55, nearest offer.—Frearson, 17, Coerdale Rd., Shefield.

Radco.

RADCO 2-stroke, overhauled and replated; £30.—
Frank Smith, 24a, Church Rd., Croydon. [2346] R ADCO 214h.p., 2-speed, nearly new Dunlops, wants slight adjustment; offers.—Craswell, Ravenswood Ashford, Middlesex. [277]

Ashford, Middlesex. [2771]

ADCO 2½hp., 2-speed, 1919, not done 200 miles,
perfect condition; £56.—Pritchard, Bewdley Rd,
Kidderminster, Worcs. [X1625]

RADCO, late 1919, 214h.p., 2-stroke, lamp, horn, pump, tools, spleadid condition; £54.—Lowe, 770, Garratt Lane, Tooting, S.W.

Raleigh,

RALEIGH Motor Cycle, 3½h.p., ready to ride away; £30.—Mr. R. Copping, Balls Green, Gt. Bromley, near Colchester. [1702

Reading-Standard.

19 20 (April) Reading-Standard, 10h.p., big Cancelet sidecar, electric lighting and horn, hood, wind acreen, under 200 miles, better than new, super-insurious outfit, insurance policy, only wants seeing; £245-8heddon, Pethicled, Shalford, ear Guildford, [2282]

Regal.

41h.p. Regal-Precision, 1914, 2-speed, countershaft, all chain, water-cooled, mechanically perfect, any trial; nearest £70.—Walling, Ham House, Upton-on-Severn. [X1736]

Regent.

SEND Postcard for particulars of Regent 5-7h.p. flat twin to ns. We can give earliest deliveries of the machines.—Elliott Bros. and Stevens, Cambuslang, Lanarkshire agents.

R EGENT 5-7h.p. Flat Twin; earliest deliveries.—Full particulars from The Lancaster Motor Co., 158, Norwood Rd., West Norwood, S.E., distributing agents for South-east London. [9149]

Rex.

31h.p. Rex; £18; ride away.-5, Heath St., Dart ford, Kent. WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 6h.p. Rex and sidecar, 1912; £80. [8460

REX 3½h.p., evening trials, neurest £26; Dixie, 180°, £4/10.—222, Swan Lane, Coventry. [X1710

5-6h.p. Rex, 2-speed, not run 20 miles since over-hauled; £48, or nearest.—Hills, Warboys. [2769

REX, clutch, handle starter, drop frame, ride away; bargain, £38.-58, Tustin St., Old Keat Rd. [2519 REX 31/h.p., Bosch, B. and B., lamps, complete;

REX 31/h.p. 2-speed, F.E., Simms, B.B., Palmer tyres, ride away; £25,—88, High Rd., East Finchley, N.2.

Finchley, N.2. [2805]

2 1h.p. Rex. mag., new Palmer tyres, suit beginner;

2 14. £ 12/10.—North Wales Motor Exchauge, Wyrsham. Phone: 283.

REX, 1914, new tyres and belt, and sidecar; £75.

Or would separate; in good running order. Fox,
Springfield, Caistor, Lincola. [2864]

4 h.p. Rex, re-commelled and thoroughly overhauled, new tyres, helt, lamps, and horn, only wants seeing.

Apply, 33, Keemor St., Woolwich, S.E.18. [2317

R EX, 6h.p., 2-speed, handle start, in good condition, and sidecar; £45.—Adams, 31, South Rd. Southall. [2126

REX 1913 6h.p. Coach Combination, nice order; £70.—Halifax Motor Exchange, Union St. South, Halifax. [2159]

REX 3) h.p., mag., m.o.i.v., lamps, generator, aew tyre, reliable; £25.-16, St. Mary Abbott's Ter., Kensington, W.14.

6 h.p. Rex. C.B. sidecar, recently overhauled. Binks carburetter, Bosch mag., 2-speed; what offers?—Helliwell, Gillygate, York. [2449]

5-6h.p. Rex Combination, 3-speed, clutch, lamps, horn, etc., coachbuilt sidecar, in first-class running order; £50.—Taplia, 159, Hornsey Rd., N. [1662] Ch.p. Rex Combination, 10.0,v., coachimit, 2-speed, handle start, hood, wind screen, lamps; trial: £65. -W., 9, Vicarage Lane, Romford Rd., Stratford. [1979]



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And the gentleman with the cold perspiration bespangling his brow stopped: looked as if he would like to murder his questioner. then pulled himself together and replied:

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1914 Rex Combination, 6h.p., 3-speed, countershalt clutch, kick start, chain drive, good condition throughout; £100.—Martin, Drewsteignton, Exeter.

1914 Rex Combination, 6-8h.p., 2-speed, coaching sidecar, all lamps, condition as new; acreasonable offer.—J. Healey, 36, Shropsbire Market Drayton.

10 13 6-8h.p. Rex Combination, 2-speed, hand start, lamps, born, luggage grid, wind scresslendid condition and appearance, 3 up anywhere £85.—2, Fortune Gate Rd., Harlesden, N.W.10. [246

REX, late 1914, 8h.p., 2-speed gear, handle star with lamps and horn, special strong underslon chassis and hox carrier, 2855; with new coachbul sidecar, £100.—S.R. and S., 136, Gt. Dover St., S.E.1 Hop 2837.

Rex-Jap.

REX.J.A.P. 6h.p. 2-speed Coachbuilt Combination handle start, screen; trial appointment; £70.—205 South Croxted Rd., Dulwich. [211

South Croxted Rd., Dulwico.

RENJAP, 8hp., 3-speed, kick stort, all-chain driw
special ecachouitt sidear, Lucas lamps, Cone
special ecachouitt sidear, Lucas lamps, Cone
special ecachouitt sidear, Lucas lamps, Cone
noris, 111, Hunters Rd., Handsworth, Birminghan
111, Hunters Rd., Handsworth, Birminghan

Roc.

A BOUT 1913 31/h.p. Roc Combination, 2-speed, F.E overhauled, Bosch, B. and B., machine lined of like new, pertect condition; 42 gas.—J. Ogden. 1141 Thomas. St., King's Lynn.

Rover.

19¹³ T.T. Rover, excellent condition; 40 gns.-24 Selhurst Rd., Norwood Junction. [280

ROVER 3½h.p., constershaft, just delivered; li price.—Hohnes, Monks Eleigh, Suffolk. [29]

NEW 3½h.p. Rover, 3 speeds; what offers; coachbai sidecar optional.—30, Gerard Rd., Barnes. [20] NEW 1920 Rover Combination, 6h.p., latest improvements; £200.—Young, Misterton, Somerset. [16]

NEW 5-6h.p. W.D. Rover Combinatico; £140. Chauffeur, Sunnyfield, West Heath Rd., Ham stead. [19]

ROVER Special T.T. Machine, 3 speeds, K.S., 191
as new, any trial.—Queen's Head, Waltha Abbey. FOR Sale, 1919 twin Rovey and sidecar, as good:
new.-Messrs. J. L. Balmforth, Park Rd. Garag
Ormskirk. [936]

Ormskirk. [938]
19 31/ah.p. Rover, 3-speed countershaft, excelle running; £90.-436, Whitehorse Rd., Therefore Rd., Tourist Heath, S.E. [23]

19 Rover Combination, 3½h.p., done about 1,0 miles; £120.-374, Grove Green Rd., Leyto stone, E.11.

5 -6h.p. Jap-Rover, new, W.O. model, not done 50 launes; £125 spot, lowest.—Jeffryes, 32, Felster Rd., Wanstead.

19 20 3½h.p. Rudge Multi, 1.0.M., Headerson coad built sidecar, unused; £135.—294, Kenningt Park Rd., S.E.11. [26

19 14 Rover Combination, small mileage, very ni order, lamps, etc., any trial; £65.—29, Br stock Rd., Thoroton Heath.

19 19 Rover Combination, 3½h.p., delivered Septe ber last, Lucas lamps, as new, unscratche £157.—37, Regent St., Rugby. [X16

ROVER 1914 Coach Combination, new body, speed, fine condition, lamps, spares, etc., £55 16, Oakfield Rd., Anerley, S.E.20.

ROVER Combination, 3-speed consternal, P. a H. lamp accessories, good condition, trial; 210 Suffolk.-Box 4,226, c/o The Motor Cycle. [23

ROVER Combination, 3½h.p., 3 speeds, club Lucas lamps, horn, very nice order; seen a time; £80.—Shaw, Morton St., Royston, Herts. [25

1914 31/2b.p. 3-speed Rover, Mills-Fulford C.B. signar, footboards, Binks, new tyres, P.H. lam £62; would sell separately.—70, Terrace Rd., Plaistr

Oh.p. Rover 2-sealer, 2 new covers and those, Toolse Oson-Beanett mag., Schebler carburetter, lam Stepney, and tools; £100, or best offer.—Crouch, limiter.

10 20 Rover, 31/h.p., 3-speed, K.S., delive E135, searest offer secures.—17, Esplanade Av., Whit Bay.

19 20 3½h.p. Rover Combination, 3-speed genr i kick starter, clutch, etc.; list price £172/10, £3/11/9 carriage; first cheque secures.—Taylor's 6 age, Falmouth.

1 9 19 Rover Combination, 5-6h.p., not W.D., spl did condition, lamps, horn, speedometer, w. Screen, etc., any trial; £185,-2, Elysium Terrs Northampton.

Rover.

OVER 5-6h.p. 1919 Combination, 3-speed, chain of drive, complete with all accessories, in splendid er; £175.—Elre and Co., 15-16, Bishopsgate Av., nomile 8t., E.C.3. (0065

1h.p. Rover, 3-speed, clutch, excellent condition, 2 abuninium number plates; also Millford sidecar fuxe, hood, seteen, electric light; smart combination, b, Hervey Way, Finchley. [2918]

OVER, 1914-15, 3-speed, clutch, Bosch, R, and B. Brooks 170, Lucas Jamp set and horn, fin-ring and speedy mount; £65, or best ofter.—68, 176, Rd., Upper Norwood.

OVER 31-h.p. Combination, 1914, lamps, exhaust whistle, Jones speedometer, CAAV., horn, Rover sear, repainted excellent order; £90,—Cecil, 1, tion Rd., Sunbury-on-Thames.

XFORD.—19108 3'J.h.p. T.T. Rover, Philipson pulley, 100 m.p.s., 55 m.p.h., done under 1,000 miles, 7, tries as new, just seraped and tuned up: 78 gns., th 2100.—Capt. Williams, 30, Leckford Rd., Ox-

OVER, 1914, 314h.p., 3-speed, Bosch, B. and B., new extra heavy Dunlops, splendid condition, ed 312 years, powerful; bargain, £30 lowest; only its seeing; evenings, private,—Hilliard, Harlow,

16 3 h.p. T.T. Rover, hand control, Phillipson, Senspray, Bosch, Dunlops, new belt, Lucas kimps, ey, Klavon, knee graps, original plate and enamed new, very rast; £50.—Seen any time, Learned, k, Weybridse,

Over 1919 313h.p., Canoelet sideear, wind screen, hood, Klinxon, speedometer, clock, hungs, lugaage, spure Dundop tree, belt, vales, etc., heantiful furnas new; £150, or neur.—49, Lloyd St., Heston 165, Steckport.

300.—1919 Rover motor cycle and sidecar, 6h.p., delivered March this year, only done-few hundred s, complete, with all lamps, Jones speedometer, s, complete, with all lamps, Jones speedometer, and Cameo wind screen, etc., printly owned.—Seen at Jeneside Garage, Ltd., Ludlow.

of Course, "School and Personal and State of Course, and the State of C

OVER, 1914, 3½h.p., 3-speed and clutch, just been completely overhauled from top to bottom, new t and front mudguard, plating and enamel per, stored during war for 4 years, all in absolutely hole condition, lamps, born, and complete toolbargain, £58,—177, High St., Barnet, Herts.

14 3 h.p. Rover Combination, new N.S.U. 2-speed seria and dutch, and new back wheel (3-speed seria and success) and serial seria 1734

Royal Ruby.

Noyal Rusy.

DYAL RUBY, 1916, 27th.p.; 2-stroke, accessories, perfect; £35.—36, David Lane, Shadwell, E. [2456]

NYAL RUBY, spring frame, solo, 3h.p., just arrived; £109/14/6.—Dominy and Co., Winchester, [5118] 1318 Royal Ruby Combination, electric lighting. wind screen; offers.—Pickering, Mardol, Shrews.

DYAL RUBY 21 2h DYAL RUBY 21.2h.p., 2-speed, Amac, equipment condition, ride away; £47/15.—10, C. Av., Ilford. equipped.

TE 1918.5h.p. Royal Ruby-Jap C.B. Combination, 4-speed, as new: £115, or near offer; no dealers. Christchurch Rd., Reading. [3029]

AUCHOPE'S, 9, Shoe Lane, London, E.C.4,— 8h.p Royal Ruby and sidecar, late 1919, fully pped, all best accessories; offers. [3170

16 2½h.p. Royal Ruhy 2-stroke, 2-speed, run 1,000 miles, first-rate condition, lamps, horn. £50.—Spender, Belle Vue, Plympton. [X1557

19-20 Royal Ruby Combination, 8h.p., 3-speed, kick starter, smart turnout, almost new; £165. dgten, 2, King Edward Parade, Norbury, S.W.

Date and the state of the state

19 Royal Ruby Combination, 8h.p. J.A.P., just overhauled, Dinky sidecar, lamps, horn, etc.; --Lefters only, P. V. James, Navigation School, month.

20 3h.p. Royal Ruby, spring frame, delivered 11th inst. from works, must sell, £105, or offers; also titionally fine sidecar body, £12/10.—Boulton, an Waldan stionally fi

YAL RUBY (late 1919), 8h.p., very fast, sport-ing Swan sideer to match, polished aluminium, lamps, Khaxon, sparse, etc.; what offers. Write, all, 3, Royal Crescent, W.

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VOLEX DRY BATTERY



R. A. WHITFIELD & Co.,

Have in Stock for Immediate Delivery **REX** Combination, Model 55.

REX 4 h.p. Combination, Model 77.

VERUS 2½ h.p. £55.

VERUS 21/2 h.p. 2-speed clutch, and kick starter, £80.

MOTOR CYCLES FOR SALE.

Royal Ruby.

ROYAL RUBY 1916 225h,b, 2-stroke, Albion speed gear box, machine been stored and is how, comment and platting perfect, fully equippe famps, etc.; £49.-5, Addison Av., Holland Party.

ROYAL RUBY 1919 (Aug.) 8h.p. Combination, Royal Ruby sudecar, humps, horn, tools, Easting wind screen, new spare tyre and tube, not done 1,000 miles, climb anything; £175.—E. C. Beesten, 122, Holton Rei, Burry Bork.

ROYAL RUBY 2-stroke 215h.p., 1917, 2-genr Ablion, villiers engine, Elkhaut maz., Sen-pany carbanetter, King's Own Lumps and generator, mechanical horn, good order; 59 gns.—Carler, 104, Headstong Bd United Rd. Hattow.

Rudge

5 -6h.p. Rudge Multi, biand new 1920 model; 115 ghs. -Crown Garnec, Cutmock. 1927 T.T. Rudge Multi, just delivered; list price.—Pearre, 17, Chobham Rd., Woking.

RUDGES.-Early delivery of all models.-Bedford Garage, Walsall, 'Phone: 270. 15309

RUPGE Multi C.B. Combination; £75.—Garaged Goose Yard, St. John St., Angel, E.C. [3188]

RUDGE, free engine, clutch, good condition; a bar-gain, £36.-13, Bury Park Rd., Luton. (3222

RUDGE Multi, 5 6h.p.; £121; accessories extra-Grimes, 18, Bruton Place, Bond St., W. (1396)

19 14 Rudge and Sidecur, Grado gear, just over-hauled; £65,-282, Capworth St., Leyton, [2015

R UDGE, 35/sh.p., 1.0.M., T.T., 1917, in lovely condition; £78.-18, Cornford Grove, Balham. [1730

RUDGE, 1.O.M., immediate delivery; list price. Meeten, Rudge Specialist, Dorking. 'Phone: 16 RUDGE Multi, 1914, overhauled makers, tyres, belt good; £50.—10, Barrou Rd., Northfield, Birmingham.

19²⁰ Rudge Multi, 3¹/₂h.p., brand new, j livered; offers.—Bex 4,242, c/o The

Cycle. RUDGE (new) and Sporting Sidecar, fully equip hist price.—Grimes, 13, Bruton Place, Bond [1339

RUDGT Multi 5h.p., 1914, just thoroughly over-month. The ded; £60. — Tilleys, The Esplanade, Wey-

19 14 31, Inp. Rudge, good condition; trial given; £46, Lawrence, 49, Eastbrook Rd., Waltham Abbey, Essex.

RUDGE Multi, 1917, excellent condition, lamps, plate; £75; after 7 p.m.-73, Sutherland Rd. monton.

monton.

RUDGE Multi 315h.p., W.D., with conchbuilt sideour and Easting wind screen; £92.-25, Merton Av., [2340] R UDGE Multi, 1.O.M., clutch, new, only ridden 60 miles; owner hought car; offers.—Fleet Motor Co., Alcester. [1777

T1777

RUDGE Multi, 1914, fast, sporty, overhauled, perfect; 262, or near offer.—Bourne, c/o Danby, Wickford.

31h.p. Rudge, single-speed, push starter, to solo mount, lamps, etc.; £38.—85, Church Willesden.

Willesden.

RUDGE T.T. sincle-speed, very fast, perfect; £45,
or exchange.-B.A.B. Motor Co., 130, High St.,
[2591] Harlesden.

5-6h.p. Rudge Multi Combination, perfect order, smart-£90.—Stratford, 203, Junction Rd., Upper Hol-loway, N.19. [2384

TWO Rudge Multis, one 1.O.M., replated and Grove Green Rd., Leytonstone, E.11.

31h.p. Rudge, 1914, free engine, pedal start, stored 2 4 years; bargain, £52.—103, Warwick St., Victoria Station. [2633

19 19 Rudge, 3½h.p., new August, lamps, spare tube, belt; £95.—J. H. Taylor, Bradford Rd., East Ardsley, Wakefield. [2873

19 Rudge Multi 3\(\frac{1}{2}\)h.p., Sept., 500 miles, as new, lomps, horn, tools; \(\frac{2}{2}\)100; any test.—8, York Av., Wolverhampton. [X1690 ROVER, 3\\(\)\(\)h.p., 3 speed, clutch, canoelet sideca-, accessories, any trial; \(\)\(\)\(\)\(\)\(\) 80.-117, Walm lane, Cricklewood, N.W.2.

R UDGE 31sh.p., 1914, clutch model, free engine, good tyres; £45.—Roberts, Clevedon House, Somerset Rd., New Barnet.

1920 Brand New 31/hp. T.T. Rudge Multi, complete with accessories; 125.—Heath House, Cudding OFFERS Wanted for 1915 5-6hp. Rudge Multi, combination.—Particulars; R. R. Farrow, Finingham; Stowmarks.

sidecar

RUDGE Multi 312h.p., 1919, coachbuilt s lamps, horn, speedometer, spares; £135. Bedesman's Lane, Bedford.

19 31/5h. Rudge. Rudge.
19 19 31/5h. Rudge Malti, I.O.M., new, registered; price £110 5.—Keene and Co., 301, Goldbawk Rd., Shepherd's Bush, W. 12895
19 48 Rudge Multi, 31/5h.p., with toomy sidecar, spare tyre, just overhauled, hand clutch, pedal start; £63.—Brake, Arleery, Beds. [2863

9 1h.p. Rudge, 1914, with coachbuilt sidecar, pedal 22 start, clutch, in running condition; £62. or offer.-108, Roseberry Av., N.1. [2018]

19²⁰ Rudge Multi, I.O.M., mileage 80, polished aluminium discs, fully insured; £115.—Cox, Bank House, Enfield Wash, N. [1886

RUDGE Multi, clutch, 1917, in splendid condition, good tyres, etc.; price £80.-D.A.H., 7, Onslow Place, South Kensington, S.W.1. [3025]

19 19 Radge Multi, 315h.p., Cowey, horn, Watford, mudshields, and all accessories.—F3, Whervells Court, Trinity College, Cambridge. [X1719] R UDGE Multi, 1916, 3½h.p., hand clutch, lamps, horn, and spares, last, reliable, any trial; £65.—Read, Newton Longville, Bletchley. [2490

WAUCHOPE'S, 9, Shee Lane, London, E.C.4-5-6h.p. Rudge Multi and sidecar, £99/10; also 314h.p. I.O.M. Rudge, 1919, £105.

5-6h.p. Rudge Multi C.B. Combination, speedometer, hore, lamps, spare belt, 1914-15; any trial; £95.— Lee, 14, Half Moon Crescent, London, N.I. [3218

RUDGE Multi 31/2h.p., Montgomery sidecar, late unodel, excellent condition, all accessories; £105.

-43, Coniston Rd., Addiscombe, Croydon. [2917]

31h.p. Rudge, 2-speed countershaft and clutch, just 2 overhauled, solo or sidecar; £45, or near.—
Boston Cottages, Hatheld Peverel, Essex. [2563

PRAND New 1920 51h.p. T.T. Rudge Multi, owner buying higher powered machine; £105; no offers. -Can be seen at Rudge Garage, Oxford. [2001 R UDGE Multi 1916 314b.p., lamps, horn, tools, etc., perfect condition; £75; any trial.—Hewin's Garages, Ltd., the real service firm, Taunton. [1827

1917 Rudge Multi Combination, smart, fast, best offer over £80: Premier combination, as new, £70.-15, Beauclerc Rd., Hammersmith, W.6. [2424]

LATE 1918 Rudge Multi, clutch, lamps, horn, ex-cellent condition: 30 gns, no offers.—Renn, 171, Seven Sisters Rd.. Finshury Park, London, N. [2151

RUDGE Multi 1917 4-5h.p. Combination, in good running order, guaranteed; any trial; coachbuilt adecar; £115.—Boulton's Garage, Craven Arms. [X1501

R UDGE Multi, new 1919, hand clutch, lamps, horn, all tools, spares, perfect condition; 85 gns.; after 6.—White. Inglehnrst, Crescent, Belmont, Surrey.

RUDGE, 312h.p., clutch, pedal starter, just of hauled and enamelled, lamps, and horn; £45 effers.—Inwards, Harrow Farm. Charlton, Shepper

R CDGE, L of M. model, late 1919, very fast machine, little need: £99.—Newblam Motor Co., 225, Hammersmith Rd., W.6. Phone: Hammersmith 80.

RUDGE Multi 1914 3'4h.p. Combination had equipment, excellent condition: 8 gns.—Kington, 2, King Edward Parade, Norburgs.W.

RUDGE Multi, 1914, clutch model, tip-top condi-tion, new, C.B. sidecar, 3 lamps (electric), Klaxon, etc.; £60.—5, Bell's Garage, New Cross Gate, S.E.14.

RUDCE Multi, C.B. 1915 Gloria sidecar, just been thoroughly overhauled, in splendid going order, with lamp, etc.; £78.—Honnor, 7, Avenue Rd., North Finchley.

1914 5(2h.p. Rudge Clutch Model, pedal starter, complete with tools, lamps, etc., in first-class condition and running order; £48.—Taplin, 159, Horney Bd., N.7.

19 20 f.O.M. Rudge Multi, mileage under 500, Lacas horn, koee grips, electric lighting, insurance policy, unscratched; £122, or nearest.—Box 4,269, c of The Motor Cycle.

1 Q 19 (Oct.) I.O.M. Rudge Multi and modern wicker sidecar, lamps, horn, speedometer, tools, and spare, lin. belt, £125, or offers.—Lt. Rodger, H.M.S. Fermoy, Portland.

1914 (5) 31-h.p. Rudge Multi Coachbuilt Combination, new Palmer cord and Bates tube, and Binks, spares, take 3 anywhere; £85, or oher.—Turner, 22, Langley St., Luton. [1762

I co.M. Rudge Multi, believed 1917, clutch model.

I lamps, born, knee grips, overlap cam, small belt rim, lamps, horn, very fast; offer round £85.-30, Giggindale, Streatham, S.W.

1920 1.0.M. Rudge, new April, carefully ridden and 300 miles, unscratched, engine No. 43182, F.R.S. major lamp, tail, Lucas horn; £115, no offers, Tudor Lodge, The Green, Richmend.

TEGER-WHITWORTH multi-speed motor 374h.p., 1916. thoroughly overhauled, and parts inserted; price £100.—Apply, H. C. W. Garage, Knowle, Birmingham. evele.

WE have the Largest Selection of Motor Cycles in Great Britain.

The following Motor Cycles actually in Stock for immediate delivery:

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1920 Matchiess Com. 2020 Ariel Com. 1920 Zenith Com. 1920 Lea-Francis, Com.

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torn A.J.S. Com 1920 Lea-Francis.

1920 Sunbeam 1920 Blackburne. 1920 Triumph, T.T.

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1920 dames. 19 1920 Coventry-Eagle. 19 1979 Sparkbrook. 19 1920 B.S.A. 19 New Sunbeam Sidecar, in stock

Autoped Scooters, delivery from Stock, \$42.

A.V. Monocar, new, \$1.51.

Sead Double Sidecar, 3 wheeler, \$98.

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New G.P. Morgan

New G.P. Morgan

Sporting Aero.

PERCY & Co. 314, 316, 319, & 321, Euston Road,

'Phone: Museum 1337, LONDON.

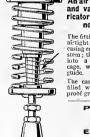
1919 Indian Com. 1919 Douglas Com. 1919 Zenith Com. 1916 Campion Com. 1916 Campion Com. 1915 Ad.S. Com. 1914 A.J.S. Com. 1919 Rudge Com.

1920 Sunbeam Com. 1920 Bat Com. 1920 Douglas Com.

1920 27 b p. Douglas 1919 James. TOTO P. & M. 1919 Blackburne.

1920 Calthorpe, 1920 Rudge. 1919 Rudge. 1920 Metro-Tyler. 1919 Diamond. 1920 James Com.

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An air leak preventer and valve stem lubricator that requires no packing,

The fitting consists of an airtight flexible spring casing enclosing the valve stem; the top end fitting into a special copper cage, which abuts the

The casing is supplied filled with special heat-proof graphite paste.

PRICE 2/6 EACH.

When ordering, state make and year machine.

ECONOMY. Your carburetter jet is necessarily large to allow for leakage by the valve guides especially if worn.

EASY STARTING. Nothing worse than air leaks. SLOW RUNNING. Ditto, especially if some guides are worn worse than others.

LUBRICATION. Saves infection and wear at a vital spot neglected by manufacturers, and if

vour valve guides are good seeps them so.

QUIET RUNNING. The result is remarkable.

GENERALLY. Fit on all valves and you obtain
a sweeter valve motion with elimination of
valve bounce. Cheap, easy to fit, efficient, they last for ever.

Obtainable direct from the patentee:

CLIFFORD PRESSLAND, A.M.I.E.E., Engineer. HAMPTON-ON-THAMES.

MOTOR CYCLES, FOR SALE,

Rudge. 21h.p. Rudge Multi, 1915, not W.D., clutch, nu year, first-class order guaranteed, stored m war, new tyre and belt, lamps, etc.; £65.—Nicho 299, Thirland Rd., Paddington.

PUDGE Multi Combination, 1920 model, 5-6h.p., weeks old, electric lighting set, mechanical for etc.; owner leaving the country, mast sell; price 21.—Box 4.259, c.o The Motor Cycle.

19 20 1.0.M. Rudge Multi, and brand new species built sporting sidecar, Aero wind screen, lam horn, knee grips, very sporty: £142.—Blue Ball Yast. James St., Piccadilly. Gerrard 7711. [20]

19²⁰ 5-6h.p. Rudge Combination, all lamps (to used), Tan-sad, speadometer, spares, Klax unpunctured, and machanically perfect; £155; tr run.—Dwyer, 36, Hale Lane, Mill Hill, London. [3]

RUGER Multi 33,50, and C.B. Sidecor, 1919 me Ruger Multi 34,50, and c.B. Sidecor, 1919 me unlease under 300, and is absolutely new cor tion, complete with lamps and mechanical horn, pr £120, no oriers.—Dorking Motor Co., Ltd., Dorking

19 (Oct.) 5!\(\text{sh.p.}\) Rudge Multi, I.O.M., east 16576, Bosch, large P.H., Stewart, Klarson, stell, exc., tyres unpunctured, with new Milliord side fully insured; \(\text{\pmu}\)125.—412, Nuthank Rd., Norwich F.O.C.H. have a Rudge Multi, Iully equipped, cellent order.—Fair Offer Car House, 5, He St., Hampstead (nr. Hampstead Thbe State Phone; Hampstead 5752. Hours 97, includ

St., Hami Phone: I Saturdays. R UDGE Multi Combination, multi gear, Hender sidegar, Palmer tyres, new, mileage 6,000, 11 war model, recently overhanded by makers, cemp with accessories; £95, or nearest offer,—S. Bates, I gest, Lincoln [2].

R UDGE 1913 Road Racing Model, carefully me single espeed, adjustable pulley, very fast, do magnificent engine, inst reboshed, good vives: £45; evening after 6.—Ernest Spiller, 5, Chesterford (dess. Hampstead.

F.O.C.H. have a 1919 Rudge Multi and Coach S car, fully equipped, excellent order.—Fair O Car House, 5, Heath St., Hampstead (or. Hampst Tube Station). Phone: Hampstead 3752. Heavy, including Saturdays.

BUDGE Muiti, 1916, clatch, Binks, Bennis, polished meter, P. and H. lamps, mechanical in polished meters, plated spilethemes and the state of the st

Ruffells

19 19 21/2h.p. Ruffells-Villiers, 2-speed, tcols, done 400 miles; £50, or offers.—Harper, 1

Saltley.

I MMEDIATE delivery of Saltley-Villiers 2-str single-speed £56, 2-speed £66.—London con sionnaires, Lancaster Motor Co., West Norwood, few agencies available.

Sarolea.

SAROLEA 316h.p., Bosch watertight, B. and B., v able gear, drip feed, new tyres, condition as n £45.—Clarke, 15, Denbigh Ro., W. Ealing. [2

Scale.

19 20 New Scale. 31/h.p. Precision engine, 2-str 2-speed, clutch, kick start; £85; immediate liveries.—The Rochester Auto and Supply Co., Roc

Scott.

SCOTTS .- Place your order now with the Bed Garage, Walsall. Phone: 270.

SCOTT 1914, with sidecar, good condition; £10
Box 4,163, c/o The Motor Cycle. [1

SCOTT, the unrivalled 2-stroke 1920 model; 120 -Louis G. Ford, opposite G.P.O., Eastboo

SCOTT Solo, mileage under 200, condition as £125.=Sutton. Exchequer Gate Lodge, Lim SCOTT 1916, in good condition; seen any time; 4 lowest.—Harris, Woodfield St., Morriston, Swan

SCOTT Combination, 1915, excellent conditions speedometer, horn; £90.-31, Station Rd., H

SCOTT Combination, 1920, as new, Inlly equipp any trial; £160, or offer.-5, Blackborn Heaton Park. [2]

SCOTT, Nov., 1919, mileage 550, lamps, 2 general horn, tube, perfect; £120.—Hugh Dnacap, cholm, Otley, Yorks,

SCOTT, Bosch mag., B. and B., 25(h.p., gallon to Brooks, lamps, few odd spares; after 6.30; a -24, Wimborne Gardens, Ealing, 13.

B42 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

Scott.

PT, 1915, engine No. 3027, just overhauled, mamelled, new parts, new back tyre; £85,—on, 145, Sutherland Ay., Maida Vale. [3206]

Tf Motor Cycle, 1911, in good running order, just been overhunded; best ofter over £40; Braddistrlet,—Box 755, c/o The Motor Cycle. [X1697

20 Scott and Henderson Sidecar, perfect condi-tion, mileage under 1,000, 3 lamps, tools, and lete kit; £160.—Hambro Lodge, Datchet, Bucks, [2124]

eTT 1920 Solo; instant delivery. Scott combina-sion; book your order now for delivery this month, win's Garages, Ltd., the real service firm, Tann-[1829]

FTT Combination, 1914, only done 1,000 miles, Browning couchbuilt tolding sidecar, as new, ac-cles; 95 gus.—Sibley, 106, Market Place, Rom-[2755]

eTT, 1914, Millford sidecar, just overhauled, mechanically perfect, Binks, Bosch, tyres new, speed-r, accessories; 90 gns.—55, Queen's Rd., Waltham-[2765]

16 Scott and new sidecar, wants small overhaul, exchange for late Triumph, B.S.A., or Douglas, adjustment.—11, Cleveland Park Av., Waltham

OTT, 1914, semi-T.T. hars, lamps, hores, several spare parts fitted, smart appearance, ride away us.; after 6 evenings or week-ends.—28, Mozart Paddington, W.10. [291]

15 Super Scott Combination, stored 3 years, fitted new chains, special carburetter giving economi-anning, Scott-Myers sidearr, electric light, Khaxor, Harris, 51, Upton Lane, Forest Gate, London, (2587)

PTT Combination, engine No. 1732, Binks, Bosch, new tyres and chains, just overhanded, Canoelet addear, complete with hood and screen, disc wheel, hora, tools; £90.—Clarke, 15, Denbigh Rd., W. g. [2396]

NTT 354h.p., enamel and plating good, engine quite recently overhauled, and a new part fitted, Palmer cord tyres, Bosch mag which needs slight tion; best offer over £25.—342, Gloucester Rd., leld, Bristol.

S.I.A.M.T.

n.p. S.I.A.M.T., Bosch, B. and B., overhead valves, tyres, enamel, and plating good, in extrunning order, hurn and mascot, very last; after 6.-74, Manville Rd., Balham. [3164]

Singer.

h.p. Clutch Model Singer, excellent condition; £40; after 7.-69a, Hambalt Rd., Clapham Common. GER, 1914, 25th.p., F.E., new tyres, all acces sories; £38/10.—Sibley, 106, Market Place, Rom 2756

VGER Lightweight, Bosch, Amac, Druids, good running order; £20.—Gibbs, 58, Ashdown Rd, thiog.

hp. Singer, 2-speed, K.S., lamps, horn, tools, and spares, thorough going order; nearest £35. akins, 49, Locking Rd., Weston-super-Mare. [1776] NGER 234h.p., in running order, E.I.C. mappointment; £30, or offer.—Denyer, Co.e. Chipstead, Surrey. 'Phone: Merstham 43.

[2625 NGER, 4h.p., 3-speed, clutch, speedometer, P.H. lamps, legshield, Klaxon, tools, plating, eaameltank like oew, perfect condition; price £75; fine ce for the holidays.—Seen after 5 at 5, Nicholson Forest Rd., Walthamstow.

Sparkbrook.

PEED Sparkbrook, perfect condition throughout £45.-31, High St., Leiston. [245]

ARKBROOKS, all models.—A. J. Young and Co., Ltd., Newmarket. 'Phone: 214.

EW Sparkbrook, 2-speed, latest Villiers engine, not unpacked; £75.—Cronch, Ilminster. [X1756a 120 Sparkbrooks; immediate delivery of all latest models.—Kemp's Garage, Louth, Lincs. [X1670

6 Sparkbrook, 2-speed, 2-stroke, new Palmers, lamps; £45, bargain.—Ryder, Heathfield, [2985]

20 Sparkbrook, new, 2-speed, 2-stroke: £65.— Smith's, 86, Chalk Farm Rd., opposite Chalk n Tube Station, [0169]

(20 Sparkbrook-Villiers (flywheel magneto), de-livered from stock: £75. — Frank Whitworth, 1, 139, New St., Birmingbam. [X1821

ARKBROOK, 25thp. Villiers engine, 2-speed, early new, Thomson Bennett mag., smart bline; £55-31, Drakefield Rd, Balham, S.W. 120 Sparkbrook 25thp., 2-stroke, 2-speed, frotboards, Pedley grips, horn, unpunctured Dunlops, age under 500; owner bought combination; lowest perfect machine, £60.—Hodgskin, Letchuner Heath, ford.

INDIAN

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ASK US FOR A CATALOGUE OF THE

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VICTOR HORSMAN, LTD., 7. Mount Pleasant, LIVERPOOL.

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PARIS.

MOTOR CYCLES FOR SALE.

Sun

SUN-VILLIERS, 1915, 2-peed, in good condition; £38.-Oliver, 120, Bollobridge Rd., Acton. (2368

SUN-VITESSE, 1916, countershaft, lamps, etc., \$52; excellent condition. Payne, Eccleston filhester.

SUN-VITESSE 1920 2-speed 2-stroke, clutch, kick start, just delivered; offers over £70.-3, Park Rd., Spalding. [2186]

19¹⁷ Sun, V.T.S., 2-speed, good condition, new bearings throughout; best offer giver £40.—Crosley, Hayling Island. [3124

SUN-V.T.S., beautiful condition, fast and reliable, tools, lamps, sparss; £42. Hill's Garage, near florse and Wells, Woodford, Essex. (2461

19 16 Sun-Jap Combunation, 6h.p., 3-speed countershalt mid K.S., overhauled, repainted; complete 120 gns.—Davies, Motor Agent, Wendros, Boneath, Penn. [X1696]

SUN-J.A.P. 6h.p. Combination, 3-speed counter-shaft, C.B. sidecar, little used, condition as new, lamps, etc.; £155.—S. Johnson, Gorefield, Wisbech,

SUN-VITESSE, new January, only done 120 miles, Albion genr box, Lucas lamp sets, Dunlops, brand new condition, insurance policy, any examina-tion; £60.—Hellier, Bishop's Place, Paignton. [2634

Sunbeam.

19 18 Sunbeam Combination, 8b.p., fully equipped; £185.-18, Hestercombe Av., Fulham. (3201

1914 35h.p. Sunbeam; offers over £90; can be see

13 -C. Dormer, 7, Sectors and 12841 21h.p. Sunbeam Combination, complete, lamp, speak 32 ometer; £170.-Pickering, Mardol, Shrewsbury, [X1606]

18 Sunbeam 8h.p. Combination, detachable wheels, all necessaries; £145.—107, Greyhound Rd., Fui[2115]

ham.

SUNBEAM, brand new 31/h.p., aporting model, immudiate delivery; 2165.—Box 4,217, c/o The Motor
[2092]

SPORTING 31/2h.p. Sunbeam, brand new, immediate delivery; best premium.—Box 4,255, c/o The Motor Cycle. [3096

SUNBEAM 1920 3½h.p., registered, brand new, un-riddea; best offer over 160 gas. secures.—Stokov, Hay, Breconshire.

Hay, Breconshire. [2667]

3 Lh.p., Sumbeam, 1915, Lucas accessories, stored durgen in the control of the contro SUNBEAM Combination, 3½h.p., bought July, 1919, small mileage, perfect condition; any trial; £150.

—Jersey Garage, Jersey St., Bethnal Green, E.2. [2475]

SUNBEAM 1919 8h.p. Combination, 1,200 miles, perfect, discs, Triplex wind screen, spare chair; £225.—Maj. Lathbury, 20, St. James's Court, S.W.1. [1870]

SUNBEAM 3'sh.p. Combination, 3-speed, countershalt, kick start, enclosed chains, perfect, good tyres, lamp; £110.-8, Glengarry Rd., E. Dulwich.

19 15 T.T. Sunbeam, re-enamelled and plated, discs, new; £155, or near offer.—K. Clayton, Castle Bronwich.

(X1808)

X1808

3h.p. Sunbeam, laid up 3 years of war, recently
4 overhauled by Sunbeam's at cost of £28, receipts shown, any expert examination; 88 gns.; no diers.—Gibbs, Fairholme, Coulsdon Rd., Caterham.

offers.—Gibbs, Fairholme, Coulsdon Rd, Caterham. [3203]

19:15-16 31½h.p. Sunbeam Combination, fully equipped, new condition, stored 3 years; photo: £130, or near offer.—6, Francis St., Bracebridge, Lincoln. [3008]

19 (Nov.) 314h.p. Black and Gold Sunbeam and Bax bulbous sidecar to match, 3 Lucas lamps, etc., mileage 700, all spares; £185.—3, South Terrace, [1752]

SUNBEAM 3-speed 1915 Combination, Reamoc side-car, smart, sporting model, complete with lamps, horn, etc. any trial; £100.-White, 62, High St., King-ston, Surrey.

1920 315h.p. Braad New Sunbeam Combination, un-ridden, latest leat-spring forks, and carburetter, delivered last week; best offer over £210.—Lowe, 10. Carlton Rd., Bournemonth.

1920 Sanheam, brand new 315h.p., tourist, leg shields, Lucas accessories, registered, insurance 12 months; best offer over £162.—Stanley House, [2007]

SUNBEAM Combination, late 1914, just overhauled, speedometer, lamps, horn, lovely Gloria sidecar, hood, wind screen, luggage and petrol carrier; £126.—52, Ackender Rd., Alton, Hants.

MOTOR CYCLES FOR SALE. Sunbeam.

UNBEAM Combination, 3½h.p., late 1919, done 700, P. and H. and Lucas lamps, Cowey horn, knee grips, spares, perfect condition, insured, any trial; £180.—Hill, 5, Acton St., Wigan. [1918

10 19 3½h.p. Sunbeam, delivered Jan., 1920, Dunhill torpedo sidecar, 3 launps, large P, and H, head, horn, Bonniksen speedometer, knee grips, mileage 700; E155,—Green, The Square, Brackley, Northampton-

10 19 (Aug.) Sunbeam 3½h.p., new Millord sidecar, tyres new, Lucas head lamp and horn, electric tail and side, accumulator, Cameo wind screen, tools, etc.,—Offers over £175 to Blackmore, Horsemarket, 2004.

1918 (October) 3½h.p. Sunbeam, just overhauled, new cylinder, piston, vulves, solo and sidecar sprockets, new light C.B. sidecar, lamps, etc.; solo £115, or with sidecar £140; Coventry district.—Box 590, c/o The Motor Cycle.

1 1 1 3 1 3 1 4 h.p. Sunbeam Combination, black and gold, canoelet sporting sidecar, discs, long exhaust, electric and Lucas lamps, knee grips, horn, etc., \$170, or .near offer.—Taylor, 65 Altenbury Gardens, Clapham Common

SUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, reenamelligand plating under the supervision of Mr. T. C. de la Hay late Sunbeanland).—The Molineux Garage Co., Ltd. Wolverhampton. Tel.: 1160.

SUNBEAM Sh.p. Combination, as new, mileage 500, Lucas dynamo lighting, with electric horn, Cowcy specdometer, spare wheel, Lucas hulb horn, hood, wind sereen, spare chairs, valve, bulls, inner tube, etc.; ofters, —Hudson, Exchange St., Sheffield.

ZUNBEAM 8h.p., black-gold, 2-seater sidecar, double hood, Cameo screen, luggage grid, Lucas head horn, mirror, watch, spare cover, tubes, new condition, engine at its best; £220.—R., 28, Canterburg, M.d., Margate.

No. 1 Combination, 1915, stored Soyt.

1 BLS of July 1919, top-hale condition, just overhauled by Sunbeam Co., spare wheel, new tyres, Lucas
lamps and horn, wind screen, fiece-clined storm apron;
165 gns.—Major J. White, San Remo, Churchill Rd.,
Solibull, Warwickshire.

ATE 1918 8h.p. Sunbeam Combination, khaki, RA.F. model, kick starter, inxurious sidecar (Sunbeam), detachable disc wheels with complete share wheel, large car headight (searchlight pattern), bulbous side and rear lamps (acetylene), bugsage grid, etc., splendid touring outfit; £195.—H. Rice, 12, Mill Lanc, Cambridge, 1285

Ab.p. Sunbeam Combination, French military model, do hain-curr-belt drive, new March, 1919, black and gold finish, complete with F. and H. acceptione lighting spare belt and tube in case, mileage 2,300, mechanical condition perfect and enamel practically unscratched, trial run and examination; price £135.—5. Malcolm St., Cambridge.

T.D.C.

NEW T.D.C. Unit Fitted into 1913 Humber Frame; £35.—Harris, 53, Regent St., Swindon. [X1622

3h.p. Motor Cycle, T.D.C., 1916 engine, new tyres and belt, running order; \$27/10.—L. Welsh,

T.M.C.

T.M.C. Bike and Sidecar, 4-cyl., water-cooled, coach-built sidecar, wind screen, and lamps in good order; £100, or nearest offer.—Cosham, 145, Sydenham Rd., Sydenham [2040]

Torpedo.

TORPEDO, 2-speed, new tyres, very little used, good as new; £32; exchance Bouglas, cash adjustnent.—Box 4,263, c/o The Motor Cycle. [3105]

TORPEDO Combination, Precision 3½h.p. engine, Bosch magneto, B. and B. carburetter, good running order; £55.—Walsh, Turner's Hill, Cheshunt.

Triumph.

TRIUMPHS, new; £110.—198, Sheen Lane, S.W.14. [X1698a TRIUMPH 4h.p.; £50.—Padd. 2423. 89, Abbey [1836

T.T. Triumph, 1912, overhanded and very fast; £40, or near.—Oswell, Hadley, Salop.

TRIUMPH, 3½h.p., clutch, splendid condition: £42.
-25, Water St., Blackburn. (X1740

19 14 Triumph T.T., Philipson pulley, fully equipped; £65.-7 Linda St., Battersea. [3074]

WAUCHOPE'S, / 9, Shoe Lane, London, E.C.4.— Trinnaph Junior, 1914; £60. [1596

JUNIOR Triumph, delivered this week, spotless: £80.

-D. Lavin, Old House, Sonning. [9154]

BABY Triumph, 1919, 2-speed, lamps; £65.-M. Stockley, 30, Windmill Rd., Croydon. [1704] 31h.p. Triumph, in tip-top condition, any trial; £42.-45, High St., Burnham-on-Sea. [1873]

37, Cricklewood Broadway, London, N.W.2.

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19 20 Triumph, 4h.p., countershait, brand offers.—Clarke, 15, South St., Louth.

TRIUMPH, countershaft, late model, new to £90.-374, Grove Green Rd., Leytonstone, F

TRIUMPH, late 1919, countershaft, as new; £11 Thomas, 34, Cartwright Gardens, W.C.1.

BABY Triumph, 1917, 2-speed, accessories, new; £55.—36, David Lane, Shadwell, E.

4 h.p. Triumph, hub 3-speed gear, perfect throug £65.—Arthur G. Daw, 114, Brixton Hill. TRIUMPH 31/2h.p., clutch model, overhauled, tank: £38.—Marks, 121, Acton Lane, Chis

TRIUMPH, 1911, clutch, good condition; Kays, 8, Bond St., Ealing. 'Phone: Ealing

TRIUMPH 1914 4h.p., 3-speed, clutch, free, condition; £55.-6, Cavendish Rd., Merton, TRIUMPH 31/2h.p., single gear, head lamp, no tools; price 236.—Murchison, Fulford,

19¹⁴ Triumph, 3½h.p., 3-speed, clutch, order; £50.—Taylor, 124, Victoria St.,

TRIUMPH 4h.p. Countershaft, splendid trial; £85.—Stanley, 50, Thornhill, Barnsl

4 h.p. Countershaft Triumph, with smart coach Rally sidecar; 105 gns.-King, Egrove Farm TRIUMPH, 1914, 3-speed, clutch, splendid, throughout; 58 gns.--12, Thrale Rd., Street

s.w. TRIUMPH Junior, Bosch, enamelling, plating, excellent condition; £43.—Hewett, Grocer, Cabury.

1920 Triumph, 4h.p., countershaft, deliver stead.

TRIUMPH 31/2h.p., excellent condition; 238.— ming, 25, St. Mark's Rd., North Kensin W 11

TRIUMPH 34h.p., 3-speed, free engine, overham, N. wicker sidecar; £50.-57, Roseberry Av., To

TRIUMPH Junior 2-stroke, 2-speed, perfect of tion; £50.—Howard, Blackmore End, Kim

31h.p. Triumph with Sidecar, Philipson gears cellent condition; £50.—King, Egrove F

1911 Triumph 31/2h.p., multi gear, tyres a new, excellent condition; £45.-41, Hertford. COUNTERSHAFT 4h.p. Trimmph, fully equilible new.—13, Pindock Mews, near Warwick Tube, W.9.

TRIUMPH 3½h.p., Bosch, splendid condition, a sories, fast; £39.—119, Elm Park, Brixton (Evenings.)

TRIUMPH, 1918, and £30 C.B. sidecar, in nice condition; £125.—109, St. Leonard's Mortlake.

19 14 3-speed Triumph, P. and H. lamp, very condition; 50 gns.—24, Osterley Park, Southall.

TRIUMPH Combination, countershaft, late, bulb C.B., lamps, privately owned; £125.—25, Gra St., S.W.1.

19 12 Triumph 3½h.p., Bosch, thoroughly overhau Park, Surrey. Avondale, Cheam Hill, Work Fark, Surrey. TRIUMPH 31/4h.p., excellent order, good solo me £35; Hampshire district.—Box 4,214, cfc Motor Cycle.

19 13 6h.p. Triumph, clutch, perfect condition. engine efficiency; £48; appointment.—29, P. Av., Hornsey.

TRIUMPH T.T., clutch, lamps, Klaxon, etc., condition; £50, or best offer.-103, Airedule Chiswick, W.4.

4 h.p. Triumph 3-speed, countershaft model, in condition; seen any time; 76 gns.-41, Angel Park, S.E.20.

1917 Triumph, 3-speed, C.S., kick start, new ty perfect condition; £83.—97, Longhurst Lewisham, S.E.

TRIUMPH 1911 5½h.p., free engine, good con and reliable mount; hargain, £38.-W. 1 Ham Green, Redditch.

TRIUMPHS. — 1920 3-speed model, con equipped, Lucas lamps, horn, spares; ridden 50 miles.—Below.

TRIUMPH, 1917, 4h.p., countershaft, little bargain, 85 gns.—Wilkins, 1, Pitcairn Mitcham. Tel.; City 628.

19 11 Triumph, Philipson, tank, just re-ename fast machine; £42.—Wormald, 94, High East Finehley.

B44 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

MOTOR CYCLES FOR SALE. Triumph.

to Countershaft Triumph and Glotia sidecar, jast delivered; best offer over £170.—Woodslea, Park-Rd., Rexley. [2562 Rd., Hexhey. (TMPH, countershalt, 1917, lamps, etc., appearance and condition as new; 90.—Spiak, 2, Rass-Rd., Putney. (2492) 14 Triumph, Hondersna sideenr, Bosch, B.B. car-

buretter, splendid order; bargain, 275.-E Crescent, Erith.

(UMPH Combination, makers' overhaul, perfect condition; £135.—Kays, 8, Bond St., Ealing, 1827. [1868]

14 Genuine T.T. Trinmph, speedometer, 2 lamps, knee grips, hora, jump, good order and very fast;
-Wakelin, Sunningfule. [2308]

UMPH Junior, braud new, latest 1920 model; what offers?—Advertiser, 2, Albert Studios, t Bridge Rd., London. [2859]

19 Triumph Combination, Gloria sidecar, lar speedometer, as new; £150.—Kays, 8, Boud g. 'Phoue; Ealing 1827. [1

13 Triumph. T.T., clutch model, very last, excellent condition, 1917, B. and B., accessories;
-69, Argyle Rd., Ealing. [2197] [UMPH 3]2h.p., just overhanded, tyres, helt, enamed, etc., excellent condition; £35.—Preston, 50, per Rd., Wolverhampton. [2241

(UMPH, delivered 1914, unused 414 years, lumps, knee-grips, spares, insurance, like new-u's Green, St. Helens.

ul's diren, St. Helen.

15.1.3

15. Trimuph, B.B. Boech, adjustable pulley, lamps, took, etc., rabusbed, fast, clumb uny thing. Thirti, Bardon, Haots.

15.1.5

15. Trimuph Combination, 2-speed, overhauled, exceptional condition throughout; £60.—172, vale Rd, Well Hall, S.E.9.

vaue (fd., Weil Hall, S.E.9. [2188]
44 Mp. Triumph Combination, 5-speed hult, chitch, electric lamps, sound condition; £60,—WunkA, Riverside Heuse, Staines, [2298]
45 Triumph Combination, 3-speed, clutch, and
good viclor \$5.C.; £65,—R. Shepherd, Epinsford
Cockes Hill, Swadley, Kent.

Tockes Hill, Swadley, Kent.

Tockes Hill, Swadley, Kent.

Lings, 2 generators,
2 converted Rd., Eding, W.5.

Lings, W.5.

weathforth Rd., Ealing, W.S. [2505] (IMPHI, 1912, clutch, Bosch, T.T. bars, disc wheels, lamps, horn, perfect condition; E20.— Lordship Lane, Dulwich, 1253— 12 Trimuph Combination, smart 1919 cancelet, stickers, clutch, Philippon pulley, accessories, 2013 (2013) and 1914 (2014) and 191

or close offer.—Triumph, 314h.p., fast and reliable, perfect order, lamps.—Box 4,179, c/o The Cycle. Surrey-Hants district. [1948]

IUMPH Countershaft Gloria Combination, any trial and examination; bargain, £125. — 37, tham Place, Brixton Hill, S.W.2. [2677

IUMPH, 3½h.p., drop frame, plating and appearance good, £40; another mechanically perfect.

-38, Berkshire Gdus., Wood Green. [2577] 19 4h.p. Triumph and Gloria de Laxe sidecar, all laans, wind screen, legslabells, luggange gnd, per-1515.—Sebloes, Market St., Buxton. XX1751 UMPH 4h.p. Countershaft, complete, 80 gns.; see by appointment.—Denyer, Court Lodge, dead, Surrey. Phone: Merstham 43. [2624]

UMPH 4h.p., 3 speeds, clutch; mechanically per-fect, new tyres and belt; 65 gns.; sidecar to suit pured.—Wargeat, Ashperton, Ledbary. [1667]

UMPH 1914 3-speed Coachbuilt Combination, lamps, etc.; any trial or expert examination; for guick sale-Kettle, Tenterden, Keut. (2555 UMPH, 1918, 3-speeds, clutch, starter, and y-idecar: 2.120: trial evening or Saturday by ntment—L., 46, Chaucer Rd., S.E.24. [X1704

UMPH, thoroughly overhauled, N.S.U. gear, first-class running order; can be seen Saturday after-£50, or near offer.—T.W.S., West Byfleet. [2998 UMPH 4h.p. 3-speed Countershaft, excellent condition; £885.—Newnham Motor Co., 223, Hamaith Rd., W.6. 'Phone: Hammersmith 80. [9196 18-14 3/hp. Triumph 5.A. hub. Boseb, Venus SEND US YOUR ENQUIRES. Indicator, Esting, Elizaco, Lamps, accumulator; lowest; London —Box 3,454, clo The Motor Cycle. (5593)

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1920 SUMBEAM, 3½ h.p., sports model.
1920 SUMBEAM, 3½ h.p., standard.
1920 ROYAL RUBY, 3 h.p., spring frame.
1920 TRIUMPH, 4 h.p., countershaft
1920 NORTON, B.R.S.
COMBINATIONS.

1920 MATCHLESS, magdyno, 1920 B.S.A., all-chain, magdyno, 1920 SUNBEAM, 3½ h.p.

NEARLY NEW.

1019 (late) TRIUMPH, equipped, 1930 (OULSON-B), 4, hp., 5 yportine, equipped, 1917 RUOGE 1,O.M. Racer, equipped, 1918 TRIUMPH, countershaft, equipped, hp. 1918 TRIUMPH, countershaft, equipped, 1918 TRIUMPH, countershaft, e

1918 TRIUMPH, countersnatt, equipped COMBINATIONS. 1919 SUNBEAM, 8 h.p., equipped. 1919 SUNBEAM, 3} h.p., equipped. 1919 (late) TRIUMPH and Gloria, equipped. 1919 (late) TRIUMPH and Gloria, electric light.

1919 (Intel IRIUMPH and Grota, electric ligt 1919 ROVER, 3½ h.p., equipped. 1918 MATCHLESS, Victory Model, equipped. 1916 ENFIELD, 6 h.p., equipped. 1917 ROVER, 3½ h.p., equipped.

MOTOR CYCLES FOR SALE.

Triumpn.

TRIUMPH Combination, 3½b.p., F.E., Bosch, B. and B., perfect condition, ride away; £58; after 6 o'clock.-6, Westwood House, Wood Lane, W.12, 1997

TRIUMPH 1920 Model II, as new, accessories; £130. Climard Wilson Manifecturing Co., 70, Royal Hospital Rd., Chelsea, S.W.3, Kensington 7113, [1273]

TRIUMPH Countershart Combination, 1919 model haxarious bulbons sidecar, pertect outfil: £130 well equipped -60, Wallingford Av., North Kensington

EXCEPTIONALLY good 1913 clutch Triumph, Bosch, adjustable pulley, lamps, horn, any guarantee; £42.—Lapthorne, Revelstoke, Shorcham Beach, Sussex.

Sussex.

1 9 19 (Oct.) Triumph Coachbuilt Combination, P. and H. lamp set, side and rear lamps, Klaxon; E149.—Rhosha Motor Co., Barclay's Bank Mews, Rominated and the Co., Barclay's Bank Mews, Rominated and Rominated a

TRIUMPH 4h.p. Coachbuilt Combination, 3 speed clutch, speedometer, horn, rear lamps, any trial after 5 p.m.; £75.—Cliftonville, Clifden Rd., Brent ford.

4 h.p. Triumph and Canoelet Sidecar, delivered 17/5/20, Lucas horn and lamps, unnsed; offers.— Apply, Gill, G. Scammell and Nephew, Ltd., Spital-fields, E.

TRIUMPH 4h.p. Countershaft, with C.B. side ar, very nice combination; £115.—Newnham Motor Co., 223, Hammersmith Rd., W.6, Phone: Hammersmith 80.

TRIUMPH, countershaft, practically new combina-tion, lamps, Cowey speedometer, Bosch mag., Klaxon; price £135,—Cecil, 1, Station Rd., Sanburyon-Thames,

19 19 Triumph, 4h.p., countershaft, with brand new Dunhill sidecar, electric lighting, horn, beantiful outfit; £148.—Rhosha Motor Co., Barclay's Bank Mews, Romford.

TRIUMPH, clutch, 3-speed Sturmey, C.B. sideor, fully equipped, new cvl., piston, new oversize Dumlop, excellent order; 72 gns.—Jordan's Farm, Crawley, Sussex.

TRICMPH 4h.p., 3-speed, renovated by the unalers, dew side ar, just taken delivery; would exchange for 6-8h.p. combination.—Quaite, 82, Ladbroke Grove, London, W. (2307)

1914 4h.p. Triumph Combination, 251380, cane sidecar, underslung, P. and H. lamps, generator, perfect condition; any trial; £80.—Cornwell, Ticehurst, Sussex.

TRIUMPH, 1916, splendid condition, just repainted and tuned up, fitted with speedometer, lamps, Klaxon, etc.; price 90 gns.—Apply, Hatcher, St. John's Hall, Highbury. [2318

TRIUMPH Combination, believed about 1911, Iree engine, clutch, wicker sidecar, engine, tyres, belt, all in splendid condition; £38.—18, Wherstead Rd., Ipswich.

19 9 Triumph Combination, 62149, Grindlay sprung wheel sidecar, Cameo wind screen, lnggage carrier, enamel and plating as new; £145.—S. A. Webber, 24, Kingsway, Coventry.

19 19 Triumph Countershaft, Gloria Sidecar, cleetric lighting, speedometer, hora, spare cover, tube and belt, etc., mudshields; price £140.—Lieut. Worsfold, Haslar Barracks, Gosport. [2650

1915 Triumph 31-th.p., engine just completely rebushed, clutch, 2-speed N.S.U., splendid condition, lams, born, new belt: £55; London.—Marchaut, 51, 8t. Kildos Rd., Stoke Newington. [2818

TRIUMPH 4h.p., 1914, 3 speed, clutch, everhauled, new carburetter, tyre and belt, lamps, etc., powerful, and perfect running crder, trial; £69.—Sedgwick, Kirkby Lonsdale.

19 19 Trinmph C.B. Combination, 3-speed counter-shaft model, in very fine condition, completely equipped.—Seen at J. S. Jayes, 9, Princess Mews. Belsize Crescent, Hampstead. [2100

TRIUMPH 3½n.p., single gear, T.T. bars, Bosch, good tyres, recently overhauled, and in good going order; £40, or uear offer; seen by appointment.—W. F. Chesterton, 35, Escheling Gardens, Horal.

1918 Countershaft Triumph, splendid condition, ready to ride, lamp, etc.; 85 gns.—Silver Star Motors, Frederic Mews, Kinnerton St., Wilton Phone; 7791 Gerrard. [2278

C75; 1914 Trimph, C.B. pattern wicker sidecar, leckers, doors, Sturmey 3-speed, Bosch, Senspray, clutch, new tyres, belt, lamps, tools, spares.—Write, Robinson, Bengeo Rectory, Heriford. [1994]

1994
1909 Neuron Action, Heritold.
1909 Triumph Junior 2-stroke, perfect machine, scarcely used; owner hought car; lamps, horn, etc.; best offer over £70.-M., 59, Holland Rd., Kensugton, W.14. Phoner Park 1945.

[1817]

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1920 31 h.p. Ariel Com-£147 10 0 bination 1920 3 h.p. Royal Ruby, £109 15 0 spring frame £96 10 0 1920 31 h.p. Rudge Combination £137 10 0

1920 3½ h.p. Marloe-Precision €90 0 0

1920 23 h.p. Dot-Jap £74 11 0 Two (only) 23 h.p. Douglas 2-speed, like new £80 0 0

1919 23 h.p. J.H.-Villiers, lamp and speedometer £65 0 0

Smart Morgan A.C., fully equipped £190 0 0

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Lenith.

10:15 Zenith 6b, p. Countershaft, Mills-Pulford side-car, overhaujed and recewals, stored 2½ years, lamps, tools, mudshields, tyres good, complete for nod-trial arranged; £125.—Goodwin, Ovingtoa Tex., Caoton, Cardiff.

ZENTIH-GRADUA, 6h.p., June, 1919, all accessories, electric lighting, exceptionally fine engine; also 1920 Swan sporting sidecar for above; combination £160, or sell separately.—A. C. Bayley, R.A.F., Flowerdown, Winchester.

ZENTH-GRADUA, 6-6h.p., beautiful C.B. sideçar, respectively for the continuation past been overhauled, in good running to the continuation, past been overhauled, in good running to the continuation of the c

ALRTEST Sperting 8hp. Counterplat Zenith out-by 8t on the road, 1919 (Decembar), Swan torpeto sidecar, discs, luxurionaby equipped, only ridden few miles, uascratched, owner leaving home on 21st, offers, near £200.—Richards, 16, Manor Gardens, Richmond, Surrey.

ZENITH-GRADUA 6h.p. 1sp. 1914, Bosch, Amac, Lorange, Lorange, horn, speedburdet, new speedburdet, lorange, horn, speedburdet, lorange, lor

ZENTH-GRADUA Meter Cycle, 6hp. twin JAP, Zengeie, with Milk-Philora didects, Binke carbin-etter, lamps, hore, speedometer, and basket utilion sent in tip-top ranning order; best offer over £90 accepted; owner bought car; trial runs by appointment.—Hodges, Ellmburst, Carshalton. Tel.; Suttoo 879. (2136

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lesden, N.W.10.

A POSH Machine for Whitsun.—1916 Zenith counterhauled, re-commelled and plated, T.T. bars, new tyres, belt and tool bag, guaranteed perfect mechanical condition, long plated exfausts, indistinguishable from new: 2110.—Hubert Turner and Co., 4-5, Crawford Passage, Ray St., Faringodon Rd., E.C.1.

[3248]

Type St., Fairinguou Rd., E.C.T.

J UST delivered, ridden 3 times only, 1920 latest sporting model 5h.b. twin Earth, Gradus gear, Locknown and the state of the s

Ladies' Motor Cycles

LADY'S 2-stroke, 3-speed, clutch, kick start, little used, complete, as new; offers.—15, Broadfield Rd., Catford, S.E.6.

L ADY'S Humber, 2½h.p., 3-speed, free engine, clutch, condition new, lamps, etc.; £42.—Gratton, Hertford, Herts. [2429

1011 25(h.p. Ladies' Douglas, 2-speed, excellent cardition, new lamps, tools, etc.; £35.—Clark, 15, Churchville Rd., Bedford. [2223]

PREMIER 31/2h.p. (Lady's) 3-speed Coachbuilt Sidecar Combination, condition excellent, all accessories; 268.—38, Goswell Rd., Aldersgate, E.C.1. [1937]

Miscellaneous.

POYAL RUBIES, ail models.

1919 7-9h.p. 3-speed Clutch and K.S. Harley-David-son; £150.

1914 2-speed T.T. Royal Enfield; £80.

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REX, 6 h.p., 2-speed, coach Sidecar	£70	0	
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Mills-Fulford Sidecar	£87	10	
DOUGLAS, 27 h.p., 2-sp., reconditioned	65 g	ns.	
SUNBEAM, 1918, 3! h.p., coach Com-	_		
bination, appearance almost as new	£165	0	
VINDEC, 5 h.p., 2-speed, and Sidecar	£65	0	
SPECIAL BARGAINS.			
DOUGLAS, 1920, new Sidecar	£40	0	
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B OOTH'S Motories, Halifax, Clyno combine detachable wheels, £99/10; Clyno can care £15/10.

BOOTH'S Motories, Halitax.—Eight 1915 Doog £55/5 each; Douglas 1918 combination, £11 BOOTH'S Motories, Halifax.-4h.p. Triumph, new sidecar, countershaft model; £105/5.

BOOTH'S Motories, Halifax.—31/h.p. Ariel, 3-countershaft, with new sidecar; £88/10. BOOTH'S Motories, Hallax.-1918 Alldays A 2 speeds. ±59/10; Hohart, £48/10.

BOOTH'S Motories. Halifax.-O.K., 2 sp. £46/10: Calthorpe, Enfield gear, £55/10. BOOTH'S Motories, Halifax.—Large stock of p cycles.—Addiess, Portland Place, Halifax. [X

5-6h.p. Twin, Bosch mag, good going order: 24 nearest offer; seen any time.—Hengill, 8, Oro Terrace, Essex Rd., N.1. B.S.A., 1913, clutch model, lamps, £45; Doi 1914, 2-speed, £45; both good condition.

PRECISION 25th.p., Bosch, Druids, £19; Moto twin, nug., Druids, £18; new Albica gar complete, £7/7.—Sauaders, 54, Ashchurch Rd., Cre

BRADBURY, clutch, as new, 245; Peters, 1826. Rex, high power, 245; others; sidecars, sories, repairs, magnetos.—Smith, 123, High Rd., wick.

REX G. MUNDY always has a number of the class machines for sale, and will be please supply particulars upon request.—1, Dake Richmond.

MOTOR Cycle, 4h.p. J.A.P. engine, T.T. Bosch, B. and B., N.S.U. gear, good-order, fast, £43; sidecar, wicker canoe, well sp £510.—16, All Soints' St., Stamford.

1914 3½hp. Rudge Multi, 1915-16 eagine, feet-condition, £55; 1911 3½hp. clute trimmph, in good condition, £38; 2 28×3 covers, £5/10.—55, Gaskarth Rd., Batham, S.W.

QUADRANT 1914 8hp. Combination, small age, excellent condition, repainted and serchap; Douglas (2%hp.), Clyno, Verus (2-strail new.—Walthamstow Motor Co., 416, Hoe St.,

11. p. Triumph Motor Cycle, trial, £38; 2 Triumph motor cycle, 3-speed, free engine £50; coachbuilt sidecar, £11; ditto, £15; ditto ditto, £11; wicker sidecars wanted.—Rogerson towa, Wigan.

VERUS.—Immediate delivery from stock all use 2½h-p. 2-stroke, 2-speed, kick start, 280; 2 Blackburne, 3-speed kick start, 289;15; 4h-j burne, 3-speed Sturmey-Arrober gear, 2:10/5—d and Lowe, 125, High St., Woolwich.

19 20 Models New Imperial, O.K. Union, S Prook, Bat. Rover, A.B.C., Harley, Dav. Ariel, Lea-Francis, Royal Ruby, and Zenith's cycles. We can supply some of the above makes stock.—Lawes, Motor Works, Aldershot.

TUBERT TURNER and Co. have always a write for list. Several 1920 lightweights in stalist prices ready for Whitsun bollday.—Hubert and Co., 4-5, Crawford Passage, Farringdon Ed. 1

A DENTIST has for sale his 2%h.p. 3-speed c Connaught, with special water cooling an feed, and canoelet minor conchiult sidear, tyres, lamps, and hora, £70; also T.D.C. de 2%h.p., 2-speed, sole mount, £45.—Box 4,27, The Motor Cycle.

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Town, Clapham.

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(TER-LEA 3.-wheeler, 2-seater, 51.15.), repainted, ined, very smart, perfect running conditional, very smart, perfect running conditions, very smart, perfect running conditions, perfect running cond

TRICYCLES FOR SALE.

ZDECK Hand-propoled Tricycles, fitted with iturmoy-Archer 3-speed gear, render lame people thully independent. The Raybeck fitted with do Luxe auto wheel provides an ideal form of ag for the disabled; catalogue free-Harry r, 10 and 12, George St., Blackpool. [3065]

MOTOR SCOOTERS.

iOUS Skeetameta, A B.C. engine, early delive-tes.-Grey and Co., Beaconsfield. [1266] OPED Scooter, as new; £30.—Desoutter, 51, Baker St., W.I. Before 7 p.m. [1944

OTER, seat, dynamo lighting: £28 nearest offer. 48, Chase Side, Southgate, N.14. [2546 OTER, Kingsbury, in stock for immediate de-ivery; £42.—Plant, Forward Garage, Teignmouth

C. Skootamota, 1920, brand new, insurance; E55, or near offer.—Hale, 26, Gt. Guildford St., [2474]

ertons, Northgate, Ipswich. - Mobile Pup scoters in stock; immediate delivery. - Phone: [8158] UCHOPE'S, 9, Shoe Lane, London, E.C. Autoped scooters from stock, dynamo light

/10.-Genuine Autoped scooter, spring frame, slutch; trial.-Service's, 26, Page St., West-[6803

er, FOPED, 1½h.p., dynamo lighting, used for deem tration only; £36.—1, Norwood Rd., Herne He: Brixton 1964. OTAMOTA and Antoped, delivery from stock.— Phe Lankester Engineering Co., Motor Cycle Dept., righton Rd., Surbitoa. [2091

COPED. 1920, dynamo lighting, perfect, cost 243/10; best offer over £30; after 6.—Crow-opposite Thames Ditton Station. [3049 t Sale, new unused Autoped motor scotter, as 30d for £36 by Messrs, Gamaşer, nny reasonable—Henry Bros, Ltd., 71, Queen St., Glasgow, [3179 NRIBUN Scotter, £42]

Henry Bros, Ltd., 71, Queen St., Olssbor., SGRURY Scoolers: £42; immediate delivery.—Solo Distributer for County of Kent, N. G. Old. Agents, Garage, Radaor Park Av., Folkestone. [8855]

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HOODS, WIND SCREENS, ETC.

BER.—Hoods, 55/z; wind screens, 27/6.—Bright nad Hayles, 78, Church St., Camberwell. [1668 RCULES Hoods, \$2/6 and 65/z; hoods re-covered, from 27/6.—Hercules Hood Co., 698, Seven s Rd., Tottenham, London. [2821

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STER. Triplex Aero Wind Screens, 12in.x61/in.,

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NUS Sidecar Co., 6-18, Courley St., S. Totten [3232

ECAR Body, new: £4/15; suit 4h.p.—Manger, 31, Shardeloes Rd., New Cross. [2002]

MDARD Matchless-Body, spring cushion, good condition; 25.4-42, Church Rd., Acton. [5011]

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Thumes St., Staines. [2722]
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signing new ideas.—20, Tudor St., Loddon, E.C.4, Loudon J. OWMANN'S for Coach Bodies. We are actual manuholstered and finished any colour; price, including door and locker under seat, £5/15; fitted with spring back and spring seat, 10/- extra; no cheaper house. Send for list.—L. Lowman and Co., 45, Church Lang. Charlton, S.E.7.

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SANDUM Sideen Rodies.—We are the largest aideear today builders in the country. We have munnificatived to date over 8,000 hodies; 200 hodies always on hand, completed or in the course of completion-scenters, sceaters, single-seaters, welded metal projectiles, and featherweight. You can get what you want and rely on a superfine finish at the Sandhom Engineering Co., 355, Gray's Ian Rd., London, Wood Phone: Holiour 935.

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Sandum Sidecars.—The most noted body-builders in the country.

SANDHAM Engineering Co., 536, Gray's Inn Rd., W.C.1. Phone: Holborn 933 Factories: 162 to 165, Pentonville Rd., N.; and Britannia Works, Britannia St., W.C.

Wicker Sidecar, in good order; £7/10.—Surridge, Ongar, Essex. [2022]

COACHBUILT Sidecar, as new; what offers ?-43. Eckstein Rd., S.W.11. WICKER Sidecar, complete, Clincher tyre; £7/15. -96, Whittintgon Rd., N.22. [3187

ABER.—Coach bodies from £5/12/6 to £15.—
Makers: Bright and Hayles, 78, Church St., Cam.
[1669]

Ch. Sidecar, as new, strong chassis, with carrier, 2230.

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Bastone's for Sidecars; inspection invited. For price, quality, and finish you cannot do better. BASTONE'S for Sidecars. Latest coachbuilt 1920 models, complete with tyre; £16/10.

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WHITWORTH STEVENS Sidecars. - Prompt de-livery; illustrated catalogue free.

WHITWORTH-STEVENS Engineering Co., 184-186, Pentonville Rd., King's Cross, London. [2299]

NEW Coachbuilt Sidecar and Easting wind screen; \$26/10.-25, Merton Av., Chiswick. [2341]

19 18 Harley-Davidson Sidecar, complete with hood and screen; £28.—Qwenhy, Baldock. [3021] MILLS-FULFORD Empress de Luxe, nearly new; £18.—33, Hackford Rd., Brixton, S.W.9. [2850

SIDECAR, brand new, built for 2-seater, not upholstered, C.B.; £6.-72, Whitwell Rd., Plaistow, E.

19 20 Olympia Model Milliford Corvette Sidecar; £25, no offers.—1, St. Leonard's Rd., Surbiton, Surrey, 11633

GIDECAR, B.S.A., for sale, jost unpacked, No. 2; £34.—Pugh Bros., 101, Holloway Rd., London, N. [1814]

CAMBER Sidecars, complete, Model No. 1, 223/15.

Bright and Hayles, 78, Church St., Camberwell.

SIDECAR, sporting Model K Canoelet, for sele-Collyer, Silverdene, Foxenden Rd., Guildford. (2251 HENDERSON Sidecars, all models, in stock.—Forter, High St., Whitchurch, Salop. 'Phone: 74

G OOD Coachbuilt Sidecar, suit 3½h.p., excellent condition; £14.—King, Egrove Farm, Oxford. [X1733 M ILLFORD Chassis, very strong, condition as new; £9; seen evenings.—41, Maple Rd., Anertey, S.E. [2504]

SIDECAR, C.B., as new, £12/15; also chassis and tyre, £7.—Sibley, 106, Market Place, Romiord.

GREEN Coachbuilt Sidecar, 26in. wheel, good condition; £12/10.—Plowman, 46, Iverson Rd., Kil-

LIGHT Coachbuilt Sidecar, fine condition, all fit-tings; £18.—Stammers, 42, Gironde Rd., Fulham, S.W.6. [2326

LIGHT Indian Sidecar, Canoe shape, Cameo wind screen and apron; £22.—Hall, 5, Bardwell Rd., Oxford.

BURBURY C.B. Sidecar, new Dunlop sidecar tyre, apron, off Triumph; £15.—Parker, 9, The Grove, Swansea.

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SIDECAR, ready for the road; also body and classis, cheap; room wanted.—6, Vernon Rd., Luton.
[X1629]

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SIDECAR Chassis, 4-point, suit Triumph, et new, good tyre; £8.—172, Greenvale Rd., Hall, S.E.9.

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SIDECAR, wicker, coach shape, with door, sprung, good tyre; £9/10.—121, The Wandsworth, S.W.18.

INDIAN Sidecar, coachbuilt, nearly new, for frame, 28in. wheel,—Fairhead, 14, Melville Walthamstow, E.17.

SIDECARS.—Delivery from stock of cancelets, Fulford, etc.—A. J. Young and Co., Ltd., market. 'Phone: 214. 19²⁰ Watsonian Sidecars, all models, ex-stoc

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MILLFORD Underslung Cane Sidecar, in good dition; £15, or exchange lighter model.

1920 Unused Henderson Ellte Sidecar, 4-point, lamp; list price.—11, Queensthorpe Rd., Sham, S.E. 'Phone: 957.

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SMART Coachbuilt Sidecars, to fit all mach £26; a few second-hand from £10.—Ower Scholefield Rd., Upper Holloway.

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HENDERSON Sidecars.—All models in stock £43, Model B £30, featherweight £22.—Evans, 83-91, John Bright St., Birmingham. 19²⁰ Millford Sidecars to fit Triumph, P. and Sunbeams, and others from stock—Whitworth, Ltd., 139, New St., Birmingham.

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CANOELET Sidecars.—All models in stock, to £29/8, sporting £22/8, lightweight £17/ J. Evans, 83-91, John Bright St., Birmingham



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T.T. Prospects.

HE fact that certain firms have refrained from entering machines for the forthcoming Tourist Trophy Races certainly tends to make the entries rather less representative. At the same time sufficient entries have been received to ensure a good race, and nearly all the firms who have been conspicuously successful in recent events are represented by their own or by private riders. It is unlikely that a large number of entirely new engines will be seen in the island races, though there will be a few employing the very latest features of design.

It is safe to say that at least one firm will employ aluminium in their cylinder construction, and that there will be a tendency towards the use of well arranged overhead valve gear. Generally speaking, the entries for the Senior event will consist of well-tried single-cylinder engined machines, but there are sufficient newcomers, especially amongst the twins, to lend a very considerable interest to the race.

It is likely that the speed of the winning Junior will be not far short of that of the Senior winner, since the maximum speed is limited by the nature of the course. . The performances of the two-strokes, both 350 c.c. and 250 c.c., will be watched with interest, and it is likely that their speed and stamina will prove a revelation to many.

It would be hard to pick a winner in the 1920 events, but, apart from the questions of luck and organisation, it must be remembered that the chief factors which make for success are reliability, acceleration, and a rider who knows how to restrain himself as well as how to ride fast. The T.T. course is not a fast course, and, in spite of the fact that very high speeds are attainable in certain sections, the number of corners and curves which require careful negotiation at high speeds render a really fast average almost impossible.

With the rest of the sporting element in motor cycle matters, we look forward with keen enjoyment to these classic races and know we are expressing the thoughts of both private and trade owners when we say "May the best man win."

International Six Days Trial.

E have already published a précis of the rules governing the International Six Days Trial, which is organised by the Union Motocycliste de France, and is to take place from the 25th July to 1st August. Many will remember this trial as the event which was unfortunately postponed owing to the outbreak of war in 1914. On that occasion Great Britain was well represented, but at the present time the support for such competitions is particularly difficult for manufacturers, as the whole of their energies are devoted to output.

Due consideration must always be paid to the requirements of Overseas riders, and a trial over Alpine roads must be of inestimable value to manufacturers. Machines which will ascend a fifteen-mile Alpine pass without overheating will, perform equally well elsewhere. It must be remembered that the feature of these long climbs is the extreme length rather than the maximum gradients; even the Col de Galibier, the stiffest of the main roads, has no freak gradient, but it is the steady climb for many miles which renders it more difficult than any hill in this country.

The ill-fated Paris-Nice Trial has undoubtedly left a båd impression amongst English manufacturers. The International Six Days, however, is on a very different basis. The trial is organised by the Union Motocycliste de France, which is the accepted governing body for the French sport, and is recognised by the International Federation of motor cycle clubs, whose secretary is also the secretary of the British Auto Cycle Union.



T.T. Bars.

THE ardent novice who specifies T.T. bars often fails to realise that, in the event of quite a mild tumble, the heavily-dropped bars will dent the petrol tank, and that if a heavy crash befalls the 'bus they will very probably perforate it. The so-called "semi-T.T." bars usually have just enough height to clear the tank, but manufacturers' terminology is not standardised, and some T.T. bars do not clear the tank, whilst in one or two cases T.T. bars clear the tank because the top tube has a steeper slope than is usual. I mention the matter for the information of purchasers, and also with faint hopes that nomenclature may be made more definite.

Watch the Oil.

S everybody knows, a compound of experience and observation is needed to acquaint a Scott rider with the amount of oil on board his machine, since it is stored in the frame tubes, and the level cannot be My pump plunger bounced up the other day, signifying empty tubes, but luckily I was passing through a town, and stopped at a garage to buy a quart tin of Vacuum T.T. I was interested in the charge, since I normally subsist on big drums of oil, several of which are relics of happier days when oil was comparatively cheap. Three shillings and eightpence for a quart of oil, gentlemen! It was certainly a horrible war. As my pre-war drums are running low, I shall take an oath never to overlubricate in future.

Some Watersplash.

HAVE performed few feats in my life which were worthy of being filmed, but no Los Angeles stunt merchant has ever excelled a quite involuntary show of mine last week. I was trying out a brand new machine which is rather hot stuff, and the road was new to me. After an hour or so I was still thirsting for a change to get the throttle wide open when I arrived at a long straight piece of going, which fell gently down into a valley and climbed gently out the other side. There wasn't a soul or an animal in sight, and, after one gleeful glance through my dusty goggles, I flattened down on the tank, and let the machine rip. I was doing rather more than a mile a minute as the bottom of the dip rushed up to meet me, and only at the fifty-ninth second of the fiftyninth minute of the eleventh hour did I realise that the somewhat odd look of the road surface in the dip was a watersplash. It was too late to stop. depth of the water was problematical; also the kind of surface which lay beneath the water. All I could do was to hang on like grim death and trust to luck. The water came up and hit me like a solid wall. I emerged, stunned and dripping, but erect, a wiser and more prayerful man.

Back to Gas Lighting.

FTER a spell of electric lighting I have jus reverted temporarily to gas lamps, since the Lucas Co. is behind deliveries of the special Magdyno designed for use on two-stroke engines. dug out an old Lucas gas set, which I bought in 1913 and fitted it in ten minutes or so. Naturally I'di not feel too comfortable, as I had forgotten how muc water drip to give, but it functioned with perfect reliability, though it had lain rusting in a corner of the garage for six years. On the other hand, th illumination was noticeably inferior to that of elec tricity. The light was flung too high, and not fa enough, though I might have improved this if ther had been time to experiment with the focussing, whic is adjustable. My chief complaint was that the gener ator was not automatic. In energetic days I hav been known to do a little lecturing with a magi Lanterns employ a tank generator whic feeds four big burners without attention for two hour without a flicker, and without attention. Neither i lighting up, nor as the entire charge of 2 lb. or mor begins to get sodden, is any adjustment required. Thi is obviously an ideal for motor cycle generators. Wit my resuscitated 1913 generator I got a fairly stead light and a fairly economical carbide consumption but only at the price of fiddling with the water fee every mile or so. In night riding, especially o strange roads in winter weather, one has quite enoug occupation without attending to the lamps. doubt if I ever handled an automatic motor cycle ger erator, except the Low patent; and on occasions the instrument has been known to be whimsical. I suppos all supply difficulties in connection with electric light ing will be at an end by next season. But the facthat some such outfits constitute a £20 extra mus restrict their popularity; and there is surely a gres opening for a generator which will burn for fou hours without attention on half a pound of carbide Incidentally, some garages are surely profiteering i carbide? The other day I bought 1 cwt. of carbid retail for 45s., but saw a rider charged 1s. for 1 lb Mine, purchased in bulk, cost me no more than 43/d per lb., which includes a retailer's profit.

A Correction.

R. Alan Fenn, of the Sopwith people, asks m to correct a remark I made the other wee about the "options" on A.B.C. machines Manufacturing difficulties were responsible for th delivery of a few machines without kick-starters, an in each case the customer was given the choice betwee waiting or having the accessory added later on. From now on every cycle will be sent out with a kick-starter Similarly, the electrical equipment can now be supplied to anybody who wants it.

Lining up Scott Chains.

INCE I betrayed my ownership of a Scott, I have had a lot of correspondence from fellow enthusiasts, and several of them ask advice on uring chain alignment after dismounting the gear changing sprockets, etc. "Tim" Wood is of inion that it is practically impossible to get the ains out of alignment with the spindle nut and llow bolt tight, but in any case alignment can easily verified by taking the measurement from the bolt Idling the crank case door strap on each side. My rrespondents should refer to page 150 of the entieth edition of "Motor Cycles and How to anage Them," where they will find a sketch of a ding tin gauge for measuring the distance between ankshaft and countershaft centres on either side.

Rust-proofing a New 'Bus.

KINDLY correspondent denounces me as a slovenly and wasteful fellow for using anything so glutinous as I rices' hub lubricant to rustoof my new 'bus. Apparently the gentlemanly ethod is to dissolve a tallow candle in three or four nes its volume of petrol. A milky solution results, nich is rapidly brushed over the plated parts of the achine (i.c., over 99% of its superficial area). In out ten minutes the petrol evaporates (surely my iend has been using aviation spirit?), and the thin m of tallow alone remains. This dodge can be polied to tools in storage with huge success. The me reader is wildly enthusiastic about the cigarette noke test for air leaks published in our columns the her week. He tried it in a somewhat cynical spirit, it wisps of smoke curled from all sorts of unsusected places. He has already purchased a new inlet the and guide as the result of the experiment, and is ow feverishly studying our recent lucubrations on the ibject of eccentric v. concentric piston rings.

Punctures.

THANKS perhaps to the quality of modern tyres, but more probably to frequent changes of machine, I had not sustained a solitary puncture om the Armistice until last week. Then I struck one f the sort from which we all hope to be immune uring a Six Days. A pukka pinhole doesn't matter. ou can blow up every five miles until you meet a

water trough or brooklet and can trace the hole. A real gash takes no finding, and with luck will not be too big to patch. But this puncture of mine was betwixt and between. I couldn't see it nor hear the hiss of escaping air, particularly as it befell on a lonely moor, where the telegraph wires were singing maddeningly in a thirty-mile wind. On the other hand, periodic dismounts to pump up were no good, as each inflation lasted about five hundred yards. When my stock of swears had been dumped, I took my fate in my hands, and blew the tyre up till it resembled Joe Beckett's forearm. The staunch rubber held, and at last I spotted a teeny hiss. The makers of the machine had provided no tyre outfit, and the local garage was out of Patchquick, so I had invested in a kit which is new to me-the John Bull. I have never used a solution which dried more quickly, and was very pleased with the speed of repair made possible.

Security Bolts? WHILE I am talking of tyres, has anybody else found that tyres have a distinct tendency to creep round the rims in this year of grace? It is aggravating enough to have to unfit a tyre because it is punctured, but when you notice that a tyre valve has ceased to be part of a radius, and is slanting about all cockeye, you get doubly mad: at least I do. I was quite familiar with this particular trouble a few years ago, and when it wasn't due to my running my tyres too soft, it was ascribable to discrepancies between makers' rim and cover sizes. All that sort of evil is supposed to have been scotched by the present standardised moulds and presses; but, if my experience is valid, quite a lot of "creeping" still goes on. I can only ascribe it to the terrible wrench administered to the back tyre by the frightful acceleration of which some modern hot-stuff engines are capable. On two 1920 machines I have often felt the back tyre scrabbling for road grip on dry surfaces when I banged the throttle open on a lower gear after taking a sharp bend followed by a stiff grade. I take it that if the cover is immovable in the rim, the inevitable slip is between road and tyre, but that if the locking of the cover in the rim is just not perfect, the cover creeps. I hope we shall not be driven to use security bolts on hot-stuff machines. Let me hastily add that I haven't been pot-holed into letting too much air out of my tyres, as readers will possibly suspect.



A CLOSE FINISH.

H. R. Godfrey winning from C. Finch at the last Brocklands Junior Car Club's meeting. Both were driving G.N cycle cars, the winner averaging 499 m.p.h.



The International Six Days Trials, July 25th to August 1st, 1920.

Scenes typical of the Route and a Preliminary Notice of the Regulations.

NDER the organisation of the Union Motocycliste de France, the International Six Days Trial will commence on July 25th at Grenoble, and radiate from the same place on three succeeding days. 220 to 250 kilometres (137 to 155 miles) will be covered each day. On the fifth day (July 29th) the machines will be exhibited to the public, and the sixth and seventh days will be occupied in the journey from Grenoble to Paris.

Each day, at the start, the competitors will be allowed fifteen minutes for replenishments and adjustments, and all other repair must be done in running time.

The average speed to be maintained is 30 km.p.h. (18) m.p.h.) for machines and cycle cars, and 28 km.p.h. (17½ m.p.h.) for sidecars, except in the two days journey $(17\frac{1}{2})$ to Paris, when all vehicles must average 30 km.p.h. There are classes for 350 c.c., 500 c.c., 750 c.c., and 1,000 solo motor cycles, 500 c.c., 750 c.c., and 1,000 c.c sidecars, and 1,100 c.c. cycle cars, and minimum tyre and mudguard sizes are specified in class

> (Top) Scene near Espinasses, showing the road washed away by an avalanche. After such occurrences the road is gradually rebuilt by the villagers. In the distance can be seen the village of Renollen.

(Centre) The suspension bridge over the Vardon river near St. Julien.

(Bottom) Pictures que scenery overlooking the Vardon Valley, near St. Andre.

n the French Alps.

The machines will be weighed t Grenoble, and all essential us will be spare parts, which

Competitors must take out

nsurance policies to cover all hird party and fire risks.

During the trial a number of special tests will be made, ncluding brakes, time over a ill-climbing. The routes will be divided into 40 km. (25) niles) controls, and at each the competitors must stop to have he time marked on the route ard. An allowance of five ard. An allowance of five minutes early or late will be nade, beyond which one mark vill be deducted for each minute of error. Any competitor who is one hour late at any con-

rol will be deemed to have retired. Efficient lamps must be carried, is there are many tunnels in the nountain sections; the surface in hese is mostly greasy, and a light afety. At all places of difficulty rrows will indicate the route.

One thousand marks will be

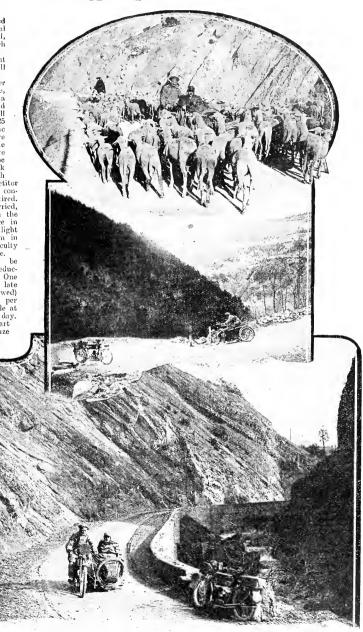
dlotted to each starter, and deduc-ions will be made as follow: One nark per minute early or late beyond the five minutes allowed) t any control. One mark per ninute early or late of schedule at unch stops or final stop of day. The marks for each spare part used. Gold. silver, and bronze nedals will be awarded.

In addition to the Six Days Trial for addividual riders, the international Touring Frial will be run contrial will be run con-urrently. This is pen to teams of three riders of any country affiliated to the International Federation of Motor Cycle Clubs, The f two solo machines ot exceeding 500 c. and one sidecar r cycle car. Entries or the trials close in June 15th, and particulars can be btained from M. le Bécrétaire, de Union Motocycliste le France, 8, Place le la Concorde, Paris.

· (Top) Motor cyclists encountering a flock of mountain sheep.

(Centre) A view taken near Selonnet, showing one of the many hairpins to be negotiated. Good brakes are essential here.

(Bottom) Another scene on the Puget-Theniers road.





THE TOURIST TROPHY RACES.

Details of the Great Races in the Isle of Man. Sixty-one Entries Received. Exceptionally Keen Contests Expected.

SENIOR RACE, THURSDAY, JUNE 17th.

Distance 225 miles. Six laps of 37 miles 4 furlongs each.

First Prize: The original Tourist Trophy, presented by t Marquis de Mouzilly St. Mars, to be held for o year; £50 in cash.

Second Prize: £25 in cash.

Third Prize: £15 in cash.

Special gold medals to every competitor finishing with thirty minutes of the winner.

Team Prize: To be won by a nominated team, who me all finish the course within thirty minutes of t winner

Present holder: Cyril G. Pullin (31 Rudge). Time, 4h. 321 48s. Average speed, 49.49 m.p.h.

In both races competitors are required to wear a reg lation racing helmet. As there appears to be a shorta of this very necessary headwear, the A.C.U. makes an appe to all who possess helmets to help it out of this difficulty l communicating with the secretary.

Practising starts at 4.30 on Monday morning next (Ma 31st), and will be continued up to the morning of Monda June 14th, Sundays excluded.

SENIOR ENTRIES.

JUNIOR RACE, TUESDAY, JUNE 15th.

Distance 187 miles 4 furlongs. Five laps of 37 miles 4 furlongs each.

First Prize: Trophy to be held for one year, £40 in cash, and special gold medal.

Second Prize: £20 in cash.

Third Prize: £10 in cash.

Special gold medals to every competitor finishing within thirty minutes of the winner.

Team Prize: To be won by a nominated team, who must all finish the course within thirty minutes of the

Present holder: Eric Williams (23 A.J.S.). Time, 4h. 6m. 50s. Average speed, 45.58 m.p.h.

SPECIAL 250 c.c. CLASS.

In addition to the above-mentioned awards, the riders of machines with engines under 250 c.c. are eligible for competition for *The Motor Cycle* trophy, presented by the proprietors of this journal with a view to encouraging the development of the small lightweight machine. The finishing time limit for the gold medalists in this class will be calculated from the time which the fastest machine of the class finishes the course.

JUNIOR	ENTRIES.	
Entrant and Machine.	Type of Engine.	Rider.
Wooler Motor Co., Ltd. (2‡ Wooler). Wooler Motor Co., Ltd. (2‡ Wooler). Wooler Motor Co., Ltd. (2† Wooler). Berney & Blackburne (2‡ Blackburne). Burney & Blackburne (2‡ Blackburne). Burney & Blackburne (2‡ Blackburne). A. E. Wills (2‡ Douglas). Butterfields, Ltd. (2‡ Levis). S. A. Newman, Ltd. (3 Ivv). S. A. Newman, Ltd. (3 Ivv). S. A. Newman, Ltd. (3 Ivv). A. H. Haden (2‡ New Comet). A. H. Haden (2‡ New Comet). A. J. Stevens, Ltd. (2‡ A., [S.). A. J. Stevens, Ltd. (2‡ A., [S.). A. J. Stevens, Ltd. (2‡ A., [S.]. A. J. Stevens, Ctd. (2‡ A., [S.]. A. J. Stevens, Ctd. (2‡ Diamond). D. F. & M. Eng. Co., Ltd. (2† Diamond). D. F. & M. Eng. Co., Ltd. (2† Diamond). D. F. & M. Eng. Co., Ltd. (2† Diamond). R. O. Clarke (2‡ Levis). I. W. Oates (2‡ Levis). I. W. Oates (2† Mozole). R. W. Loughton (2‡ Douglas). E. Greenwood (2‡ Douglas).	Flat twin, 4-str. Flat twin, 5-str. Flat twin, 5	J. H. McDowell A. E. Houlberg J. B. Watson-Bourne J. S. Holtoyd. Entrant F. W. Applebee Gus Kuhn P. G. Dallison Entrant Entran

* In 250 c.c. class for The Motor Cycle Trophy.

Two-strake and four-stroke engines are indicated 2-st. and 4-st. respectively. The flat twins are all four-strokes.

T.T. ITEMS.

The Nortons entered are practically standard racers.

The new Comet entered for the Junior event is a two-stroke fitted with a Climax engine of 293 c.c., and is of

practically standard specification.

The A.J.S. machines have overhead valves. Two types have been made: one with the usual push rods, and the other with an overhead camshaft driven by chain.

The Indian Scouts will be the only V twins in the race

this year. Flat twins will be represented by the A.B.C. and the 3½ h.p. Douglas in the Senior event, and by the Woole and the 2¾ h.p. Douglas in the Junior race. Comfort counts in a T.T. race. It will be interesting to note the performances of the spring frame mounts.



The Liverpool M.C. Speed Trials Results.

Awards on Time and Formula of the Racing at Storeton.

THE highly successful speed trials organised by the Liverpool M.C., which took place at Storeton on the 15th inst., were recorded in our issue for the 20th. We are now able to give the official results n time and formula, which are as under:

ELIANCE OPEN SPEED CHALLENGE CUP. For the best aggregate performance by a motor cyclist in open classes, using the same machine. Previous holders: 1913, G. E. Stauley (Singer); 1914, C. R. Collier (Matchless). G. Dance (2) Sumbeam).

AXTER MEMORIAL CUP. For the best aggregate performance by a private owner. G. S. Boston (23 A.J.S.).

OOPLAND CUP. For the best performance by private owner who does not win Reliance or Baxter Cups.

A. J. Brewin (8 Zenith).

osron Cup. For the best aggregate performance on formula. G. Dance (2 Sunbeam).

PECIAL PRIZE FOR FASTEST TIME OF THE DAY. G. Dance (31 Sunbeam). SACHINE TEAM PRIZE. A.J.S. and Norton tied.

FLYING KILOMETRE. Under 300 c.c., Solo.
On Formula.

On Time.
R. Pugh (2½ Levis)
A. Milner (2½ Diamond)
J. F. Lidstone (2½ James)

On Formula.
.. A. Milner (2∤ Diamond)
∴ R. Pugh (2∤ Levis)
..

UNDER 350 C.C., SOLO. G. Dance (2[§] Sunbeam) E. Kickham (2[§] Douglas) G. S. Boston (2[§] A.J.S.)

.. G. Dance (2³ Sunbeam)
G. S. Boston (2³ A.J.S.)
H. C. Heath (2³ A.J.S.)

UNDER 500 C.C., SOLO. G. Dance (3½ Sunbeam)
E. Kickham (2½ Douglas)
G. A. Strange (3½ James)
H. Le Vack (3½ Durymo)
V. E. Horsman (3½ Norton)

.. H. Le Vack (3½ Duzmo) .. H. C. Heath (2¾ A.J.S.) .. E. Kickham (2½ Douglas)

UNLIMITED SOLOS, FOR AMATEUR MEMBERS, ON FORMULA.

 G. S. Boston (2³ A.J.S.)
 H. R. King (3 A.B.C.)
 G. G. Barnard (3¹/₂ Sunbeam) 750 c.c., Soi.o.

J. H. Fox (5 Matchless) V. E. Horsman (3½ Norton) N. H. Brown (3½ V.E.H.)

On Formula.

H. C. Heath (23 A.J.S.)

E. Kickham (23 Douglas)

V. E. Horsman (31 Norton) UNLIMITED, SOLO.

A. J. Brewin (8 Zenith) H. Le Vack (3½ Duzmo) N. H. Brown (3½ V.E.H.)

.. A. Milner (2½ Diamoñd) .. G. Dance (2½ Sunbeam) .. E. Kickham (2¾ Douglas) 350 c.c., SIDECARS. .. G. Dance (21 Sunbeam) .. G. S. Boston (23 A.J.S.)

G. Dance (2\frac{3}{4} Sunbeam) G. S. Boston (2\frac{3}{4} A.J.S.) G. Cowley (2\frac{3}{4} A.J.S.)

500 C.C., SIDECARS .. V. E. Horsman (3½ Norton) .. G. S. Boston (2½ A.J.S.)

G. Dance (31 Sunbeam) V. E. Horsman (3½ Norton)
O. E. Carter (3½ J.A.P.)

On Formula

.. V. E. Horsman (3½ Norton) .. G. S. Boston (2½ Å.J.S.) .. G. E. Stobart (5-6 James)

 V. E. Horsman (3! Norton)
 G. E. Stobart (5.6 James)
 B. Jeffreys (3! Norton) Unlimered, Sidecars. A. J. Brewin (8 Zenith)
 G. E. Stobart (5-6 James)
 S. A. Marks (7-9 Indian)

.. G. Dance (27 Sunbeam) .. G. S. Boston (21 A.J.S.) V. E. Horsman (31 Norton)

Unlimited Sidecars for Amateurs, Members of the Club. FORMULA ONLY. G. S. Boston (2] A.J.S.)
 G. G. Barnard (3.1 Sunbeam)

KILOMETRE. STANDING START. 350 C.C., SIDECARS.

On Time G. Dance (27 Sunbeam) 2. G. S. Boston (2] A.J.S.)

On Formula.

G. Dance (2^a Sunbeam)

G. S. Boston (2^a A.J.S.) 500 C.C., SIDECARS. .. V. E. Horsman (3! Norton) .. E. Porter (3 A.B.C.) .. G. S. Boston (2" A.J.S.)

G. Dance (3½ Sunbeam)
 V. E. Horsman (3½ Norton)
 G. G. Barnard (3½ Sunbeam)

750 C.C., SIDECARS. G. E. Stobart (5-6 James)
G. G. Barnard (3½ Sunbeam)
G. S. Boston (2½ A.J.S.)
G. E. Stobart (5-6 James)
E. Porter (3 A.B.C.)

UNLIMITED, SIDECARS.

A. J. Brewin (8 Zenith)
 G. E. Stobart (5-6 James)
 V. E. Horsman (3½ Norton)

.. G. Dance (2² Sunbeam) .. G. S. Boston (2² A.J.S.) n) V. E. Horsman (3¹ Norton) Unlimited, Sidecars, for Amateur Members, on Formula.

 G. S. Boston (27 A.J.S.)
 G. G. Barnard (31 Sunbeam) 300 C.C., SOLO.

On Time.

1. R. Pugh (2] Levis)
2. A. Milner (2] Diamond)
3. J. F. Lidstone (2] James) On Formula.

J. F. Lidstone (2‡ James)

A. Milner (2‡ Diamond)

350 c.c., Solo. .. G. Dance (27 Sunbeam)
.. H. C. Heath (23 A.J.S.)
.. E. Kickham (27 Douglas) G. Dance (23 Sunbeam) E. Kickham (27 Douglas) . H. C. Heath (27 A.J.S.) 500 c.c., Solo.

G. Dance (3½ Sunbeam) G. A. Strange (3½ James) E. Kickbam (2½ Douglas)

.. G. A. Strange (3½ James) .. E. Porter (3 A.B.C.) .. E. S. Abram (3 A.B.C.) UNLIMITED SOLOS, FOR AMATEUR MEMBERS, ON FORMULA.

G. S. Boston (2] A.J.S.)
 E. L. Boston (3 A.B.C.)

750 C.C., SOLO. On Time.

1. H. Le Vack (3½ Duzmo)

2. E. Porter (3 A.B.C.)

3. V. E. Horsman (3½ Norton) On Formula. On Formula.

E. Porter (3 A.B.C.)

H. Le Vack (3 Duzmo)

G. S. Boston (2 A.J.S.)

| UNLIMITED, SOLO. | UNLIMITED, SOLO. | G. Dance (2† Sunbeam) | H. Le Vack (3† Duzmo) | ... | G. Dance (2† Sunbeam) | J. H. Fox (5 Matchless) | E. S. Abram (5 A.B.C.) | A. J. Brewin (8 Zenith) | H. Le Vack (3† Duzmo) | H. Le Vack (3† Duzmo) |

Roadside Courtesy.

URING a recent holiday week-end I had the misfortune to be consigned to the high road for a four hundred miles there and back trip, and the experience afforded a superb opportunity of studying the modern aspect of things as regards the muchdiscussed "old-time courtesy of the road."

From Carlisle to Settle the road was literally strewn with roadside wrecks in every stage of senile decay, and I began the day by courteously slackening down, with the usual humble enquiry. Generally it brought no response; sometimes an "all right" in a "mind your own business" manner.

Now the majority of us, who do not break down at the roadside as a usual thing, and who probably do not require help if we do, since we carry all things necessary, enjoy such immunity simply because we pay for it in hard cash and caution. We go to some small

expense, and exercise a good deal of methodical care in order to avoid roadside annoyance, and, having done so much, I really fail to see why we should be considered callous because we refuse to burden ourselves with the troubles of everyone who, through his own incapability or closeness, is utterly incapable of passing from one town to the next without spreading himself out in the grit.

These things being so, and the amount of motor cycle traffic having so enormously increased, it is full time some fresh understanding were arrived at regarding roadside help, and the obvious way out of it is for all roadsiders to be considered O.K. unless some signal of distress be given to passing traffic. Any rider, I think, would be only too happy to stop if he were sure his help were really needed-if he were sure no cool CHINOOK. rebuff awaited his offer.

MOTOR (YCLE

THE T.T. IVY.

A 348 c c. Two-stroke with Three-speed Gear and All-chain Drive.

ONSIDERABLE interest is being manifested in the chances of the two-stroke engine for the forthcoming Tonrist Trophy Races, and the performance of the 3 h.p. Ivy, one of few 348 c.c. two-strokes entered for the Junior Race, is bound to attract the attention of all enthusiasts. In 1914 the only Ivy entered put up a very creditable performance, and averaged over 30 m.p.h., in spite of its tiny engine capacity of 269 c.c.

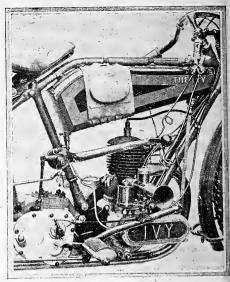
Roller Bearings.

The 1920 T.T. Ivy has a cylinder of 75×79 mm. bore and stroke, giving a swept volume of 348 c.c. The crankshaft runs on roller bearings throughout, and runs on roller bearings throughout, and peculiar care has been taken in designing the ports. The exhaust gases are provided with a free, and mobstructed flow, and we hear that the acceleration and speed of the little machine are exceptional. Externally, the most noticeable features are the copper tubes inserted in holes drilled through the radiating fins, and the neat method of foot operation for the oil supply.

An inverted sight feed drip is arranged in the front end of the tank, the pump

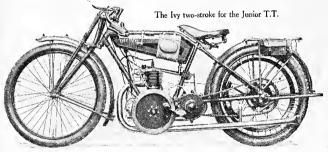
spindle projecting downwards. This spindle is attached by a length of strip steel to the front end of a bar. The

bar is pivoted on to the footrest, and carries a pedal near its centre, which may be depressed by the rider's right toe. From the sight feed there are two leads, one to the cylinder and one to the crank case, and the flow of oil to either or both of these leads is regulated by a tap. A three-speed Sturmev-Archer gear box, giving ratios of 4, 5, and 7½ to 1, and having a single-plate cork clutch is used, the drive being by chain throughout. In addition to the usual front rim brake, two shoes, actuated by the right heel or left toe, are arranged so as to operate independently on a dummy belt rim. A tank of the distinctive Ivy shape and having a fuel capacity of well over two gallons is fitted, and large quickly detachable filler caps are incorporated.



Having a 343 c.c. engine, the lvy will be one of the largest two-strokes in the T.T. this year.

Other features include a cush drive in the rear wheel, 26×23in. tyres, Brooks B220 saddle, and an enclosed release valve. Additional interest attaches to the Tourist Trophy Ivy engine, in that it is the forerunner of the 1921 Ivy models, and in no way differs from what is to be the standard engine for the roadster models. The finish throughout is excellent, and there are no signs of the usual T.T. rushed work.



ROAD RACING IN FRANCE

THE Lyons Motocycle Club, which is one of the most energetic of the French provincial organisations, recently held a road race over a 9 mile course in the neighbourhood of the silk city. Solo machines of 250 c.c., 350 c.c., and 500 c.c. were admitted, as well as sidecars of 500 c.c. and 1,000 c.c. The number of laps to be covered varied with the class of machine, being the highest

for the 500 c.c. solos.

The highest average in the race was made by the professional rider Vulliamy on a 350 c.c Alcyon, his speed working out at 53 m.p.h. In 500 c.c. class the fastest rider was Pean, the Pengcot champion, who, with his overhead valve racer averaged 50.6 m.p.h. for the entire distance, and covered one lap at 57.7

In the sidecar class the winner was Mazuel, on a Harley-Davidson, who averaged 41.7 m.p.h. Detailed results are as follow:

SOLOS. c.c. Machines (134 Miles). - Louis

250 C.C. MACHINES (134 MILES).— Louis (Aleyon), 3h. 7m. 21.s; Guiguet (Aleyon), 3h. 7m. 21.s; Guiguet (Aleyon), 3h. 7m. 21.s; Guiguet (Aleyon), 2h. 7m. 41.s. 150 C.C. MACHINES (162.6 MILES).—Vulliamy (Aleyon), 3h. 11m. 250 C.C. MACHINES (191.5 MILES).—Péan (Peugeot), 3h. 46m. 47s; Winchler (Kochler-Escoffier), 4h. 25m. 20.s; Bouven (Molosacoche), 4h. 55m. 511.s.

SIDECARS.

500 c.c. Machines (76.5 Miles).—Borghetti (Georges Lévy), 2h. 7m. 27is.; Soundot (Benoist-Gonin), 2h. 31m. 08.; Chapon (Benoist-Gonis), 2h. 32m. 20is.; Galyen (Benoist-Gonin), 2h. 50m 20is.

1,000 c.c. Machines (76.5 Miles).—Mazuel (Harley-Davidson), th. 49m. 83s.; Amort (Harley-Davidson), th. 54s.; Odod (Harley-Davidson), 2h. 13m. 57s.

TRADING WITH FORMER ENEMY COUNTRIES.

The following resolution has been passed by the Council of the British Association of Trade and Technical Journals, Limited:

"In view of the expression of opinion by Sir Auckland Geddes, as President of the Board of Trade, regarding the acceptance of advertisements of goods manufactured in late enemy countries, the Council have carefully considered the whole position. Thy now recompolicy of the Association not to accept such advertisements for the present, in order to enable British manufacturers to recover their normal working conditions, At the end of the present year (1920) the subject will again be considered, with a view to further advising members on the subject."

The publishers of "The Motor Cycle" readily accept this recommendation, and have, in fact, constantly refused offers of advertisements of German goods.



A Midland Test of a 3 h p. Spring Frame Royal Ruby.

SALIENT FEATURES OF THE ROYAL RUBY.

ENGINE: 3 h.p. Royal Ruby, 74.5 × 80 mm., 349 c.c.

GEAR: Royal Ruby two-speed countershaft. LUBRICATION: Best and Lloyd drip feed. FRAME: Royal Ruby patent spring frame. TRANSMISSION: Chain-cum-belt.

WEIGHT: 220 lb. approx. PRICE: £109 14s. 6d.

IN these days, when the motor cycle power unit has reached such a degree of perfection that one ceases to worry about mechanical failures, manufacturers are devoting more attention to the important questions of comfort and cleanliness. With our very uncertain climate and the present state of the roads throughout he country, good springing and reasonable protection rom mud and wet are an absolute necessity to the all-weather motor cyclist.

Those who followed motor cycle patents during

he past year or two would note hat the Ruby Cycle Co. was devotng its energies to a design incororating, amongst other features, an ffective springing system. This reulted in the production of the two nodels which attracted so much ttention at Olympia.

Recently we availed ourselves of he opportunity of giving one of these nachines an extended road trial, the nodel chosen being the 3 h.p. singleylinder solo mount with two-speed ear, chain-cum-belt drive transmision, sprung front and rear by single aminated springs.

On the Road.

Our test consisted, amongst other ems, of a hundred-mile run in con-

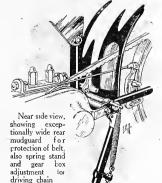
nection with the recent Victory Cup Trial, though, besides this, the machine has been driven for a considerable mileage over the roads and lanes of Warwickshire, which afford a variety of conditions for testing the merits of the spring frame. As our object . was to observe the competitors on the tricky ascent of Rising Sun, Coventry was left at noon, allowing two and a half hours for the journey of fifty miles, and, not wishing to "push" a new engine unduly, we declined the offer to start later in company with a

fast 31/2 h.p. flat twin and two power-

ful sidecar outfits.

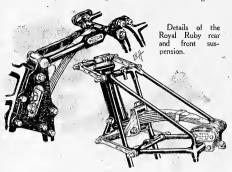
Rain had fallen all the morning, . and continued to do so throughout the earlier part of the journey with a persistency so well known to all motor cyclists. Pushing along the rough Kenilworth-Warwick road one was at once impressed by the way the machine seemed to float over the bumps and pot-holes, and our thoughts went back to the vile roads and pavé of other days. For the first few miles we found the machine somewhat strange to handle, but this lack of handiness is not so noticeable when one has got to know the machine, except at slow speeds.

Arriving at Stratford-on-Avon, we found the historic old town gaily



Road Tests of New Models .-

bedecked with flags in commemoration of the birthday of the Bard of Avon. We did not dally, however, and, after crossing the birdge, headed for Broadway with increased speed. The little engine answered the throttle well, and, though new, showed no signs of



drying up after a long climb or burst of speed. It runs very smoothly and quietly up to 25 m.p.h., and has a maximum speed of something over 40 m.p.h., at which speed the machine is particularly steady. We overoiled consistently all the way, but failed to make the engine smoke.

The clutch is exceptionally "sweet," the lightest touch of the lever taking away any perceptible snatch when driving dead slow on "top." All hills were taken comfortably on top, with the exception of the last steep stretch of Cleeve Hill, when the low gear was engaged. changing would be rendered easier by a slight alteration in the position of the gear lever, and would possibly be facilitated if the lever were situated at the side of the tank. The descent into Cheltenham afforded opportunity of testing the rear brake, which we found quite effective, the large pedal being conveniently placed to allow the heel to rest on the

footboard when descending a particularly long gradient.

Commendable Mudguarding.

Arriving at Rising Sun, we found ourselves reasonably clean after the wet ride, and our appearance compared very favourably with many riders we saw during the day. In short, mulguarding is well carried out. The back guard is wide, and overhangs the belt rim, thus protecting the latter to a certain extent. The from guard is deeply valanced, and with the large undershield gives ample protection to the rider and engine.

Before long a little knot of interested motor cyclists had gathered round the machine, and for five minutes

we were plied with questions concerning its comfort.

Returning by the same route, on favourable, roads, we opened out, and mile after mile was reeled off with the speedometer needle half-way round the dial. The road was quite dry, and no attempt was made to pick the way, pot-holes and bumps being taken without any reduction in speed. Quite a number of motor cyclists were returning, and we found the machine able to hold its own with anything of similar power.

We arrived home just before eight o'clock, having completed the journey in under two hours, and, on calculating the petrol consumpton, found it worked out at something over 105 m.p.g.; quite good, considering the machine was new. The Royal Ruby engine has won excellent opinions during its stay in The Motor Cycle garage; it keeps cool, is noticeably quiet, and readily responds to the throtttle.

An "Overseas" Mount.

Regarding special points, a feature which will appeal to Overseas riders is the high ground clearance of the whole power unit. The Royal Ruby, especially the 8 h.p. model, should be particularly suitable for Colonial conditions where a strong well-sprung frame ample power, and high engine clearance are absolutely essential. Other noteworthy features are adjustable footboards, giving a very comfortable riding position patent gear box adjustment, spring stand, and large carrier toolbags.



(Left) All kinds or roads were traversed during the road test, including grass banks, as shown in the illustration.

(Right) It will be observed that the ground clearance of the engine is sufficient to qualify this model for Overseas use.



A Commentary based upon Practical Experience and a Study of Overseas Opinions

Trials Help?

From almost every out-of-way corner of the earth we receive complaints that the British machine does not quite fill

the requirements of the man who has to do his own pathfinding. Perfection, of course, is an impossibility in this world, and it is not urged that other countries deliver machines which are in every way blameless. During 1919 and 1920, reliability trials in this country have been stiffened up to such a degree that it becomes unbelievable that a motor cycle could be used habitually under worse conditions than those encountered on the routes selected by trials committees.

As a result of the trend of trials organisation, which first became noticeable in the latter part of 1913. transmission has almost entirely changed, wheels and frames have been strengthened, and tyre sizes have increased.

4 4 4

Direct Result of Public Testing.

As an outcome of the type of reliability trial with which the makers have perforce entered their machines, the once popular belt drive, gave place to the chain-cum-belt transmission, which, in turn, has almost disappeared in favour of chains alone. Even the early exponents of chain drive have added improvements, such as the completely enclosed chain case, the mechanical shock absorber, and the instantly detachable wheel with independent driving sprocket.

Wheels also are built up with stronger spokes and heavier rims, and, although our 26in. tyres are often decried in favour of the American 28in. sizes, it is a point of interest to learn that the latter country is now standardising a 27m. tyre, which diameter is actually the measurement of several of our nominal

"26in." tyres of 21/2in. section.

Speed and Ground Clearance.

IF a machine is to be used under truly adverse conditions, high speed is not conducive to extended service. It is proved that a 20 m.p.h. average can be

maintained only with difficulty once main roads are left behind, and in consequence there has been no inducement on the part of our manufacturers to design high-powered solo machines such as those which have developed in the United States as a result of the interest betrayed in the trans Continental records so popular there. Sidecars are almost universal in this country, but not quite so evident in places where road clearances are a determining factor in the use of the motor cycle. A solo machine with a five-inch clearance beneath its crank case will go almost anywhere; hitch an underslung chassis to it, and in rough country it is equipped (often literally!) with feet of clay. The narrow rutted lanes and tracks in districts served by horse transport may be quite impassable to the sidecar outfit with low underslung chassis, and yet easily negotiable by a solo machine with very little clearance in its own wheel tracks. th th th

" Overseas " Testing Ground Wanted Here.

ONLY a little time before the war it was suggested in these pages that a trials course, accurately reproducing overseas conditions, should be sought

in this country, so that manufacturers would be in a position to test their designs without journeying to obtain first-hand impressions. suggestion received the support of the trade and the A.C.U., and matters were so advanced that a small committee of overseas motor cyclists who were in the country actually commenced the search for a suitable test route amongst the moorland districts of West Yorkshire. The events of 1914 caused the project to be dropped, but it now appears that an open reliability trial organised by a motor cycle club in the same district will take the place of the abandoned one. Although no watersplashes are to be included, the general nature of the country ensures that the machines will be tested on severe gradients, roughly paved surfaces, grassy moorland tracks, and roads that wind up to the hill tops over outcrops of rock and the shingle swept down by the floods of winter. Causes of failure and the percentage of failures in such an event will throw an illuminating sidelight on the suitability of machines for any condition of service.

A Selection of Letters from Feiders scattered all over the World. Buying in India.

Witting from Benares, India, on the subject of excessive prices, "F." says:
"I should like to add my warning to those already furnished by other correspondents in India for the benefit of any of your readers who may be contemplating motor cycling in India.

"Boyley occurs, boyle little or nothing in steel, and other

"Regular agents have little or nothing in stock, and other dealers are charging prices that put home profiteers quite in the shade. As an instance, I quote from recent advertisements: B.S.A. chain-cum-belt 4½ h.p. for Bs. 1.440, and B.S.A. No. 2 sidecar, Rs. 600. The actual cost of import of a heavy sidecar outfit is about £12, including insurance, while £7 odd similarly covers the cost of landing a sidecar alone at Bombay or Calcutta. It is difficult to give the equivalent of Rs. 1,440 in English money, owing to the variation in exchange, which in six weeks has risen from 2s. 3½d. to 2s. 11½d., and fallen to 2s. 7d. But the advertisement probably relates to a machine paid for with exchange at 2s. 4d., and the outfit would be £235.

Overseas Section,-

"I left England in December, and brought with me as personal luggage a B.S.A. chain-cum-belt, bought at list price at home. All it cost me to bring it was between £4 and £5 for packing and carriage to Liverpool, and customs duty at 10% ad radorem, with about £2 5s. railway ireight up country, less than £110 in all.
"I add one warning. Packing should be carefully done in a box, not a crate; the machine should be partially discovered."

mantled, and all parts carefully secured against possibility of movement, however rough the handling, and whatever position the box may be loaded in:"

Motor Cycles in the Baltic States.

A reader who was on active service at Riga sends many interesting details of the conditions lie found there. Apparently, the motor cycle is not a vehicle best suited for pleasure riding on the type of roads common to the district around Riga. The rate of exchange is apparently very favourable to those with English money, since a machine which would bring at least £150 here was bought by our correspondent for £9! He writes:

"I was attached to a Lettish armoured train, and during the Lettish advance from Riga, and the capture of Mitau, saw much booty captured from Bermondt and his renegade Russians and Von der Goltz's Germans.

"A large number of motor bicycles were captured at Mitau. and further on the Mitau-Shavli Railway. We saw only one or two German-made machines (Benz and N.S.U.), one or two German-made machines (Benz and N.S.U.), and some few British (mostly 1915 or 1916 Royal Enfield Combinations, and one James). All the remainder were the ubiquitous Harley-Davidsons—fairly recent models. It would be interesting to know where the Hun got these, and whether the American trade "pnsh" in Germany is not helping to "do in" the Baltic States somewhat. I might add that in Mitau one of my gun's crew was offered a Harley for £9 in English money! Too late, he told me

a marrey for 20 m of it!

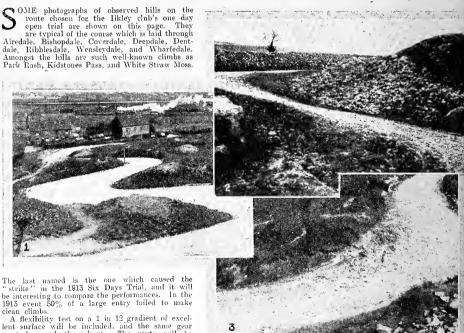
"Roads in Lettland are either mountainous cobbles or mere farm roads. I saw the James (attached to armouved trains headquarters), two np, bouncing over cobbles, and through 6in. of snow, doing a very good speed, and standing the complement of the prough page it got.

through bin. or snow, doing a very good speed, and standing app wonderfully to the rough usage it got.

"I had The Motor Cycle sent me every week, and passed it on to the Train Commander, who was very interested. Prices gave him rather a shock, as Lettish roubles are between 65-120 to the £. Petrol there is here in plenty, but lubricating oils are scarce."

Overseas Conditions in an Open Trial,

The likley L.C. and M C.C. One Day Trial to be held on June 5th. Mileage: 157%. Course: Mountain and Moorland Roads through Wild Scenery. Observed Hills: Six.



clean climbs.

lent surface will be included, and the same gear must be used throughout. The route will be marked by boy scouts in pairs, one to direct competitors, and one to render assistance in

Entries close on Saturday, the 29th inst., and anyone wishing to obtain an entry form should communicate at once with the hon, sec., Mr. H. W. Sellers, Langley Avenue, Bingley. SCENES IN NEXT WEEK'S EVENT AT ILKLEY.

(1) Thwaites' Brow (near Keighley), a short paved hill with five hairpin bends. (2) Hairpin bend on Park Rash, near Kettlewell in Upper Wharfedale. (3) Harden Bank, a climb with loose surface on the Airedale moors



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Heriford Street, Coventry, and must be accompanied by the writer's name and address.

POLICE TRAPS.

Sir,-The method adopted in a police trap between Sideup and Swanley recently may interest your readers.

An Army lorry was stationary at the side of a straight

stretch of road, and a cushion was dropped from the rear as any suspect passed, the cushion being easily visible from a point a quarter of a mile further on.

Incidentally, a speed of 45 m.p.h. would have been perfectly safe on this particular stretch of road, and it seems to me that it would be better if the authorities would differentiate between "dangerous" driving and "illegal" driving. Blackheath, PINCHED.

IT'S AN ILL WIND.

Sir,-I noticed the other day what I think is the cleverest dodge of the season. In this town (Leeds) there are many tramilines which do not under any circumstances remain at the same level as the roadway, and at one place here have sunk considerably. Recently at this spot there was a strong side wind blowing, and I noticed the rider of a very baby two-stroke riding in the tramlines, where he was quite protected from it, only his hat protruding.

In case no one has thought of the undoubted advantage of

In case no one has thought of the amount of this tip for sunken tramlines in a side wind, I am sending this tip for taking advantage of them in the hope of causing motor cyclists taking advantage of them in the hope of causing motor cyclists. to take a more lenient view of what up to the present has, I believe, been considered the cause of many broken rests and bent hars, torn overalls, and unparliamentary language.

I append the usual disclaimer to any interest in any tramway company, except as a satisfied user in future of the protection from the winds of the earth they have so thoughtfully provided for motor cyclists.

U 4830.

THE MOTORISED BICYCLE.

Sir,-It occurs to me that some of your readers might be interested in my experience with an auxiliary engine, as I have had the engine long enough to test its general efficiency. There are, I believe, several makes on the market, but I can only speak of the Simplex motor unit, made by the Patrick Engineering Co., of Birmingham, and sold by Messrs. Henry

Garner of the same city.

I may say that I am a middle-aged professional man, and my bicycle is a ten-year-old Centaur roadster, with a threespeed gear, and in excellent condition. The district is Nottingham—a place of appalling hills—and my motor cycling inends were scoffingly pessimistic as to the investment. They said it would not help me up hills and that the bicycle

and engine would shake to pieces.

After the usual difficulties due to inexperience, I find that it carries me along at a steady pace of 10-12 m.p.h., or faster if carries me along at a steady pace of 10-12 m.p.t., or laster if I want it, will go up ordinary hills at a good pace, and will climb practically anything with additional pedalling, so easy as to be a pleasant change. The engine is compact, vary accessible, and beautifully made. Bicycling is now a pleasure, while before, in this district, it was either impossible or a toil. None of my friend's predictions have come true, and I see no reason why they should if it is remembered that the combination is not a motor cycle, and must be used with

regard to its limitations. I have no interest in the firms that make and supply the engine other than the fact that I bought the engine from them. Other attachments may be as good, but I have no

them. Uther accounts the working.

A MIDDLE-AGED CYCLIST.

HILL-CLIMBING ON FORMULA.

Sir,—As an old reader of your paper, and part organiser of several hill-climbs, I should like to protest against the grow-

ing practice of obtaining results on formula in these events. Let me say at once that I have no objection to the proper use of formulae for finding results, but competitors should be confined to their own classes. In the recent hill-climbs on Kop it was noticeable that lightweight machines were the winners in every class.

It seems very unfair that the larger machines should not have even a slight chance of winning, since in cases where lightweights may enter for all classes a large machine must be about 50 m.p.h. faster up the hill to equalise the chances. J. E. G. HARWOOD,

Hon. Sec. Oxford University M.C.C.

PLUG EFFICIENCY.

Sir,-I am the rider of a 5 h.p. J.A.P. combination, in which I have tried almost every known make of English plug, having tried as many as twenty different models in

English plug makers advertise their plugs in your columns as being able to withstand almost anything, yet I have not found a single English plug that will stand up to my engine for ten miles. Some will run two miles, others four, and so on. I am using two old Bosch plugs, about ten years old, and they will stand any test I may put them to. I have exchanged about eight new well-known English plugs for a similar number of old Bosches, all of which I find stand up to the most severe test. Can anyone tell me the cause of this or the secret of it?

If any English manufacturer cares to have a plug tested to prove its efficiency, he can have it tried in my engine AN OLD HAND. gratis.

Ashington.

EXTRACTING MUDDY SHOES FROM OVERALLS.

Sir,—Anent "Ixion's" remarks in *The Motor Cycle* for May 6th re muddy shoes soiling the inside of motoring overalls or leggings after a journey during wet weather, I used to experience the same trouble.

To avoid damage to nether garments, I used to resort to the somewhat irksome method of removing my shoes—not a proceeding one relishes, away from home, when merely dis-carding overalls, but still better than damaging nether garments got up (in "Ixion's" words) to appear at a swagger function.

I hit upon a very simple expedient, which entirely obviates

this and works wholly satisfactorily.

Take an old stocking, the foot of which is worn out and of no further use, and cut the foot off (merely to reduce the or no further use, and cut the foot on imercy to reduce the bulk), and throw aside. The stocking leg can then be taken about in a very small compass. At the journey's end, after undoing catches and freeing the overall straps' from the shoes, draw the stocking leg over each shoe in turn, and withdraw the foot through the overall. Covered in this manner, the operation is perfectly clean, and any soil adhering to the stocking is inside, and when dry is easily burehold awar. brushed away.

Since hitting upon this idea, I have always stripped off my overalls with perfect cleanliness, and would commend it to "Ixion" and motor cyclists in general.

An article made of cloth or even waterproof material, made so as similarly to enclose the shoe, would, if preferred. serve J. GRAHAM. the same purpose.

WITH THE CLUBS.

(Left) A Leicester and District M.C. club member created interest by "stuntinterest by "stunt-ing" in a watersplash at a recent club meet.

(Right) A scene at British Camp, Malvern, on the occasion of a Worcester M.C.C. run.



REUNION OF EX-D.R.'S.

Sir,-One of your correspondents wonders why the ex-R.E.D.R.'s cannot have a reunion, while other units can. The units that do have these reunions are those representing part of the country and recruited for the most part from that district. The D.R.'s are now scattered to all parts, and there is not one in a hundred who could spare the time—or money—to make a long journey.

SIDNEY DU ROSE.

Sir,—In reply to Cpl. Cutwell's letter in a recent issue, I would like to state that already I have been in touch with Capt. How (late O.C. D.R.'s, R.E.) on the subject of a D.R.'s reunion and dinner.

would suggest that an Old D.R.'s Association be formed of those who joined as D.R.'s prior to Lord Derby's scheme. The reunion could be held in London and the provinces. All those in the provinces could not come to London, and vice versa.

As one of the original 1914 D.R.'s, I can say with a good deal of certainty that the idea is not only welcomed, but needed. We were all the very best of pals in the early war days, and we all feel, I am sure, anxious to meet again, and to do so would be delightful.

F. C. SCHOFIELD, Late Sgt. D.R., Capt. R.E.

FINISH OF NEW MACHINES.

Sir,-I notice from time to time letters from readers complaining about the condition of new machines.

Three mouths ago I received direct from the makers an Ivy i.o.m. model. Its condition was all to be desired and absolutely ready for the road Its finish, too, in my opinion, could not be better. I have run it every day since delivery, wet or fine, and I have had no trouble whatever.

I have no interest in the firm, but just a very satisfied B. W. owner. York.

Liverpool.

Sir,—With regard to your query on page 505, in your issue of May 6th, "Are new machines well finished?" I can safely say "Not all," for whilst looking over a brand new two-speed two-stroke, costing over £70, last week, for a friend—an absolute novice—the following required attention: Carburetter (badly flooding, and sides so roughly finished that the throttle pulled the extra air open and both stuck open). Drain tap to crank case (just hanging on by one thread). Added to these was the fact that sundry nuts were by no means "hand tight." My friend's fate can be imagined, if these items had not been attended to before he took to EX-CPL., R.E. the road. Tavistock

CONSIDERATION TO FARMERS.

Sir,-The time of year has come when fields are shut up for Sir,—the time of year has come when heids are shut up tor hay, and with it the advent of the flower gatherer. I would ask metorists not to go into fields to pick flowers when it is obvious that the grass is intended for mowing. There is nothing much more annoying than to see motor cycles constantly stopping at such fields and the passengers, strolling about in the long grass treading it down. There are plenty of flowers to be found in meadows where stock are grazing, and materials are with a real latitude to confirm their territory. and motorists would be well advised to confine their attentions to such ground. FARMER. Hailsham.

LIVERPOOL M.C. SPEED TRIALS

Sir,-I should just like to make a word of comment upon In every way admirably organised, yet great the above. anxiety must have been caused to those in charge by the gross thoughtlessness of the spectators.

Despite all that was done by the marshals and police by

way of warning and protests, yet the public would insist on encroaching upon the track. At times the track close to the finish appeared no more than 2ft. or 5ft. wide on account of the number of people who had stepped forward from the side and were not willing to step back again until the competitor was almost upon them. One rather dreads to think of the result that would have followed a tyre burst or any similar mishap.

Women were notable offenders in this respect, and one girl who, to my knowledge, had spent most of the afternoon in the centre of the track, was heard to remark on leaving that "the organisation was splendid, but that it would have improved matters if some sort of boarding or barrier had been

erected to prevent spectators getting too close"!

A little more thought on the part of the public or even compliance with the loudly uttered warnings of the marshals would have helped competitors and officials considerably, and also afforded a better view of the race to those people who were sufficiently sensible and sportsmanlike to "keep off the track."

AN INTERESTED SPECTATOR. track."

ERMAN GOODS.

Sir,-1 am delighted to read your notice, on page 513 in our issue of May 6th, re advertising German goods, and eartily congratulate you on your decision.

We English are too easy going in all such matters, and orget far too quickly that, although we are at peace with

ermany now, two years ago?
Unluckily, the public do not realise that even now the lermans are endeavouring to revert to their old game of ooding the British markets with inferior merchandise (withut the familiar words "Made in Germany.") to the disdvantage of British manufacturers; the rate of exchange iaking this particularly easy now.

The German theory is-"If it costs £10,000 to turn out 0.000 articles for home use, an additional 10,000 for export rill not necessarily cost a further £10,000, since so much of he production expenses will not necessarily be duplicated.

The Britisher does not yet seem to have learned to look t things in this (the correct) light.

Unless we support home industries we shall shortly have he 1914 position of affairs again, i.e., overrun with German goods (?)." EDGAR COHEN:

REMIUM HUNTING.

Sir,-I notice in your issue of the 13th inst. a letter from he President of the British Cycle and Motor Cycle Manuacturers' and Traders' Union, Ltd., with reference to the dvertiser who requires a premium on his motor cycle. I m of the same opinion as Mr. Hill, in the case of certain eople who had the foresight to order two or three machines a advance, with the intention, when ordering, of sclling at profit; but there are probably others besides myself who re now not able, financially, to take over the machine they ave ordered, and who therefore feel they have a right to lemand a premium in order to get a little return on their leposit, which has been locked up so long. I ordered a nachine, a Norton, in February of last year, paid my leposit, and have been waiting ever since. I now find I m not in a position to take over the machine, and feel I m quite justified in trying to obtain a premium. I wonder what your other readers have to say regarding it. E. A. BEANES,

ARBURETTER DESIGN.

Sir,-The reply of Mr. Binks to my letter only serves

emphasise my point. The Scott rider who uses his carburetter is advised to btain a hot air pipe with an elbow, flexible pipe, a muff, nd, of course, the necessary nuts and bolts, unions, etc., a order to induce warm air necessary for economy on a two-

troke engine.

Many of us are aware what a splendid instrument the sinks carburetter—is, but on the Scott machine it is; to ty mind, an attachment not specially designed for a

nique engine.

The Scott engine suggests for itself that the carburetter hould form part of the top of the crank case. The inventor aw this, and acted accordingly. But petrol was cheap in hose days, and people were much less keen about the erfecting of carburation than they are now.

The Scott engine is not inherently a petrol drunkard.

There is no reason why it should not give 100 m.p.g.,

vithout such gadgets as elbows, muffs, clamps, and screws; nd to obtain this improvement it requires a carburetter

pecially designed for it.

I contend that the original Scott carburetter, re-designed, o as to put under better control by the rider both the etrol and warm air supply, would considerably enhance he esteem in which this motor cycle is now held by present and potential riders.

CLERICUS.

Paisley.

TARTING TIPS.

Sir,-In reply to "J.M.M.'s" queries re starting a B.S.A., he following ought to be observed:

1. Prime the engine, and kick round gently two or three imes to free the engine and the clutch.

The jet should be open threequarters to half a turn, nd the throttle and air levers open about 1in. (i.e., 1in. at he black handles).

The engine should now start easily. If the engine is ranked round until the exhaust valve is just opening the ngine can be started without touching the exhaust lever at

the first kick after paragraphs (1) and (2) have been observed. "C.B.M.-B." advises scrapping the B.S.A. carburetter. Personally, I think this unnecessary, as I can start my own 1919 B.S.A. at the first kick five times out of six, and the adjustable jet never causes me any anxiety or trouble, and the consumption is just over 100 m.p.g.

Incidentally, I fitted a Bowden-controlled handle clutch, as I ride the machine solo. This is a great improvement, and if any of your readers would care for details I shall be

pleased to supply them.

I forgot to state earlier that the engine can also be started easily on second gear without the use of the exhaust lever; but in this case the exhaust valve must be fully open. As before the valve lifter need not be touched. Less effort is required, but this method is not quite so certain.

11. WILLOUGHBY.

DELIVERIES IN SCOTLAND.

Sir,-A few weeks ago I read in a motor cycle journal that one could almost say what district one was in by the most prevalent make of motor cycle to be seen. In Bristol it was Douglases; Coventry, Triumphs, etc.; but I must say in Scotland it would need some imagination to know where one was, unless, of course, "Yankeeland."

The deliveries of certain makes of English machines to Scotland has been simply scandalous. I ordered a certain wall known two them

well-known two-stroke about six months ago, and, so far, have no idea when I may get delivery. During March this firm did not deliver one single machine to its West of Scotland

There are thousands of buyers waiting for heavy machines here at present; and I only hope that, in the future, when buyers are not so plentiful, that those concerns who have not forgotten Scotland will get their due reward.
Coatbridge. ONE OF MANY SCOTS.

SUMMARY OF CORRESPONDENCE.

LENSES IN GOGGLES .- Since the publication of Mr. E. R. Toyster's letter in our issue of the 13th, regarding suitable lenses for motor goggles, we have received a number of letters mentioning opticians who undertake this class of letters mentioning opticians who undertake this class of work; the 'names of which are given below. Charles Ledsham, 455, High Road, Tottenham, N.17; T. H. Robbins, 14, Bull Ring, Kidderminster; Clement Clark, 16, Wigmore Street, London, W.1; Messrs. Welson, 28, Church Road, Upper Norwood, S.E.; Paxman and Sons, 641, Rochdale Foad, Manchester; Melson Wingate, Ltd., 30, Wigmore Street, London, W.; W. Jones, 21, School Lane, Wallasey, Cheshire; Aitchison and Co., Ltd., 6, Poultry, London, E.C.2; Marratt and Ellis, Great Tower Street, E.C.; C. E.C.2; Marratt and Ellis, Great Tower Street, E.C.; C. Ledsham and Co., 50, Stonegate, York: The Triplex Goggle and Lens Co., Ltd., Triplex House, 15-17, Middle Street, E.C.1; E. R. Brydges, 33, New Road, Gravesend; Negretti and Zambra, Regent Street, London; M. N. Dunscombe, Ltd., St. Augustine's Parade, Bristol; J. B. Jacquemin Bros., Ltd., 65, Hatton Garden, E.C.; and Blooms, Ltd., 265, Tottenham Court Road, W.1.

BOOKS AND MAPS FOR MOTOR CYCLISTS.

issued in conjunction with The Motor Cycle		
"MOTOR CYCLES AND HOW TO MANAGE THEM." The standard bandbook o the motor cycle. Covers every subject relating to all types of motor cycles, their management and care.	Price net.	By post
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"THE MOTOR CYCLE" ROUTE BOOK. With 32 pages of Road Maps of England and Wales, Scotland, and the London District. New		
Edition. Just published	5/-	5/4
Obtainable by post (remutance with order) from IL IEFE i	SONS	bt.F

20, Tudor Street, London, E.C.4, or of leading Booksellers and Railway Bookstalls



Times to Light Lamps.

May	27th	 	9.29	p.m.
,,	29th	 	9.31	- ,,
,,	31st	 	9.33	,,
June	2nd	 	9.36	,,

The Vogue of the Outside Flywheel.

There are several new $3\frac{1}{2}$ h.p. engines with outside flywheels at present undergoing test.

The Modern Post-chaise.

A few days ago a young couple attempted to elope to Scotland on a sidecar.

Air-cooled Engines.

Designers of air-cooled engines may be divided into two distinct schools, those who favour very thin fins and those who believe in thick ones. After all, it is largely a matter of calculation.

Petrol Supplies.

A roadside supply pump has been erected in Kenilworth on the main Kenilworth-Warwick road. This installation will bear an illuminated sign at night, and will undoubtedly prove a great convenience to Midlaud motorists.

Imperial Motor Transport Council.

Committees have recently been appointed by the Imperial Motor Transport Council to take steps to encourage and develop additional motor fuel supplies in all parts of the Empire and to encourage the extended use of motor transport respectively.

Heavy Fine.

We have received information that a youngster of only seventeen years of age, riding a 3 h.p. Enfield, was recently fined £5 and 5s. costs for exceeding 10 m.p.h. m the ten-mile limit at Preston Park, Brighton. It was his first offence, and he had a clean licence. Comment is needless!

International Touring Alliance.

A conference of touring organisations was recently held in Paris, and an international alliance has been founded which will facilitate the way of motor cyclists touring in foreign countries. The head-quarters will be at Brussels, the secretary being M. Seavt, president of the Touring Club of Belgium. The organisations associated with the movement include:

Automobile Association and Motor Union.
American Automobile Association.
Touring Club of France.
Touring Club of Belgium.
L'Union Vélocipédique de France.
Cyclists Touring Club.
Touring Club *. Italy.

In South Africa.

There are over 4,000 motor, cycles registered in the Cape Province, over 6,000 in the Transvaal, nearly 2,000 in Natal, and less than 300 in the Free State.

A. G. Cocks Bereaved.

A. G. Cocks, who entered for the London-Edinburgh, on a 23 h.p. Black Prince Runabout, did not start on account of the sudden death of his father.

Helmets Wanted for T.T. Riders,

A great difficulty has been experienced in obtaining regulation helmets for T.T. entrants. The A.C.U. will be glad if competitors in past Tourist Trophy races, who have approved helmets for disposal, will immediately communicate with the secretary of the Auto Cycle Union, 83, Pall Mall, London.

Any information which the secretary can receive which will enable him to obtain helmets for this year's T.T. will be most welcome.

The Foundation of a Rumour.

Because the winner of the Victory Cup lent-his 2½ h.p. machine to a fellow competitor as he was competing or a 2½ h.p. model of the same make, and because the latter retired and left the machine at a garage in its owner's name, all sorts of mischievous rumours were current last

week. In justice to the competitor concerned, and to the club, the organisers of the trial thoroughly investigated the rumours, and so discovered their source.

To Assist the Maimed.

In order to demonstrate the utility of hand - propelled and motor-assisted cycles for those who have lost limbs, our contemporary, The Motor Cycle and Cycle Trader, is organising a rally and demonstration for war-maimed men. The venue will be the Inner Circle, Regent's Park, N.W., and the rally will be held on Saturday, June 12th. Fifty machines of various types have already been promised, and an open invitation is extended to all actual users of such machines.

Special Features.

THE LONDON-EDINBURGH.

NOTES ON THE FRENCH SIX DAYS.

T.T. ENTRIES.

Alcohol from the Sea.

It is said that there is practically an unlimited supply of power alcohol in seaweed.

The Latest in Mascots.

A mechanical mascot in the form of a figure which bows and raises its hat is the latest thing in ornaments for the radiators of cars.

Renovations.

A correspondent asks whether it is possible to have a worn belt re-rubbered —and very wisely omits to enclose his name and address.

Wired-on Tyres.

Those who are interested in the car world will be familiar with the term "straight-sided tyres." The latter are merely the application of our old familiar friends of pedal cycle days.

A modification of the system might easily be applied to motor cycle wheels,

easily be applied to motor cycle wheels, and a change of tyres could be effected with the minimum of trouble, and without danger of "trapping" the tube.



A lamp—and windscreen. Years ago competitors in the London-Edinburgh sought; for the biggest lamps possible; fighting shy of nothing in the way of bulk, so long as the light was effective. In these days o. efficient electric lighting dynamos and mag-dynamos the greatest worry of night riding is to a Ligextent climinated.

J

Motor Cycle Co., 124 Holdenhurst Rd., **BOURNEMOUTH**

Early deliveries of these celebrated machines.

hone-1423.

Wire-" Castake, Bournemouth,

Buy your "IVY" from

JOHNSTON BROS.,

73 Nethergate, DUNDEE and 13 High Street, KIRRIEMUIR

We are SCOTLAND'S leading "IVY" Agents North of the Forth.

BRISTOL

AND DISTRICT

We are sole controlling Agents for this district these wonderful Lightweights, and can give early delivery.

We can honestly recommend the "IVY" TWO-STROKE for

SERVICE AND SATISFACTION.

Flying Dutchman Cycle Co.,

37, WEST STREET, ST. PHILLIPS.

BRISTOL.

SPECIFICATION OF All-Purpose Model

IVY" TWO STROKE

Illustration on opposite page.

Illustration on opposite page.

Frame.—Reg. Design No. 531848. Heavy gauge steel tube (guaranteed unbreakable), dropped top rail to give tow position, height of saddle from ground 28½ ins. Duplex for position, height of saddle from ground 28½ ins. Duplex for the position of the positio

tubes and are easily detachable.

Handle Bars.—Celluloid covered, special shape, with inverted levers allowing perfect control over machine, with lamp bracket stem (Reg. Design No. 602702).

Mudguards.—Front: wide, with front extension. Back: wide,

with number plate.

Footboards.—Front: wide, with front extension. Back: with without plate.

Footboards.—Are fitted as standard.

Finish.—In a special khaki:grey, very few plated parts; wheels, black centre and khaki; spokes, khaki; tank, khaki (panelled in black).

S. A. NEWMAN, LTD., ASTON CROSS, BIRMINGHAM

MERIDIAN MOTOR CO.

LIMITED.

Sole Agents for North Lincolnshire.

Pasture Street. GRIMSBY.

The ARISTOCRAT of Lightweights.

The machine which has made good in Scotland. The in the fashion and

Inspect them at our nearest depot,

ROSSLEIGH LIMITED,

32 Shandwick Place, 6 Queensferry Street, EDINBURGH, and 532 Great Western Road, GLASGOW.

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The NORTH WALES MOTOR EXCHANGE

Chester Street, WREXHAM.

The largest Motor Cycle Specialists in North Wales.

Send for our List of New and Second-hand Ma:hines.

In answering this advertisement it is desirable to mention "The Motor Cycle."

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:: THE CENTRAL GARAGE, :: WORCESTER ROAD, MALVERN.

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Sole District Agent for these celebrated Motors. Good Stock. Good Goods. Good personal service for the Motorist. Charges strictly moderate. Official A.C.U. Repairer.

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CASTLE FOREGATE, SHREWSBURY.

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COVENTRY
MOTOR

Telegrams:

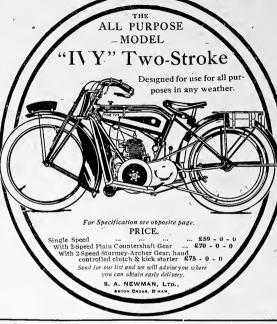
"Selection, Coventry."

MART, Ltd.,
LONDON RD.,
COVENTRY,

COVENTRY'S LARGEST MOTOR AGENTS

STOCK

"IVY"
MOTOR
CYCLES.



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AGENTS

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Telegrams: "Selection, Coventry."



YOU CAN'T DO BETTER THAN AN "IVY"

And you can't do better than getting one at Maude's. We always guarantee our clients perfect satisfaction. We are agents for "Ivy" Machines, for the whole of Devon and Cornwall, except for a 20 mile radius round Plymouth.

MAUDES' MOTOR MART,

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EXETER.

Telegrams: "COMBUSTION, EXETER."

Telephone: EXETER 933.

And at 100, Great Portland Street, LONDON, W.1.

MAUDE'S MOTOR MART

RAVERS LTD & BANG MOTOR SPECIALISTS

77, Pilgrim Street,

NEWCASTLE-ON-TYNE.

e were "IVY" Agents in pre-war years, and were so ntisfied with the product that we again took up the gency on supplies becoming available, and we recommend ie machine as one of the best examples of lightweight motor eycle construction.



E. S. ANNISON

33/34, Witham - HIJI

Can supply these Aristocrats of Lightweights for early delivery.

SOLE DISTRICT AGENT.

Frank Farlick

6a, St. Loves, BEDFORD

for your

There are as many IVY'S" running round edford as several other lakes combined, and tey are all giving every tisfaction. I know of o better testimonial. id shall be pleased to it my services at your sposal if you are conmplating the purchase one.

Isle of Man Sporting Model

IVY" TWO-STROKE

Illustration on opposite page.

Frame.—Reg. Design No. 5,3:8,48. Heavy gauge steel tube (gnatanteed unbreakable), dropped top rail to give low position, begin no. 5,3:8,48. Heavy gauge steel tube (gnatanteed unbreakable), dropped top rail to give low position, begin no. 5,40 miles of the stroke girder instead of usual mind own and stroke, specially built for fast rondster work.

Braine—3t hp. (22e,e.) "IVY." 6a m/n x 70 m/m bore and stroke, specially built for fast rondster work.

Carburettor.—" Ama "special two-stroke type.

Exhaust.—Specially designed long exhaust.

Disc Wheels.—26 in. disc wheels are fitted as standard.

Tyres.—26 x 2½ in. Dunlop rubber studded tyres.

Tank.—07 special shape (a replica of the tank fitted to our two-stroke in the 1914 Junior T.T.) bolds 1½ gallons of petrol, and ½ gallon of oil. [gnitton.—By waterproof high-tension E.I.C. magneto of the best quality, driven by "Coventry" chain.

Transmission.—By ½ in. "IVY" belt.

Chain Cover.—Aluminium cover enclosing chain is fitted to two-speed models.

Fransmission.——) 1...

Chain Cover.—Aluminium cover enclosing chain is fitted to two-speeu models.

Smoodels.——The minimum cover enclosing chain is fitted to two-speeu models.

Tool Bags.—Two (one each side of earrier) armoured.

Spring Fork.—The well-known "IV"."

Brakes.—Two. Front rim and rear foot brake.

Saddle.—Brooks.

Handle Bars.—Celluloid covered, special shape (semi-T.T.), with inverted levers allowing perfect control over machine, with lamp bracket stem (Reg. Design No. 602702).

Mindgards.—Strong and not too wide, valances extend covered hub, book guard has number plate.

Finish.—In a special khaki-grev (including disc wheels), very few plated parts: spokes, khaki, tank, khaki (panelled in black).

S. A. NEWMAN, LTD. ASTON CROSS B'HAM.

Always in stock

Walter Williams

118, Tavistock Rd., PLYMOUTH.

> 'Phone-829. Telegrams-"Motors."

EXCELLENT VALUE FOR MONEY, AND SPLENDID CLIMBERS.

I KNOW NOTHING TO BEAT THE

FOR DEVON AND CORNISH HILLS.

The NEWPORT (Mon.)

Motor Supply & Garage ITD

Clarence Place, NEWPORT (Mon.)

elephone-2369.

Telegrams-" Automobile, Newport."

OLE AGENTS for the Lightweight of the Year-

The "IVY" Two-Stroke.

arly Deliveries. Order now and do not be disappointed.

PALMER & WINDER BROS. (Established 1903)

MOTOR CYCLE SPECIALISTS

LEEDS and BRAD-FORD AGENTS

MOTOR CYCLE Exceptional

CORNER, LEEDS. HYDE PARK Wires-" Motobike.'. Telephone-22284

In answering these advertisements it is desirable to mention "The Motor Cycle."

B21

Frank Whitworth Ltd.

139,

New Street

'Phone - Mid. 2221

Agent for

for Birmingham & District

For this very neat & dainty little grey "IVY."

LARGE CONTRACT PLACED.
ORDER NOW AND GET DELIVERY

Y OU are cordially invited to call and let our Specialists prove the manifold merits of the Ivy two-stroke motorcycle by personal explanation and practical demonstration.

We have the very latest models ready for inspection, and can guarantee to give PROMPT delivery.

Go. where you will, select whatever mount you like, pay more if you want to, but you canuot beat the lvy two-stroke motor cycle, which can only be purchased in Liverpool from the

Megal

MOTOR MART, 11, Paradise St.

We hold several of the most important motor cycle agencies in Lancashire, and carry large stocks of the best makes.

We want your motor cycle order, not only this season, but every season. Therefore, retressured that we will do everything in our power to merit your patronage now and in the future, if you honour us with your custom.



OUR motor cycle repair dep—which is elaborate equipped with the late automatic-machinery—is und the direct supervision of a wel known motor cycle ensimeer a motor cycling prize winner Mr. A. Brayshaw, A.M.I.A.F. who, at all times, is willing sive technical advice to puchasers, also to arrange for larse suff of hishly skill mechanics to expeditiously ex cute all kinds of repairs at moerate prices.

Remember -our L'verpooladress is, the

Meac

MOTOR MART, 11, Paradise St.

We carry a comprehensistock of lamps, horns, overall belt fast ners, punches, sparling plugs, foot pumps, fogde tyres, oil and all other kinds motor cycle accessories, of prices for which are most remarkles.

If you cannot call—though personal visit is always the mosatisfactory—write for callogues and prices TO-DAY.

DISTRIBUTING AGENTS for NOTTINGHAM, DERBY and LEICESTER

Repair and Service Depot

20, ARKWRIGHT ST

Also SOLE AGENTS for

MATCHLESS, BLACKBURNE REX and ACME SIDECAR COMBINATIONS.

EASTING WIND SCREENS.

Trade Supplied.

R. A. WHITFIELD & CO.

THE Motor Cycle People,

Carrington Street, NOTTINGHAM

Talenhone: 637 and \$251 Nottingham.

Telegrams: 638 Nottingham

pring Frames.

The number of spring frame designs abmitted to us every week is proof of the condition of present-day roads.

Benzole Goes Up.

We are informed by the National Benzole Co. that the price of National benzole has been increased by 3d, per gallon, dating from May 20th.

Gas v. Electricity.

Despite the great advance made in electric lighting, there was a prevalence of acetylene lamps among the London-Edinburgh competitors.

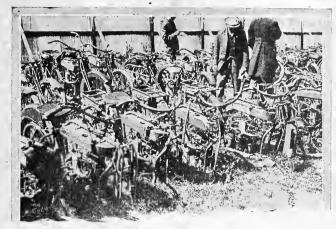
Confidence.

The 23 h.p. de Dion ridden by B. Fellowes in the Loudon-Edinburgh run bore the date 1899, and is some years older than the rider, Incidentally, if had on the tank a Latin inscription to the effect that it is unwise to trust in appearances.

Second-hand Prices.

The following general summary of current second-hand prices enables readers to follow the trend of the second-hand market. The figures given show the highest and lowest prices.

A.J.S., 6 h.p., sidecar, 1910-18	£130-£105
6 h p sidecar, 1010-20,	1205-1205
Allon, 21 h.p., 2-stroke, 2-speed, 1916-19	£50-£75
Ariel 6 h.p., sidecar, 1010	£150-£160
RSA Alban, a-speed, sidecar; 1916-17	£105-£125
4 h.p., 3-speed, sidecar, 1919	£130-£145
Calthorne- Tap. 27 h.p., 2-speed, 1916	£45-£55
Clyno, 6 h.p., 3-speed, sidecar, 1914-16	£115-£135
Coulson-B., 24 h.p., 2-speed, 1919-20	£80-£90
Diamond-Tap, 27 h.p., 2-speed, 1919	£55-£75
Douglas, 21 h.p., 2-speed, 1914-16	£45-£60
, 27 h.p., 2-speed, 1917	£63-£75
4 h.p., sidecar, 1918-19	£105-£155
	£120-£150
	£155-£220
Indian, 7-9 h.p., sidecar, 1914-15	£75-£120
	£168-£229
lames, 41 h.p., sidecar, 1914-16	£70-£120
	£135-£185
Levis Popular, 2-stroke, 1916	£39-£47
	£175-£190
	£230-£255
Imperial-Jap, 27 h.p., 2-speed, 1915-16	£43-£50
P. and M., 31 h.p., 2-speed, sidecar, 1918-19	£93-£100
Rover, 31 h.p., T.T. model, 1916-18	£78-£80
, 3 h.p., 3-speed, sidecar, 1914	£60-£90
Rudge Multi, 31 h.p., 1914-16	£48-£75
,, 3½ h.p., 1919-20	£85-£125
Scott, 37 h.p., sidecar, 1914-16	-£90-£120
Sunbeam, 31 h.p., 1914-16	£90-£95
, 31 h.p., 3-speed, 1920	£162-£168
Triumph, 4 h.p., 3-speed, sidecar, 1919	£125-£155
-	<



THE JUNK SHOP.

A group of unfit ex-army motor cycles which are being sold by auction at Slough. Many of these decrepit machines are being reassembled and overhauled and then offered to the public.

Lighting Regulations.

Motor cyclists must insist upon being allowed the same powered lamps as cars.

Found

Mr. A. C. Selby, Hazelmere, South Hill, Bromley, recently found an exhaust valve for a 3½ or 8 h.p. machine on the Hastings Road, near Bromley Common.

Motor Cycle: Thief's Novel Ruse.

A Bromley (Kent) motor cyclist's Douglas was stolen by a novel ruse. A stranger offered him £1 if he would examine a second-hand Douglas for sale at a local botel, saying he had an appointment with the owner. Whilst the Bromley motor cyclist was trying the second-hand on the road, the stranger said he would try his friend's new machine. He rode off and has not been seen since.

The Open Market.

An advertiser recently asked for a powerful solo mount in exchange for an ermine fur.

Tax Free.

Motor cycles used by "The Crown" are not mentioned in the Statute, and are therefore not subject to taxation.

The Motor Cyclists' Lighthouse

When is the lighthouse at Roxley Corner, Foots Cray, on the Sevenoaks Road, to be put into commission again? It came under Dora, of course. An A.A. patrol is now on duty at the spot.

A £150 Co.

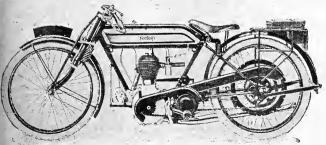
The American Spacke car, which has shaft drive, an air-cooled V twin engine, and epicyclic two-speed gear, sells in Africa for £150, complete with electric lighting. In U.S.A. its price is about £65.

Worst Road under Repair.

Said to be "the worst section of road near London," the Sevenoaks Road at Bromley Common is under repair. Recently a coroner's jury held the defective state of this road responsible for a cyclist's death. The direct Westerham Road is still in a bad state. The largest holes are known by name.

Legal Limit.

Will the existing speed limit of 20 m.p.h. be increased? This question is to be considered by the Departmental Committee on the Taxation and Regulation of Road Vehicles. If the report of the Special Committee on Lighting is any criterion, we may see something as absurd as a different speed for cars and motor cycles.



The T.T. Norton is practically the standard sporting mount, the only changes are a gear box without kick-stater giving ratios of 4-5 and $7\frac{1}{2}$ to 1, the substitution of footrests for footboards, a new tool box and an extra brake.



T eight o'clock last Friday evening A leight of the 316 starters was despatched on his 400 mile journey by Mr. A. V. Ebblewhite, amidst an enthusiasm possibly unsurpassed in any London-Edipburgh run. Fine weather prevailed for the opening of the trial, which proved, as was anticipated, the best supported and certainly the most interest-ing ever held. The climbing of Kirk-stone added incident to a run which had of late years, with the reliable machines obtainable to-day, developed in-

to a featureless twenty-four hour ride.

The following is a list of starters tabulated according to the make of machine: A.B.C.

J. Baker C. Keith-Robinson, W. J. Fleetwood.

N. V. Allhora. E. Porter. G. W. Lush (sc.). A.J.S.

W. J. Lake, C. W. Dix 'se.), E. W. Cholderoft (sc.), E. A. Biggs (sc.), J. R. Bell (sc.), W. Juliaa (sc.), G.S.S.
R. W. Bywaters (sc.)
G. H. Pope (sc.),
J. Cooper, Junn. (sc.),
W. C. Hemy (sc.),
O. Wade (sc.),
J. Littlewood (sc.),

ACME. W. P. Tippett (sc.).

J. Beet (sc.). ALLON.

L. E. Chilee. ARIEL. S. Baddeley.
 Pulham.

F. E. Jones.' F. A. Longman (se.).

BEARDMORE-PRECISION.

O. P. C. Collier. BLACKBURNE. J. A. Watson-Bourne.
P. H. Hall.
J. S. Holroyd (sc.).
W. A. Fell-Smith (sc.).
E. Hillary (sc.).

BROUGH. E. Mathews. F. Stevenson. K. V. Chidley. W. E. Brough (sc.). W. McKiggie. H. Karslake. P. Boult.

G. P. Osborne

B.S.A. P. P. Walker (sc.).

BRITISH EXCELSIOR. J M Button

S. Goodfellow

- BRADBURY. CARFIELD. R. S. Whiting.

CHATER-LEA. ~ G. T. Udall. F. Towler (se)

H. Gibson.

COULSON B. C. L. Tubbs, C. H. Ward.

L. S. Palzer (sc.).

R. B. Clark, J. H. Callaway, H. Gny. DE DION. B. F. C. Fellows,

DOUGLAS.

L. A. Baddeley.
S. A. E. Lowe.
R. A. Bonner.
W. D. Porter McWish,
E. Hawks.
F. Thorpe (sc.).
H. Thorpe. R. A. Attwood.
H. H. Robinson,
J. P. Prior.
A. Milward (sc.).
G. L. Fletcher (sc.).
E. Kickham (sc.).

G. S. Davison,

DUNLOP. S. C. Marshall.

DIAMOND

COMPLETE LIST OF COMPETITORS. DUZMO.

H. Le Vack. J. G. Bryson, R. G. Bell.

F.N. G. P. Stuart Clarke.

HARLEY-DAVIDSON.

ENFIELD.

J. A. Masters (sc.).
C. F. Temple (sc.).
R. Carey (sc.).
G. Grinton (sc.).
P. J. Malone (sc.).
W. McLellan (sc.).
L. Poirier (sc.).
L. Poirier (sc.).
J. S. Morgan (sc.).
S. E. Loagman (sc.). DAVIDSON.
S. C. Tait (sc.).
C. E. Bennett (sc.).
J. L. R. Jeasen (sc.).
A. R. Streey (sc.).
F. R. G. Spikius.
H. F. Edwards.
R. Silver.
A. R. C. Shorn.
J. C. Watson.

H.B. F. C. Harvey. HENDERSON. G. S. Wright (sc.).
G. R. Volkert (sc.).

HOBART

HUMBER.

INDIAN.

A. E. Walker.

F. Arbuckle. S. Wright (se.). E. C. Redvers-Johnson.

W. Hallet.
H. Clennell (sc.).
E. A. Colliver.
H. R. Harveyson.
J. McBirnie (sc.).

B. J. Robertson.
H. V. Bateman (sc.).
H. B. Shutes (sc.). HOSKISON.

H. Gold.

H. F. O. Evans. J. Mackenzie (sc.). J. E. Sharp.

T. S. Sharratt.
E. A. Břidgana (sc.).
J. F. Perrin (sc.).
F. A. Applebee.
J. H. Place (sc.).

INVICTA-J.A.P. T. C. Fawcett,

JAMES. C. Crostwaite (sc.).
H. Reyre (sc.).
C. B. Cooke (sc.).
H. H. Saddington (sc.).
G. W. Langford (sc.).

LEA-FRANCIS. A. M. Rex.

LEVIS. F. W. Applebee. H. R. Lane.

G. Nott (sc.).
S. Julian (sc.).
J. A. Hoult (sc.).
T. J. Ross (sc.).
A. H. Ilsley (sc.).
G. Packman (sc.).
W. Pratt (sc.).

MATCHLESS. HLESS.

T. H. L. Witt (sc.).
G. D. Hardee (sc.).
R. C. Boxer (sc.).
F. J. Ellis (sc.).
C. R. Collier (sc.).
J. H. A. Keeres (sc.).
J. H. N. Pollard (sc.).

A. Mabon.

MABON. METRO-TYLER.

J. Staart Bennett. O. C. Roberts. G. F. Ammou.

MARTINSYDE-NEWMAN. W. P. Clifton. H. Bashall. A. Bashell. NEW IMPERIAL.

M. A. Newnham (sc.). C. Blundell. R. L. Richardson (sc.). R. A. Lucking (sc.). NEW HUDSON.

NEW SCALE.

NORTON.

W. J. Hylands. H. J. Scale.

L. R. Kay.
G. W. Shepherd.
S. Lawrence.
B. Jefferys (sc.).
S. Parker (sc.).
H. Reynolds (sc.).

G. P. G. Kidston.

P. Pike. B. W. Cooper. F. K. Portway,

J. H. Barrow.

J. S. Russell.
J. Boult.
E. B. Lathbury (sc.).
D. Bradbury (sc.).
K. G. Shuttleworth (sc.).
S. Sawer (sc.). N.U.T. J. G. Lister (sc.), O.K.

PARAGON. D. G. Prentice

P. AND M. T. G. Bullus (sc.).

A. Candler L. Nicholson.

HOURS RUN.

THE LONDON-EDINBURGH

R. H. Baxter. ROVER.

J. A. Hilger. J. C. Santord. READING-STANDARD J. O. Barclay. J. W. Barclay (se.). W. E. Line (sc.). D. H. Noble (sc.).

RUDGE

SCOTT

TRIUMPH. E. Searle (sc.), R. C. Stauoton E. Cross.

VERUS.

WOOLER.

S. Danford.

W. G. Langridge. L. A. Runton. J. A. O'Sullivan.

G. W. Wilkin (sc.),

ATH.
J. D. N. Dickson-Hill.
Kaye Don.
C. Gathrie.
A. L. Huggins (sc.).
C. S. Lake (sc.).
D. J. Stone (sc.).
G. D. Johnson (sc.).

F. A. Beardmore.

H. B. Browning. C. Sidney. E. Washing

R. C. Stoucton
E. C. Stoucton
E. C. Describe
E. C. Stoucton
E. Stoucton
E.

F. White.

I RADCO.

F. P. Slater. H. Williams.

ROYAL RUBY J. Hargreaves.

W. A. Jacobs. J. P. Le Grand.

E. M. P. Boilean. E. J. Anderson. G. W. Hill. G. A Reed.

SUNBEAM. O. Bourlet.
J. A. Newman
A. Wooding.
H. E. Tamplin.
A. F. Selby.
E. H. Newmham (sc.).
A. J. Read (sc.).
K. Stopping (sc.).
J. Hamilton Ross (sc.).

P. T. C. Body,
W. G. Harrison.
L. Keevil.
A. S. Guthrie.
R. F. Dew.
W. R. Preston.
E. C. Luanis (sc.),
R. E. Darnton (sc.),
M. Fraser (sc.),
H. Willson (sc.),

F. Notari.
C. F. Plowman.
C. F. Plowne.
R. McRitchie.
F. Savage.
R. J. Howe.
R. J. Howe.
R. J. Howey.
J. J. Brod-Harvey.
W. Aktinsoo.
G. A. Jeopes.
J. C. Straight, J. J. Brod-Mary (sc.).
J. Bradbury (sc.).
F. Mighell (sc.).

J. W. Wills

A. C. Robbins. J. F. Hall. A. F. Houlberg. W. Peacock.

J. C. Coney (sc.).

J. T. Gilson.
H. E. Symons.
H. P. Lucas.
F. B. Salter.
S. H. Baker.
R. Charlesworth (sc.).
A. H. N. H. Hewett (sc.).
V. Gayford.

Cycle Cars.

R. C. Empson. W. H. Hyland. CASTLE THREE.

S. Goodwin. . G.N. R. G. Mundy. C. S. Burney.

A. Sugden

C. Finch. E. T. Gilmore. L.S.D.

MERRALL-BROWN. M. Brown. MORGAN. F. W. James. F. H. Douglass. C. J. D. Chapmaa

R. P. Ravenhill. F. S. Spouse, W. Pattison, S. Hall,

TAMPLIN. J. V. Hay, F. H. Richards. J. Coaville THURLOW.

H. Christiau.



A scene at the start. Competitors' motor cycles were hidden by the crowd.

Record Number of Starters. Observations on Two Non-stop Sections of the New Route.

I T is becoming quite enstomary to begin a report of this popular event of the Motor Cycling Club by stating that the entry was a record one. When the list of those competing first totalled over 200 it was thought that the trial was unwieldy, and this year when the entries amounted actually to 381 there were misgivings as to whether so large a number could be conveniently handled on the road. In practice, however, the run went off extremely well, and was even a greater success than its dozen predecessors.

Lighting Arrangements.

The start took place on Friday evening in glorious weather, a.d. there seemed every prospect of a fine run. The Metropolitan police were splendid as usual, and the huge number of riders was despatched without a hitch. A rapid glance round the competing machines revealed a good deal that was interesting. A multiplicity of lamps and generators shows signs of dying out, and it is more common to see one good lamp and a dissolved acetylene cylinder. Electric lighting for solo mounts does not seem to have made any real progress, but on sidecar outlits there were numerous instances of the Lucas installation being used, while C. S. Lake had fitted a full size C.A.V. dynamo lighting outfit to his Zenith and sidecar.

Arthur Candler, one of the early hon. secretaries of the M.C.C. and founder of the Edinburgh run, rode a 3½ h.p. Rover. Another old competitor was Mr. Johnson,

the London manager of Humbers, who took part in the event in 1904. On Friday last he was represented by his son, who rode one of the 4½ h.p. flat twins of this make.

Quite the most interesting (from an historical point of view) of all the machines present was B. C. F. Fellowes's 2\frac{3}{2} h.p. De Dion, the engine of which was twenty-one years old, being dated 1899. On the tank was the Latin motto ne fronti crede, and a three-speed Armstrong gear was fitted. This wonderful engine pulled its rider right through to the finish. May our readeus take note of this fact when they write and ask us to state what is the life of a motor cycle engine.

The organisation at the start was good, but the task of the officials would have been easier had non-competitors refrained from attempting to drive about in the crowd while the start was proceeding. Each man was timed out by Mr. A. V. Ebblewhite, while the official cars were driven by two old-time competitors, Messrs. J. van Hooydonk and W. H. Wells, the latter carrying Mr. F. T. Bidlake, the timekeeper at the finish,

Road Conditions and Catering.

From the start to Digswell the roads were in good order, but a very bad stretch of tar was encountered about two miles short of this village. Broad daylight lasted us till Baldock, and even then we only lit our lamps to comply with the law, and it was light enough to see almost as far as Biggleswade, the first

check, forty miles from the start. Here, as before, the genial host and hostess of the Swan Hotel made us all really welcome, and supplied the most appetising refreshments. All that was required for man and machine was to be had in abundance, and the riders left amply fortified for the long drive to Grantham through the dark.

Through the Night.

To an old participant in this event, two stretches of the run seem longer than the others—the night drive to Grantham and the last stage of all. To average twenty miles an hour in the daylight is easy, but to maintain this average in the dark, even over an excellent and easy road, is somewhat of an effort. In the pre-war runs, many a yarn was told even as early as Biggleswade, and many more at Grantham, of dire lamp troubles, breakdowns, and other terrors of the night, but now incidents are all too few from the journalist's point of view. We set out from the first check in the

We set out from the first check in the glorions starlight night with a batch of half a dozen machines just ahead, including the three new Metro-Tylers ridden by J. Stuart-Bennett, G. F. Ammon, and O. C. Roberts. They are very neatlooking mounts, which ran most consistently.

Our immediate companious were a group of members of the Public Schools M.C.C., who all rode together, and of these J. D. N. Dickson Hill (5 Zenith) was found in trouble near Grantham.



The first sign of this was a stationary light in the centre of the road, which caused some bewilderment. On approaching it was found to be an abandoned torch, dropped while its owner was endeavouring to start. We restored to him this needful accessory, as his head light had failed, gave him the push-off he required, and rode with him to Grantham, where the first breakfast was served. Here all the competitors we questioned reported an excellent run. Even head light troubles were practically non-existent, but tail lamps were proving to be as unsatisfactory as ever. The faintest glimmer of dawn was visible in the east as Grantham was entered with the vanguard, but lamps were not to be extinguished for many a mile further north, owing to the fact that the start was an hour earlier than in previous years.

Tail Light Trouble.

Poor Dickson-Hill's troubles ended in a climax at Gouerby, just after the breakfast stop, as he took a corner too fast, colliding with a heap of stones. All along the road and right through the night the police were of great assistance, but for the first time on a London-Edinburgh run the Newark constables exercised their authority. Just beyond the town one conscientious policeman evinced a marked interest in tail lamps, and enjoyed (from his point of view) excellent sport, and this, if you please, only shortly before lamps could be extinguished. One of the travelling marshals fell a victim, but fortunately many others, owing to the fact that they rode in groups, escaped. By next year there must be some improvement in rear lighting arrangements.

The next check was at Doncaster, and outside the garage there was mounted an ancient high bicycle, and under it the words "disqualified, arrived too early." For the early comers the sun rose before reaching Retford, but the clouds soon hid it and the run was continued in cold dull weather with a rising south-westerly wind. H. B. Bröwning [33 Scott), who burst a cover outside Doncaster, found a friend in need in the shape of a fireman. This

excellent sportsman ran to the fige station, cut off a piece of hose, slit it down the centre, and thus improvised an excellent gaiter, and when offered payment refused it, saying he was a fellow motorist and drove a 60 h.p. fire engine. Robertson-Browne (8 Henderson) picked up a nail between Newark and Grantham.

Rough Roads.

There was some very rough road north of Doncaster, quite the worst hitherto encountered, and this continued along the old route frequently followed in previous runs to the cross-roads, where the men were directed by one of the many useful A.A. scouts from the main road to Hare-Here the course is set in a westerly direction, and the wind, which had hitherto been only tiresome, became really trying. Parts of the road were very rough, and the dust was so appalling that we almost prayed for a shower of rain, and wished that the excess of tar encountered in Hertfordshire had been directed to this part of the world. There was excellent organisation at the second breakfast at the Middleton Hotel, Ilkley, and numerous well-known northern riders were present to help at the check. Among these we may mention Norman Longfield and H. W. Fortune. At this point more than half of the total journey had been covered, but the next section held the crux of the trial.

The Climb up Kirkstone.

The Scott on which one member of our staff was travelling acquitted itself well, but Kirkstone proved its reāl worth. To say that the famous climb was dreaded by most of the competitors is no exaggeration. It was made out to be worse than it was, and chiefly, we believe, because those who had ascended it in the 1913 Six Days Trials and before had forgotten it. However, it is quite a fair hill, and every motor bicycle made should climb it. Its approach is narrow, and right in the village of Ambleside, and we had to take it with a non-competing car drawing a trailer full of petrol cans, partly blocking the fair way. The low gear was engaged at once,





rne sc.) near the summit

ng-Standard) leading

Humber)



and kept in as the engine roared its way up the numerous steep pitches and round the easy bends. Once we changed to top, then up and up the Scott soared. Then came a fast stretch over a falling grade, and afterwards the final "struggle" round a sharp bend and the worst was over.

Observations on Kirkstone Pass.

Kirkstone Pass proved an attractive vantage point for hundreds of motor cyclists and car owners, who nearly all congregated at the "Struggle," the culminating stretch, which is as steep as 1 in 4½ at one point.

The competitors were ahead of time. W. H. Wells, the M.C.C. club captain, led the way on a Chandler car, followed by J. Van Hooydonk (Phenix car), Stuart Clark (7, F.N.) leading the competitors and incidentally making a good climb. It is, of course, impossible to individualise with such a big crowd of riders, but our three outstanding impressions after observing the riders ascend the Pass in more methods than one were:

(I.) The motor cyclists were none too successful, the lighter types of mounts providing an unusually high percentage of failures.

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Just how many failed on the foothills of Kirkstone it would be difficult to say, but a number were seen at the roadside on the lower steep stretches of the three miles almost continuous ascent of Kirkstone. Among those we noted for clean and excellent climbs were Hugh Gibson (2½ Clyno), H. G. Bell (7 F. N.), Gayford (5 Zenith), Sharratt (Indian Scout), Jones (3½ Ariel), Kaye Don (6 Zenith), Lucas (Zenith), Edwards, Spikins, and

McLellan (Harley-Davidsons), Salter (flat twin Zenith), Body (Sunbeam), Clark (Coulson B), Redvers-Johnson (Humber), Barclay (Reading Standard), and McRitchie (Triumph). During this succession of clean climbs there were, of course, a number of failures, and a certain amount of eigine knocking by some who just got up this gruelling climb. Triumph and Sunbeam stood out among the best performances in the solo section, and Blackburne riders, too, though not fast, toured up with apparent ease and comfort. The Scott riders did well almost to a man, but their radiators were observed to be steaming in several instances. Boult on a Norton with Fhilipson pulley made a most meritorious ascent, passing three-speed mounts whose riders were footing or running alongside. Fleetwood we singled out as the best A.E.C. rider, though all did well.

The Passenger Machines.

When the sidecars arrived in bulk, rain was falling thickly, and the surface was getting hadly cut up. Bridgman (Indian sc.) was sandwiched among the solo mounts, and it is doubtful if any competitor made a better climb up the steepest stretch at the top. Wright thenderson) was good, also Nott (Matchless), whilst Temple (Harley-Davidson) was so fast that in the thick mist he was obliged to keep his electric horn going to clear the way. Newnham (4 going to clear the way. Newnham (4 Sunbeam) was one of the successful single-cylinder sidecarists, hut Crost-waite (5 James sc.) made quite one of the best ascents of the day, his success being emphasised by the fact that he followed a number of disappointing riders on big twin outfits, who either failed or just scraped up. Longman (Harley) roared past a stranded sidecar, Biggs (A.J.S.) repeating the perform-ance. Tippett (Acme) was good—in ance. Tippett (Acme) was good—in fact, the Acmes and their stable companions the Rex machines but one got up comfortably. Congratulations to Jefferys, the one-legged rider of a Norton, who got up very confortably. Several Matchless riders did well. but others stopped



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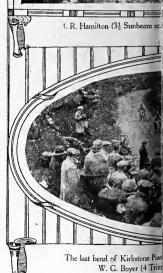
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The "London-Edinburgh" described.

on the gradient with engines knocking. off the gradient with english shocking. Hargreaves (Royal Ruby) made a fine climb, also Hemy (A.J.S.), Wilkin (3½ Wilkin), Coney (3½ Wilkin), and Pulzer (Clyno). Shuttleworth and Sawer, both on- Norton sidecars, helped to confirm the impression that the single-cylinder the impression that the single-cylinder sidecars were showing up most conspicuously. Several were baulked by others who had "konked" out, and generally the record of failures was high. The Morgans did well, Eric Williams particularly; some of the others boiled badly, but kept going. Lush just got up on his A.B.C. sidecar. The excite-ment to clear the course when two or three sidecars stopped and another rider approached through the thick mist seemed to be greatly enjoyed by the onlookers. Towards the tail end, the Bashall brothers, both on Martinsyde-Newmans, came up comfortably. Once over the crest of Kirkstone (1,500 ft. up), there followed a drop into Patterdale, the atmosphere becoming clearer and the scenery once more observable.

Lunch at Patterdale was welcome enough, as the weather was cold and enough, as the weather was cold and raining. (Late arrivals had to climb and descend through the clouds.) Here we had ample opportunity of talking with many of the competitors. Colliver was greatly pleased with his Indian Scout, while that best of sportsmen, Applebee père, was delighted with his Levis. The new A.B.C.'s were a great contrast to the early model seen in last year's run, and had wonderfully clean crank cases. The old stagers, Triumphs, Zeniths, Ariels, Douglases, Lea-Francis, Humbers, etc., were doing well, and many of the newcomers, the Metro-Tylers, Coulsons, A.B.C.'s, Precisions, Duzmos, and the like, were establishing buznos, and the like, were essavishing their reputations. The worst of the run was now over, and the going was easy to Carlisle, after which the John-o'-Groat's route was followed to Beattock. At Moffat an excellent and much appreciated tea was served, and then followed the last non-stop section. Why this was chosen no one knows. If Kirkstone Pass is the worst graded road in England, the Devil's Beef Tub Pass is the best graded road over any British or Scottish pass. The wind blew helpfully up the hill, as it did up Kirkstone, and the competitors sailed up and cruised down the other side in comfort.

IMPRESSIONS ON THE LAST HILL

Viewing the climbs as a whole, it was remarkable that most of the sidecars came up very much faster than the preceding solo mounts, probably a matter of gear ratios, and, since there was no question of anyone failing, it was rather a matter of judging the performances from the point of view of noise and sweet running.

The Metro-Tylers climbed with a very nice hum, as also did the solo-ridden four-cylinder Henderson. Some of the machines were somewhat noisy.

E. Seymans (5 Zenith) was very silent, and the easy beat of the Blackburne engines could be recognised from afar. F. E. Salter (23 Zenith) was admiring the view, as also was Newman (34 Sunbeam). The Brough machines had a very pleasant hum, while A. Candler (3½ Rover), who



AT MOFFAT. V. Gayford (4-5 Zenith), L. T. Gibson (5-6 Zenith), and E. M. P. Boileau (33 Scott) checking.

was apparently late, was gamely plugging on. J. E. Sharp (4½ Humber) and E. J. Redvers-Johnson (4½ Humber) were both remarkably silent, as was also Alan Hill (Lea-Francis). The beat of B. F. C-Fellowes's old 2³/₄ De Dion engine reminded one of other days, but he was still going strong. F. W. Applebee (24 Levis) was strong. F. W. Applebee (24 Levis) was the first competitor to pass us on low gear, R. S. Whiting (2½ Carfield Villiers) was fast. H. Karslake and V. Chidley (5 Brough) both had power to burn. Lt. Kidston (3½ N.U.T.) made a silent ascent, and R. A. Bonner (2½ Douglas) and J. Watson (4 Harley-Davidson) ascended at watson (* Harley-Davidson) accented a speed. J. O. Barclay (Reading Standard) seemed very highly geared, but was ticking over with an easy throb. Wills (23) Verus) made a fast climb.

The End of the Run.

Beyond the Crook Inn and past Romanno Bridge there was some bad surface and greasy mud, but the re-mainder of the roads were good. Liberton was fixed as the end of the trial, as there was a procession through Edinburgh, which would have caused serious congestion. After the finish the competitors proceeded at leisure to the Waverley Market, a huge building where the Scottish car show is held. According to official figures, the analysis of the run is as follows (subject to confirmation at the next committee meeting on Friday, when the awards will be available):

Entries. Started, Finished. ... 121 Motor cycles ... 161 ... 147 Sidecars ... 150 ... 135 101 Cars 65 55 44

ars 65 ... 55 ... 44
The performances of the car entrants are given in our parent journal The Autocar.

All credit is due to the voluntary workers, H. G. Bell and his co-organiser, W. H. Wells, the brothers Baddeley, and E. Bridgman, the travelling marshals, and the host of others, but a special word of praise must be reserved for the veteran timekeeper, F. T. Bidlake. His is not a voluntary task, but the meticulous care he shows by his wonderfully tabulated time sheets, and the long and conscientious work he puts into the task of working

out results is only fully understood and appreciated by those who serve on the M.C.C. committee.

The following competitors failed to arrive :

arrive:

J. D. N. Dickson-Hill F. B. Safter (5-6 Rudge 5-6 Zentler)

E. Foster (2½ Hobort- University 131)

E. Foster (2½ Hobort- University 131)

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E. J. Hiller (3¾ A.J. S.)

J. A. Hiller (3¾ Hoveri, University 131)

J. A. Hiller (3¾ Hoveri, University 131)

J. A. Hiller (3¾ Hoveri, University 131)

J. A. Hiller (3½ Hoveri, University 131)

J. A. Hiller (3½ Hoveri, University 131)

J. A. H. Carlow (3½ Para- University 131)

J. H. Saftow (3½ Par

Cooper (3 Para-L. Keevil (3½ Sunbeam). L. R. Kaye (4 Norton). J. S. Russell (4 Norton). R. Silver (4 Harley-

J. Hymnds (2½ New Hudson). J. H Callaway (2% Coulson B.). F. Hawks (2% Douglas). W. R. Preston (3½ Sun-beam). Silver 44 Davidson). SIDECAR OUTFITS. J. McBirnie (7-9 In-

OUTFITS.
J. H. Place (8 Dot),
J. Hargreaves (8 Royal,
Ruby).
J. Cooper, jun. (6
A.J.S.).
H. Christian (8 Thurlow
3-wheeler).
B. Jeffersy (Norton).
G. S.— Davidson (22
Danaod).
A. W. S.—
J. Duckworth.
J. Thurbylb.
J. H. Thurbylb.
J. H. Thurbylb.
J. H. Thurbylb.
J. Thurbylb.
J. Thurbylb. dian). Richardson (414 James). A. Newnhan (6 New M Inperial).
R. L. Richardson (6
New Imperial).
C. Crostwaite (5-6 C. Crostwaite (5-6 James). J. D. Barclay (10 Read-ing Standard). G. S. Wright (8-10 Hen-W. S. Ducasto. (3 Trinmph). Goodwin (10 Castle Three). E. Bennett (7-9 G. Bryon (8 En. G. Bennett (74 field); for R. Volkert (10 Henderson). Witt (8 M. Janier). Sudden (8 L.S.D. ercele art). Sudden (9 Strate art). Sudden (7 Strate art). Sudden (8 L.S.D. ercele art). Sudden (8 L.S.D. ercel art). Sudden (8 L.S.D. G. Bryson (8 En- C. field).

ing-sec...
G. L. Fletcher (4 Liss).
S. Frank (4 Triumph).
W. Pratt (8 Matchless).
The !

The Results.

The fact that out of 316 motor bicycle and sidecar outfits 222 finished by n means indicates that all the drivers these will receive gold medals. In fact the number of awards of any kind may be quite small, as, at the time of goin to press, neither all the checking sheet nor the Kirkstone Pass results have bee verified.

FIRST POST-WAR RECORDS.

D. R. O'Donovan with a 31 h.p. Norton Sidecar beats Fourteen Records.

N Thursday of last week, in perfeet weather conditions, D. R.
O'Donovau, with a 3½ h.p. T.T.
ain-driven Norton and sidecar, sucain-driven Norton and sucent, suceded in lowering several long distance cords in the 500 c.c., 750 c.c., and 000 c.c. classes. He covered 53 miles 7 yards in the hour, and for all the w-records, his speed was round about his figure. The time for the fitty-mile is figure. The time for the fifty-mile cord is lowered to 56m. 32\frac{1}{5}\s.\$, as against is record set up in 1913 by H. C. Newian (Ivy), 57m. 9\frac{2}{5}\s.\$, while O'Donovan's ced for the three hours was 50.92 p.h., as compared with H. Riddell's fenith-Precision) record, which we cured at a speed of 43.51 m.p.h. It will be seen that O'Donovan's orton practically maintained its speed roughout three hours, while the six cords broken varied from 52.48 m.p.h. 43.51 m.p.h. The successful Norton

43.31 m.p.h. The successful Norton

was fitted with a Canoelet sidecar, Mr. A. V. Ebblewhite, the official timekeeper, reports that with the exception of replenishing, the machine was untouched during the ride, and on dismantling for measuring the cylinder, juston, and valves were clean and free of burnt carbon. Dunlop tyres, Binks carburctter, Pratt's spirit, and Speedwell oil were used.

The following are details of new and old récords:

CLASS G.-500 c.c.

NEW RECORDS. D. R. O'DONOVAN (31 Norton sc.) New Speeds, Old Speeds.

		h. :	m. s.		m.p.h.		m.p.h.
			56 321		53.05		52.48
100 miles		I	56 43	200	51.43		44.06
150 miles		2	56 49}	=	50.90	• •	43.41
		mls,	yds.				
1 hour	٠.	53	347	=	53.19		52.43
2 hours		102	1341	275	51.38		44.50
2 bours		T52	T 606	\Rightarrow	50.02		43.31

h, m, s. 50 miles H. C. Newman (Ivy)
100 miles H. Riddell (Zenith-Pre)
150 miles H. Riddell (Zenith-Pre)

mls, yds, 1 hour C. G. Pullin (Rudge) 52 764 52-43 2 hours H. Riddell (Zenith-Pre) 129 1657 = 41.30 O'Donovan's figures also take the records for the 750 c.c. and 1,000 c.c.

classes, as under: CLASS H .- 750 c.c.

m.p.h. h. m. s. | h, m, s, m,p,h, | 150 miles E. B. Ware (Zenith-Jap) | 2 9 31 = 46,33 | 150 miles E. B. Ware (Zenith-Jap) | 3 20 25 = 44.91

mls, yds, 2 hours E. B. Ware (Zenith-Jap) 93 1120 = 46.82 3 hours E. B. Ware (Zenith-Jap) 137 1676 = 45.98 CLASS 1 .- 1,000 c.c.

m.p.n.
150 miles F. W. Barnes ... 2h. 3m. 43\(\frac{3}{5}\)s. = 49.15
150 miles Not established.
2 hours F. W. Barnes ... 96m. 1594yds. = 48.45
3 hours Not established.

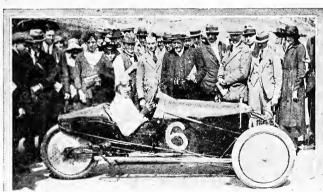
CYCLE CARS AT BROOKLANDS.

High Speeds at the B.A.R.C. Whitsun Meet.

OTOR cycle racing at Brooklands is not now run in conjunction with car racing. However, there were to events of interest to motor cyclists the Whit-Monday programme of the A.R.C., the first being the cycle car ort handicap, and the second the light r long handicap. In the former there are seven starters, the machines being N. A.V., and Calthorpe four-wheelers M., A.V., and Calthorpe four-wheerers d Morgan three-wheelers. First and ird places were taken by the G.N. ivers, A. Frazer Nash and H. R. idrey respectively. E. B. Ware on Morgan was second. The winner's and the five and threequarter mile urse was 72 m.p.h. In the second ent, over a distance of eight and a half lies, E. B. Ware (8 Morgan), with 1m. s. start, beat G. Bedford (10 Hillman), s speed being 66.25 m.p.h. The speed of 72 m.p.h. obtained by the

N. over a distance exceeding five miles remarkably good, and is sufficient indition of the efficiency of air cooling even hen the engine is run at full load for an

preciable time.



A NEAT RACING MORGAN.

E. B. Ware, (Morgan-Jap), winner of the first Light Car Long Handicap at Brooklands on Monday.

FOURIST TROPHY NOTES

I.R.H. PRINCE ALBERT, patron of the A.C.U., has been invited to the Isle of Man for the T.T. races His Excellency Lieut.-Governor Maj.-en. Fry, C.B., C.V.O.

Latest Details regarding Practising.

Practising starts on Monday morning it, at 4.30, and will be continued up 6.30 a.m. Every T.T. machine and ery reserve mount must have its racing mbers affixed to it. These machines ill not be allowed on the road after a.m. No competitor will be allowed to iss the Quarter Bridge later than 15 a.m., and this only if the rider is aying at some place along the course between Douglas and Kirk Michael. The course must be clear by seven o'clock.

Every rider must complete at least six circuits of the course, one of which must not exceed sixty minutes in the senior class, seventy minutes for the 350 c.c., and ninety minutes for the 250 c.c. machines.

Welsh Inter-club Hillclimb.

The results of the hill-climb organised The results of the hill-climb organised by the leading South Wales clubs, which took place on Whit-Monday, were as icllow: Class 2, expert, L. Thomas (Eagle); general, J. James (Chater-Lea). Class 3, expert, W. Edwards (23 Verus); general, J. Edwards -(23 Verus). Class 4, expert, A. Lindsay (3½ Norton);

general, W. Leystun (31 Norton). Classes 5 and 6, A. L. Cranch (Rover). Class 7, sidecars, J. Thomas (3½ Norton sc.). Class 8, unlimited sidecars, J. Thomas (3½ Norton sc.). Fastest time of the day, A. Lindsay (32 Norton).

Cork and District M.C.C.

The annual open trial organised by the Cork and District M.C.C. took place on the 17th inst. over an interesting course, embracing most of the test hills in Co. Cork and Kerry. Thirty-three competitors started from Cross Garage at 7 a.m., and ten failed to finish.

Previously this was a twenty hours' trial, but this year it was confined to daylight, the distance being 200 miles.

Coventry and Warwickshire M.C.

It was decided at a meeting held on the 18th inst. that the club should become affiliated to the R.A.C. and A.C.U. for 1921.

Wolverhampton M.C.C.

Trade riders will be handicapped in the reliability trial for the Cooke silver cup on June 5th. The course, which will be sixty miles in length, includes the wellknown Farlow and Flagstaff Hills,

Mansfield and District M.C.C.

A general meeting, to decide what form the Lucas silver cap competition shall take, will be held at the Mason's Arms, Leeming Street, on the 51st inst., at 8 p.m. Mr. R. Lucas, the donor, will ride in the T.T. this year.

Ilford M.C.C.

This new club has recently been formed with headquarters at the Cranbrook Motor and Engineering Works, Ltd., Barkingdon. The hon. sec. is Mr. F. C. E. Thompson, and all communications should be sent to him at the above

Westmorland M.C.C.

Over twenty members competed in the trial for the Lonsdale cup on the 9th inst. The course which was 110 miles in length was very difficult, and only dozen riders finished. Results: 1, B. Hill (3\(^2\) Scott); 2, P. Hoggarth (4 Triumph); 5, G. Jeffreys (3\(^2\) Norton). The Baker cup was won by A. E. Huddlestone (4 Douglas sc.).

Taunton M.C.C.

An inter-club hill-climb was held on the 15th inst. at Buncombe Hill in conthe 16th inst. at Buncombe Hill in conjunction with the Bridgwater M.C.C. The course was half a mile long, with a gradient of about 1 in 8. The results were as follow: 275 c.c.—P. Hare (2½ James), 350 c.c.—C. R. Roper (2½ Dongias), 600 c.c.—S. Goodman (4 Douglas), 1,000 c.c.—C. A. Pollard (5-6 Zenith), 600 c.c. (Sidecars),—S. Goodman (4 Douglas sc.), 1,000 c.c. (Sidecars),—S. Goodman (4 Douglas sc.), Goodman (4 Douglas sc.). .

North Derbyshire M.C.C.

Recently this club held a successful hillclimb at Stone Edge, near Chesterfield, climb at Stone Edge, near Chrosenbard, sixty competitors entering the various classes. Results: 600 c.c.—R. Carter (32 Martin). 350 c.c.—A. Wilson (23 A.J.S.). 350 c.c. (two-strokes).—A. Burgin (24 Martini, 550 c.c.—A. Wilson [22 A.J.S.], 550 c.c. (two-strokes).—A. Burgin [22 Velocette). 600 c.c. (Sidecars).—O. Smoothey (4 Triumph sc.). Unlimited.—S. Lawrence [32 Norton). Unlimited Sidecars.—G. Hoole [52 Norton sc.).

East Lancashire M.C.C.

An interesting sixteen mile course. covered three times before tea and then twice in the reverse direction, was that selected for the Jerrard cup trial. G. Trickett ran consistently throughout, but suffered from belt slip near the finish. The winner proved to be H. Walsh (33 Scott), cup and gold medal; while W. K. Stanworth (24 Connaght), C. Pilling (23 Douglas), G. Trickett (24 Clyno), and J. Hebden (24 Clyno) won bronze medals. selected for the Jerrard cup trial.

CLUB NEWS.

Week-end Club Events.

Weeh-end "Club Events.

May 29.—Middlesbrough and District M.C.C. Hüldlesbrough and District M.C.C. Hüldlesbrough and District M.C.C. Endison 19.—Color and S. Beds. A.G. "Hill-climb. May 29.—Ealing and District M.C.C. Spect Trial.

May 29.—Ealing and District M.C.C." Half-day 29.—Ealing and District M.C.C." Half-day 29.—Ealing and District M.C.C." Half-day 29.—York and District M.C.C. End to Brooklands.

May 29.—York and District M.C.C. Poper-May 29.—Early and District M.C.C. Fun to May 29.—Decabary and District M.C.C. Poper-May 29.—Decabary and District M.C.C. Naw 10.—Nay 29.—Decabary M.C. Speed Trials.

May 29.—North Endsey A.C. Speed Trials.

May 29.—North Endsey A.C. Ediability Trial.

May 29.—Nichfield and Halanshire M.C.C. Com
May 29.—Nichfield and Halanshire M.C.C. Weck-cad

May 27.—Lincomente 2.0. Deswell.
May 28.—Middlesex M. Relavility Trial.
May 29.—Steffied and Halamanty M.C.C. Competition.
May 29.—Steffied and Halamanty M.C.C. Week-end,
May 29.36.—Public Schools M.C.C. Week-end,
May 29.36.—Public Schools M.C.C. Week-end,
May 39.—Eastern Countries M.C. Run to Holmbury Hill.
May 39.—Eastern Countries M.C. Run to BoroMay 30.—Eastern Countries M.C. Run to BoroMay 30.—Eastern Countries M.C. Run to BoroMay 30.—Hull M.C.C. Run to York.
May 30.—Rochester, Chasham and District M.C.
Gopt. Kidd's Hill.
May 36.—Newcoatle and District M.C. Bottesjord
T.G. Gardens, end District M.C. Run to
Stratford-on-Aron.
May 30.—Electer and District M.C. Run to
Stratford-on-Aron.
May 30.—Leiccter and District M.C. Run to
Stratford-on-Aron.
May 30.—Beltoming Model Strict M.C. Run to
Stratford-on-Aron.
May 30.—Strimingham M.C.C. Run to Malvern.
May 31.—Elemingham M.C.C. Run to Malvern.
May 39.—Estaborne and District M.C. Run
May 30.—Stalpridge and District M.C. Run
May 30.—Reading and District M.C. Run
May 30.—Reading and District M.C. C. Rul
May 30.—N.M.C.F.U. (Portsmouth). Run to GoodMay 30.—Derby and District M.C. Run to
May 30.—Derby and District M.C. Run to
May 30.—Derby and District M.C. Run to ConMay 30.—Derby and District M.C. Run to
May 30.—Derby and District M.C. Run to Rud
May 30.—North Wits M.C. ond L.C.C. (HarriMay 30.—North Wits M.C. ond L.C.

Newcastle-upon-Tyne M.C.

Several novel tests were put to members in the Surprise competition held on the 16th. These included starting up blindfolded and several other unusual features. H. Thompson (23 N.U.T.) was declared the winner.

Bolton M.C.C.

Out of forty-three starters in the recent trial held by this club only seven succeeded in negotiating the watersplash near Scorton. The 115 mile course lay over Rivington Pike and among the hills and moors of the Trough of Bowland.

Plymouth and District M.C. and L.C.C.

Grenofen Bridge Hill, steep and winding, with a bad surface, was the scene of the with a bad surface, was the scene of the hill-climb held recently by this club. The best performance on formula was made by W. Bowden (3½ Sunbeam sc.), while the fastest climbs were made by F. C. Bowden (7.9 Indian) solo class and E. F. Flint (8 Matchless sc.) sidecar class.

Gorseinon and District M.C.C.

This recently formed club will hold hill-climbing test on Saturday. Loca motor cyclists desirous of joining shoul get in touch with the hon. sec., Mr. S. Richards, Merton Cottage, Masons Road Gorseinon.

North Cheshire M.C.C.

The reliability trial for the Mathe Challenge Cup, to be held on June 6th is open to members only. Particulars membership may be obtained from th hon. sec., Mr. H. Broderick, Somerh Wilmslow.

Sutton M.C.C.

At a general meeting recently held a The Ridgway, Sutton, the followin officers were elected; President, M. W. A. Coe; hon. treasurer, Mr. I. Notley; and hon. secretary, Mr. L. 2 Hawkes, Bryn Menai, Cheam Roa Sutton

Luton and South Beds. A.C.

On Saturday this club will hold on saturday this citto will hold shill-climb at Kop Hill. Classes will t 350 c.c., 600 c.c., and unlimited sol also unlimited sidecar and car. Weiging in will take place at Wendow station at 2 p.m.

Liverpool M.C.

An Eliminating Trial will be held the 29th, in order to select a team represent the club in the forthcomit M.C.O. Inter-team Trial. The course wi be a twenty-mile circuit, to be cor pleted three times, starting and finishir at Northop.

Public Schools M.C.C.

Meeting at the Bear, Esher, on the 29th, a week-end "touch nothing" ru will be made to Brooklands, to view to racing, returning to Esher on the 30t inst. Members unable to get to the rendezvous by 1.30 p.m. will find the club at Brooklands until 5.30 p.m. c Saturday.

Hull M.C.C.

The results of the twelve hours reliability trial for the "Rudge Cup" we as follow: First, R. Fearnley [3] Rudge Multi); second, Taylor [2] Excelsion; third, Struthers (8 Matchless sc.).

On Sunday a run will be made to Yot starting at 9.30 a.m. Lunch at the Station Hotel, York, at 1.30 p.m.

Bournemouth and District M.C.C.

The results of the recent hill-clim held at Tarrant Rushton, near Blandford neu at farrant Rusation, near Blandion were as follow: 350 c.c., A. A. Pres wich (23 Diamond); 600 c.c., D. D. Col (4 Triumph); 750 c.c., R. H. Thick of James); 600 c.c., sidecars, R. Wheele (4 Douglas sc.); unlimited sidecars, (8 Forward (6 Sunbeam sc.).

N.M.C.F.U. (Leeds).

The results of the speed trials he The results of the speed trials he recently at Templenewton were as follow 300 c.c., L. H. Lightowler [23] Onega 600 c.c., R. Horsley [34] Norton); ulimited, C. Ripley (7-9 Indian); ulimiten novice, S. F. Ferth (4 Harley); 600 c. sidecars, W. Blackhonse, [35] Triams sc.); unlimited sidecars, T. Clark (7 Harley sc.); novice sidecar, J. H. Cavert (7-9 Indian sc.).

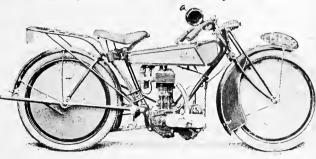
A Neat Rear Spring Frame Conversion.

A Device which Readily Replaces Detachable Rear Stays.

MODERNISING old pattern motor cycles has long been a speciality of Messrs. Olivos Motors, 120, Bollo Bridges Road, Acton, London, W. This firm has, however, recently concentrated its attention on a rear springing conversion for machines where the rear forks are pivoted at an extension of the engine bracket. The 3½ h.p. Triumph motor bicycle shown in the illustration is fitted with this device, and has recently undergone most strenuous road tests of long duration, which it has survived without the slightest fault.

out the slightest fault,
It will be observed that a five-leafed laminated spring is anchored by two U





An old pattern 3½ h.p. Triumph, converted by Messrs. Olivos Motors into a spring-framed model. Observe the large capacity tank.

bolts to the bottom of the saddle tube, and is attached to the rear forks on a bushed bearing. The lower fork is capable of movement about the bottom bracket bearing, which is provided with a phosphor bronze bush. The fork arms and the spring practically constitute an equilateral triangle, and when the spring is compressed it straightens. This construction gives a most satisfactory move-

ment. The carrier is also partially sprung, and movement is permitted at its uppermost attachment below the saddle.

A petrol tank of distinctly smart appearance has been fitted, the capacity of which exceeds three gallons. Although the underside appears to be dangerously near the sparking plug, a deep pocket is provided which enables the plug and valves to be removed with ease.

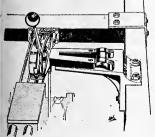
A Sporting Runabout.

The 10 h.p. Aerocar-a Racy Little Machine at the Price of a Sidecar Outlit.

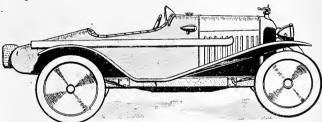
SERIOUS competition between the cycle car and the sidecar outfit is now an established fact. A large market for runabouts approximating in cost, power, and efficiency to the sidecar machine is assured. A sporting little car of this class, which has been under construction and experiment for a considerable time, has recently been placed on the market by the Aerocar Co., Pindock Mews, Maida Vale, London, W.9, at a figure representative of many passenger machines. In the design of the Aerocar reduction

In the design of the Aerocar reduction in weight has been a prominent factor. A sporting appearance, too, has been aimed at and attained—in fact, the little vehicle closely resembles a racing car in

miniature.



The gear change lever is located centrally.



A light lour-wheeler with motor cycle transmission to be sold at £210

À 10 h.p. water-cooled Blackburne V twin engine, having a bore and stroke of 85 mm. and 97 mm. respectively (1,096 c.c.), is fitted at the fore end of the ash constructed frame, and drives by enclosed chain to a countershaft mounted in ball bearings. Thence another short chain drives to a Burman three-speed and reverse gear box and a third chain to the rear axle. Thus, the disadvantage of long distances between sprocket centres is avoided.

Incorporated with the gear box unit there is a cone clutch and kick-starter, while the gear lever is located centrally.

while the gear lever is located centrally.

The rear axle runs on long Hyatt roller bearings, and also embodies two 8in. diameter internal expanding brakes operated independently by a pedal and hand lever.

Interchangeable cantilever springs are fitted at the four corners of the "chassis," and radius rods are provided to both axles. The front axle is tubular, with inclined steering heads, and car type worm and sector steering gear is used. Adequate cooling is ensured by a fan mounted behind the radiator.

The bodywork is neat and roomy, and

The bodywork is neat and roomy, and a neat finish is given by a polished aluminium bonnet and radiator. An aero type celluloid windscreen and a 5½in, x 1½in, oval section external exhaust pipe gave the little vehicle a most sporting appearance. The equipment includes a Capac carburetter, a four-gallon tank drip feed mounted on the dashboard. 650 x 65 mm. tyres, and polished aluminium discs. The dimensions are 7tt. wheelbase and 5tt. 8in. track.



THE MOTOR CYCLE" CHALLENGE CUP.

Presented in 1909 by the proprietors of The Motor Cycle after the original Motor Cycle cup had

Motor Cycle cup had been won outright in 1908.

At the present time the M.C.C. and the Coventry club each holds two sbares, that is to say, they have each won two trials, and only require to be successful this year to win it outright. The Derby, Nottingham, and Sheffield clubs have each won an event for this second

The Club Championship for 1920.

The M.C.C. Team Trial to be held in June.

By nominating a team for the M.C.C. Team Trials on Saturday, June 26th, every club in the United Kingdom has an equal chance of winning the Club Championship. Now that the clubs have reorganised after the war period, this classic event, which was inaugurated in 1904, should attract support from every club that aspires to national rather than local fame. Entries close on June 5th.

OW many clubs will enter teams in this year's M.C.C. Team Trial on fewer than forty-one clubs were represented, and in 1914 thirty-two. Now that the majority of the old and a number of the new clubs have a good following of keen riders, conditions were never so favourable for a record entry. It is one of the most keenly contested events of the year, and the team winning the trophy earns for its club recognition as the club champions for the year.

The challenge cup is a handsome trophy presented by the proprietors of *The Motor Cycle*, and is the second which has been presented to the M.C.C. for these team trials. The first was won

outright by the Coventry club in 1908, as the club had previously won the events of 1904 and 1907.

trophy, therefore hold one share each. The cup has to be won three times to become the property of a club.

Below we give in tabular form a brief history of the trials:

	No	of Tes	am	,
Date.	C	ompetic	ıg.	Champion Clubs.
1901		5		Coventry M.C.
1905		Tria	ls were	not held.
1906		5		Motor Cycling Club.
1907-		5		Coventry M.C.
1908		9	•	Coventry M.C.
1909		17		Motor Cycling Club,
1910		18		Coventry and Warwickshire M.C.
1011	٠.	20		Derhy and District M.C.C.
1912		25		Nottingham and District M.C.C.
1913		41		Sheffield and Hallamshire M.C.C.
1914				Motor Cycling Club.
1910		15		Coventry and Warwickshire M.C.

Undoubtedly a competition of this character has a strong appeal among club meu, and most clubs usually organise a private trial for their best riders in order to find a team the to represent them. Three solo and three passenger machines constitute a team, and, as a rule, the clubs send two or three reserve riders in case of mishap or disappointment before reaching the venue. The trial is held on a circular conversation. course, which is covered three times, and the team scoring the highest mileage non-stop is adjudged the winner, the mileage of each rider being added to make the total. Should mileage of each rider being added to make the total. Should more than one team make a non-stop run, then the award is made on the consistency of driving, judged by the repetition, as accurately as possible, for the second and third circuits, of the time taken for the first circuit. The entry fee is £3 3s., which should reach the organising secretary, Mr. B. Alan Hill, I, The Homesteads, St. James's Lane, Muswell Hill, N.10, before June 5th.

The Scottish Six Days Trial.

Review of Rules and Regulations concerning the Popular Scottish Event.

HERE are several innovations in this year's Scottish Six Days Trial, which starts from Perth on Monday, July 5th. The rules and regulations are now available, and reveal that a most sporting trial is being organised.

This year time will be given at the conclusion of the third day for changing tyres, and there will be special awards for single-gear performance. It may be remembered that in 1912 and 1913 G. Brough succeeded in winning a gold medal on a single-geared 6 h.p. Brough.

The following are the routes finally selected by the organisers, from which it will be seen that entirely new ground to southern riders is covered on the sixth day, while the noted hills of Applecross and Altnaharie are omitted, the competitors being taken to John-o'-Groat's. The last day's route starts from Edinburgh.

First Day, 1733 Miles.

Perth, Kenmore, Pitlochry, Kirkmichael, Braemar (lunch), Crathie, Tomintoul, Grantown, and Inverness. Test hills: Amulree, Cockbridge, and Bridge of Brown.

Second Day, 1861 Miles.

Inverness, Abriachan, Beauly, Dingwall, Lairg (lunch), Tongue, Melvich, Thurso, John-o'-Groat's, and Thurso. Test hill: Abriachan.

Third Day, 138 Miles.

Thurso, Latheron, Dunbeath, Brora, Lairg (lunch), Evanton, and Inverness.

Fourth Day, 180 Miles.

Inverness, Drumnadrochit, Invermoriston, Cluanie, Glenelg (lunch), Tomdoun, Invergarry, Glendoe, Craggie Inn, Carrbridge, and Grantown.
Test hills: Glendoe and Mam Rattachan.

Fifth Day, 160, Miles.

Grantown, Tomintoul, Braemar, Pitlochry (lunch), Aberfeldy, Kenmore, Crieff, Stirling, and Edinburgh. Test hill: Kenmore.

Sixth Day, 160 Miles.

Edinburgh, Broughton, Tweedsmuir, St. Mary's Loch, Innerleithen (lunch), Gifford, Carvald, Spott, Elmsclengh, St. Agnes, Haddington, and Edinburgh.

Test hills: Talla Linns, Redstone Rig, Elmscleugh.

The trial is open to (a) motor cycles; (b) cycle cars,
1,100 c.c., under 9 cwt. ready for the road; and (c) light cars (Junior Car Club definition as on May 22nd, 1920).

Entry Fees.

Entries, which close on June 14th, or with double fees on June 21st, should be sent to Mr. A. H. D. Aikman Smith, 6. Castle Terrace, Edinburgh, who will forward a copy of the regulations on application. The fees for manufacturers nominating a non-member of the club to ride, £10 15s, or £8 13s. when their rider is a member. Agents (non-members), £7 12s.; members, £6 11s. Private owners (non-members), £3 8s.; members, £2 8s. Trade members entering light cars, £6 11s.; private owner members, £3 8s.





A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," so, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a stamped addressed anyelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters gontribudge and should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

A Recurring Engine Trouble.

During the last year, I have had to have the crank pin of my 1915 Triumph re-riveted twice. It has worked loose again after running satisfactorily for three months. Will you advise me of the best method to get over this trouble?—F.F.

the crank pin was properly fixed with vets of suitable material, there is no ason why it should continually come ose. We would advise you to consult to makers repair department, as they ill no doubt be able to put matters that.

Clutch Adjustment.

In a B.S.A. 4½ h.p. 1919 model motor cycle the clutch descent of the paraffin oil, but no improvement was effected. I should be obliged if you would let me know how this could be cured.—T.S.

esumably the clutch operating rod beeen the pedal to the worm nut on the
ar box requires adjustment. This is
ected by tightening the right and leftnd sleeve nut, which you will find half
ya along the rod. There is also a small
justing screw on the centre worm nut,
d you might try the effect of screwing
is inwards one or more turns.

Two-stroke Back-firing.

I have a 2½ h.p. two-stroke two-speed machine, and I find that I can only get about 50 m.p.g. The carburetter is an Amac, and I have a 27 jet in it. Now I find that when I am riding petrol blows back out of the air ap on the carburetter, and the more I open the throttle the more petrol blows out of the air cap. I cannot account for this blowing back of petrol, out I fancy it is the cause of my prouble. I have got my engine timed correctly, and I have already tried a smaller jet, but find this does not stop he petrol from blowing out .- W.V.H. should advise you to remove the inder and examine the piston rings. the top one has gummed up in its ove, it should be freed. Improved ming and consumption might be. ming and consumption might be ained by fitting a slightly larger jet, No. 28, and considerably lowering larger through the buretter on a two-stroke engine is tally caused by a weak mixture or by y late ignition.

Newsagents' Delivery Work.

I shall be grateful for your advice. I am reced with having to do my own delivery. I should like to get some form of motor vehicle—something cheap within my means that I can get through a 3ft. doorway, having no room to store a large sidecar outfil. At the same time, I should like something in which I could take out 'my wife occasionally. We are both over fifty, so she would not like pillion riding. It has occurred to me that I could alter a box type carrier scooter so as to seat two, one behind the other. Another point to be considered for delivery work is frequent stopping and starting. I take it that the small scooter engines consume less petrol than the motor cycle and sidecar.—J.S.

A motor scooter would not be nearly so satisfactory for the purpose as a motor cycle and sidecar. We would suggest that you have a medium-powered (say, 3½ or 4 h.p.) motor cycle, and if the storage problem cannot be overcome you might have a folding sidecar chassis. You would probably find a motor cycle of this type almost as economical as a scooter, as the latter would be overloaded by your work and upkeep and replacement costs might be heavy in consequence.

Slipping Gear.

Will you kindly help me with my 1912 Roc two-speed gear. My trouble is with slipping of the high gear, and if I tighten adjusting nut to stop gear shipping I do not get any free engine, or if I am climbing hill on low gear the hub runs hot; then low gear the hub runs hot; then the high gear goes in on its own accord and I come to a stop. I have lined the high gear band with Ferodo, and find it answers much better on low, free, and high gears, but still slips a little on high gears, but still slips a little on high gears, the since heard that I should run the Ferodo (high gear) in oil bath, which I could manage. However, I would like your opinion as to whether oil will stop the slipping.—H.S.

The trouble may be due to wear on the faces of the wedge which expands the high gear expanding band. Although Ferodo is not seriously affected by oil, it should not be continuously lubricated. We feel sure that you will find the trouble lies in excessive wear of some detail in the high gear operating mechanism, such as the part above mentioned, or the push rod in the hollow axle. To effect cure it may be necessary to renew one or both of these parts.



The owner of this 4 h.p. Triumph finds his machine an admirable double-purpose mount It enables him to cover a big district, and widens the scope of his business considerably

Charging from Lighting Circuit.

I should be pleased to know if you could tell me how many lamps I should want in circuit to charge 4 volt accumulators from a 110 volt lighting plant. The switchboard voltmeter shows 110 volts and 15 ampères, and the charging rate of my accumulators is ½ to 3 ampère; maximum charging rate, 2 ampères.—E.L.

From your letter it is not quite clear what is the actual charging rate. We are assuming, however, that it is from a ½ to ¾ ampère, and that the discharging rate is 2 ampères. In order to charge at the ¼ ampère rate, you will require a resistance of one 16 c.p. carbon filament lame.

Scott Adjustments.

I should be much obliged for chain on my Scott (which has tretched tremendously, and is so slack that it will touch the flywheel with side play. The low gear chain is the right tension, and both chains are in alignment. Do you advise: (1) A link put into low gear chain is the right tension, and both chains are in alignment. Do you advise: (1) A link put into low gear chain and gear moved back to bring high and low gear chains to equal tension, or a link taken out of the high gear chain, or a new high gear chain? (2.) How does one drain old oil out of the Scott crank case, as I wish thoroughly to wash out with methylated spirit, but see no drain cock? (3.) When putting in new rubber and linen cylinder base rings and transport gauzes with Acreite packing, is it advisable first to smear them with any solution to make them "tacky" before screwing down the cylinder and port cover? If so, what do you recommend? (4) I think the radiator is slightly leaking, owing to water being left in one frosty night. Can this be easily repaired at a local garage, or is it necessary to send it back to the makers?—W.E.N.

(1.) A new chain should not be necessary after only 1,000 miles running. We have used one of these machines over 3,000 miles this winter without replacing any of the chains. It would be best to take a half link out of the high gear chain, although, if you do this, it may be necessary to move the gear slightly towards the engine, when the low gear chain will be somewhat slack. Provided the chains are in alignment the tension does not greatly matter. (2.) No provision is made for draining the crank case. If you wish to remove the oil you can either draw it out with a syringe or soak it up with a rag. We do not quite understand why you wish to wash the crank case with methylated wash the crank case with methylaces spirit. (3.) The rubber rings do not require any jointing material, but the linen cylinder base washer should be nnen cylinder base washer should be smeared with secotine. The Acreite jointing material used on the transfer port covers and crank case doors does not require any preparation; it will almost invariably make a tight joint by itself. You might, however, smear it with seccotine it you suspect air leaks.
(4.) If the leak is visible the local garage should be able to solder it up; but if it is a very slight one you might try the preparation known as "Waterite," which you can obtain from the makers.

Oversize Tyres.

In The Motor Cycle recently
I have several times seen the
subject of oversize tyres mentioned. I have a 4 h.p. 1918
countershaft Triumph, on which

countershaft Triumph, on which I fit 26x2in. heavy covers. Can you kindly oblige me with information as to what I could fit as oversize tyreswithout having to alter any part of the frame, etc.?—J.F.B.

The size of the tyres fitted to the 4 h.p. countershaft is 26 × 2½ in. If you require an oversize tyre for this rim, you will find that 26 × 2½ in. for 2½ in. rim is the correct size. We believe also that certain 28 × 3 in. tyres can be used on this machine, but we are not sure that any tyre manufacturers recommend the fitting of this size.

EXPERIENCES WANTED.

"J.C.J." (Fulham).—Any make of folding sidecar.

"A.D." (Altrincham).—Jet setting and m.p.g. obtained with Schebler carburetter on 1920 7-9 h.p. Indian, also jet sizes and m.p.g. with Binks on same machine.

READERS' REPLIES.

Levis Lubrication.

I have a 2½ h.p. Levis, which I run on petroil. There is no difference, except a certain amount of oil round the carburetter. Jet, Amac 28. I only use the machine to and from business, about five miles each way, and for this purpose the petroil system saves a lot of trouble.— R. N. Boyn.

Lack of Power.

I see amongst your readers' queries of May 13th that "W.A.C." cannot develop power on a Rudge Multi. I have just overcome the same-difficulty with a 3½ h.p. of the same make (and sidecar). I found that the exhaust valve tappet had worn a hole in the rocker ¼in. deep, causing the valve to open only a bare \(\frac{1}{6} \)in. instead of ¼in. or \(\frac{1}{6} \)in. lift. I replaced the rocker, which was soft, and also had to fit new piston rings, as they were badly worn through the exhaust not getting away. "W.A.C." will find it necessary to remove the magneto to get split pin out and nut off rocker stud at the back of timing case. My Rudge will now take myself and two passengers up almost anything.—T. L. Unsworth.

RECOMMENDED ROUTES.

Eccles to Crewe.-D.R.B.

Eccles, Stretford, Sale, Altrincham, Mere Park, Graham, Middlewich, Minshall Vernon, Crewe.

Leicester to Felixstowe.—G.C.W. Leicester, Uppingham, Wansford, Stilton, Huntingdon, St. Ives, Ely, Bury St. Edmunds, Stowmarket, Ipswich, Felixstowe. 130 miles (approximately).

BIRMINGHAM TO SYDENHAM.—E.M.F.
Birmingham, Coventry, Southam, Banbury, Aynho, Bicester, Buckingham, Winslow, Aylesbury, Amersham, Uxbridge, West Drayton, Hounslow, Richmond, Wandsworth, Balham, Dulwich, Sydenham,



Latest Price Advances.

Alecto, 5% increase. Ariel 3½ h.p., no £115; 6.7 h.p., £135; sidecar, £37 10. Watford speedometers, magnetos, an accessories up 10%.

The Patex Horn.

The horn described by us as Gamage in the issue of *The Motor Cycle* of Apr 29th is known as the Patex, and is man factured by Patex, Ltd., 151-157, Fit william Street, Sheffield.

Not Connected.

Despite the similarity of name, tl Kingsbury Engineering Co., Ltd., mam facturers of the Kingsbury Junior-ligl car, notor cycle, and scooter, has r connection whatever with the Kingsbu Works, Ltd.

Correct Lubrication.

The British Motor Trading Corporatio Ltd., have prepared a Specification Tab showing the grade of oil which gives these results in the machines for whit it is recommended. Copies of this tab may be had from any B.M.T. depôt, from 20-22, King Street, St. Jame London, W.1.

A Knight of the Road.

The sidecar is rapidly being taken as a means of transportation for traviling representatives. Mr. E. W. An strong, the new Rudge Whitwor manager for Ireland, has, for seven years, used a sidecar outfit, and hovered as much as 16,000 miles in eigmonths. Mr. Armstrong's annual miles will be cut down now that has been appointed Irish manager Mr. D. W. Alexander, who has reting after twenty-nine years in this positio He is well-known to motor cyclists Dublin.

Catalogues Received.

The 1920 catalogue of Messrs. Veloc Ltd. has just come to hand. It is we illustrated, dealing in detail with the Velocette two-stroke motor cycle, as should be useful to motor cyclists is terested in this type of machine.

An accessories catalogue, containing 1 pages devoted entirely to articles interest to the motor cyclist, has be received from Messrs. James Grose, Ltd. 4, Old Jewry, London, E.C.2. Owing the cost of printing, Messrs. James Groare compelled to charge 6d. for the catalogue.

We are in receipt of the latest catalog of 1920 Norton motor bicycles. This well got up and illustrated by interesting photographs of Norten motor bicycle showing the latest models and views the machine on the road. A very interesting publication issued by this firm a booklet entitled "Norton Driving Hinfor Touring and Racing Models." The should be of extreme value to Nortonsers.

MISCELLANEOUS ADVERTISEMENTS.

PRICES

ADVERTISEMENTS in these columns First 12 words 3/-, and 3d. for every addilional word. Paragraphs of under 8 words dillonal word. Faragraphs of under 5 words are charged double rate. Each paragraph is sharged separately. Name and address must be counted. Series discounts. conditions, and special terms to regular trade advertisers will quoted on application.

Postal Orders and Cheques sent in payment for advertisements should be made payable & Co. to ILIFFE & SONS Ltd., and crossed. Treasury Notes, being untraceable if lost in transit, should not be sent as remittances.

All advertisements in this section should be accompanied with remittance, and be addressed to the offices of "The Motor Cycle," 20, Tudor Street, London, E.C.4, or 19, Heriford Street, Coventry. To ensure insertion letters should be posted in time to reach the offices of "The Motor Cycle," by the first post on Friday morning previous to the day of issue.

All letters relating to advertisements should quote the number which is printed at the end of each advertisement, and the date of the issue

in which it appeared.

The proprietors are not responsible for clerical or printers' errors, although every care is taken to avoid mistakes.

to avoid mistakes.

NUMBERED ADDRESSES.

For the convenience of advertisers, letters may be addressed to mumbers at "The Motor Cycle" Office. When this is desired, the surf of 6d, to detray the control of the control

DEPOSIT SYSTEM.

PEPOSIT SYSTEM.

Persons who hesitate to send money to makeown persons may deal in perfect safety by availing themselves of our lepair bystem. It the money be deposited with "The Motor Cycle," both parties are advised of this receipt. The time allowed for a decision after receipt of the goods is three days, and it a sale is effected we remit the amount to the seller, but, if not, we return the amount to the depositor, and each party to the transaction pays carriage one way. For all transactions up to £10, a deposit fee of 1/r is charged; on transcitions over £10 and under £75, £10, over £50 and under £75, £10, and under £75, £10, over £50 and under £75, £10, and the £10, and £10, and the £10, and the cheques and money unders should be made payable to Hillie & Sons Limited. The letter "D" at the end of an advertisement is an indication that the ad vertiser is willing to avail himself of the Depoit System. Other advertises may be equally desiron, but have not advised us to that effect.

SPECIAL NOTE.

Readers whe reply to devertisements nod receive ne sasser to their equipries are requested to retard the sisness are an indication that the goods advertised the sisness are indicated in that the goods advertised we heady been disposed et. Advertisers often receive so many enquiries that it is quite impossible to reply to sach one by pest.

MOTOR CYCLES FOR SALE.

A.B.C.

A.B.C., 1920, brand new, T.T. bars; £151; retail Surrey

A.B.C. Motor Cycles, deliveries from stock.—The Spalding Motor Co, Ltd., Pinchheck St., Spald-ing. 'Phone: 144. T.A.: Service. [0013

A.B.C. delivered May 11th, unridden, complete, lamps, Klaxon, etc.; 152 gns.; owner got delivery Morgan.—C. Hunt, Villa, Eye; Suffolk. [3726

WAUCHOPE'S LIST.

The following Machines are in Stock on going to press

gear, dutch, and kick-start ... 2154 MORTOM, 4-bp., 1920, filted with Swan sporting Sideenr ... Offers. STRUMPH, 4, hp., 1911, 3-speed, all accessories, excellent machine ... 275 OSCITI, 31, hp., new 1920 model, solo gears, standard bars, just delivered from works ...

from works

NEW IMPERIAL, 2' h.p., new 1920,

No. I Model, just delivered from works £74 11

ROYAL RUSY Combination, late 1919,
hood, screen, all hest accessories, as

new£215 0 7-9 h.p. Powerplus tNDIAN Combination,

sories, first-class condition, ready for

sories, first-class coodition, ready for the road, 1914, splendid machine 10,0M, RUDGE, 1919, 3½ h.p., fast and 1915 of RUGGE, 1919, 3½ h.p., fast and 1915 of RUGGE, 1919, 3½ h.p., fast and 1915 of RUGGE, 1916, as new, 1916, as new in every detail, never used 250 of RUGGE, 1916, as new in every detail, never used 275 of RUGGE, 1916, p. 1915 of RUGGE, 252 of RUGGE, 1916, p. 1915 of RUGGE, 252 of RUGGE, 1916 o PEARSON & SUPWILL, 2-stroke, 2-speed 2-stroke, 2-speed 2-stroke, 2-stroke, 2-stroke, 2-stroke, 27S 0

PEARSON & SOPWITH, new 1920, 2! h.p., 2-stroke, 2-speed, clutch, and kick-charter, 2-stroke, 2-speed, clutch, and kick-charter. 2-stroke, 2-speed, clutch, and kickstarter
Starter
S

We have a large stock of SIDECARS, including B.S.A., No. 2 Douglas, Oxonian, Canoclet (all models), Williamsons, etc., Fitted while you wait.

Wauchope's

9, Shoe Lane, Fleet Street, London, E.C.4.

'Phone: Holborn 5771.
'Groms: Opificer, Fleet, London

Important Notice.

Second-Hand Machines.

THE increasing demand for motor cycles and the shortage of supplies is a temptation to the unscrupulous to misrepresent the dates of second-hand machines, and sometimes these are advertised incorrectly.

The year of manufacture should be verified by reference to the makersthe engine number usually sufficing for this purpose.

Attention is also directed to our Deposit System, which is intended for the protection of our reader.

MOTOR CYCLES FOR SALE.

Abingdon

A BINGDON 3½h.p., appearance and mechanically as new; serffice £48.-57, Keubury St., Coldharbour Lanc, Caublewell. [3521]

1920 Ablogdon King Dick, 3½h,n., 3-speed, slightly used; £103.-Frank Whitworth, Ltd., 139, New St., Birmingham. [X2186]

1920 6-7h.p. Abingdon Twin Combination, lamps, horn. wind screen, not done 500 miles; £175; Guaranteed.—Frank Whitworth, Ltd., 139, New St., Birmingham. Acme.

PRAND New Acme Combination, 8h.p. J.A.P., detachable and spare wheels, Sturmey gear, luxurious combination; best offer over £220 secures.

-Box 784, c/o 1he biotor Cycle [X204]

CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premiums. [9993

A.J.S.-Brighton, Hove and district.-Turpin's 22 and 29, Preston Rd., Brighton, [0202]

19²⁰ A.J.S. Combination, new, fitted 3 lamps, horn, spare wheel, screen, etc.; £250.—2, Nightingale Rd., Lower Clapton. [3605

W AUCHOPE'S, 9, Shoe Lane, London, E.C.4.— th.n. A.J.S. combination, 1918, detachable wheels, free engine, kick start, accessories; £185.

A J.S., 5-6h.p., 2-speed, band clutch, ride away: £97/10, or good offer.—Seen after 6.30, 114, Ravensbourne Av., Shortlands, Kent. [3936 A J.S. 1918 5-6h.p. Combination, military model, hood, screen, lamps, in very nice order; £165.—Elre and Co., 15-16, Bishopsgate Av., Camomile St.,

A. J.S. Specialists, The Walsall Garage, Wolverhamp-ton St., Walsall, Tel.: 444, Can give favourable deliveries of these grand combinations Book early for your spring outfit. (7215

1920 A.J.S. Combination, makers' specification, and legshields, can be driven comfortably from sidecar if desired, scarcely used, a beautiful tunout: £245.—Davenport, Capesthorne, Chelford, Cheshire. [3377]

19 20 A.J.S. Combination, delivered April 17th, spare wheel, wind screen, fitted Lucas lighting set, Lucas horn, storm apron, spare inner tube, valve, etc., scarcely used, machine as new trial given; £250.—Apply, 8250.—Apply, 2655.—47585.

TOCH have a late model A.I.8 combination apare wheel wind screen larguage rid, electric and acetylene lighting, ready for the rood.—Fair Offer Cur House, 5, Hearth St., Hampstead (near Hampstead Tube Station). Phone: Hampstead 3752. Hours 9-7, including Suturdays.

1919 A.J.S. Combination, very carefully treated, small mileage, and now in fine running order, wind screen, 3 lamps, 2 generators, spare wheel, tools, Cowey speedometer, Tan-Sad pillion, special waterproof appron, unpnactured tyres and ready to ride anywhere; £215—Mason, 20, Charminster Rd., Bournemouth.

Alldays

ALLDAYS-ALLON in stock; £85.—At Gonrlay's. Fallawfield, Manchester. [1469

A LLON 254h.p., excellent condition: £45.—Savage, Kirkella, Osborne Rd., Farnborough, Hants. [3425] A LLON 2-stroke, saddle tank, legshields, perfect condition, full accessories: £55.—Wykes, Rothley, othley, Leicester.

19 19 Allon, 2-speed clutch model, complete horn, tools, good tyres; £70.—Jacksoo Bros., Horsham, Sussex. [3470]

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue B33

Alldays.

ALLON 1915 25(h.p., 2 speeds, lamps, engine recently overhauled by makers, perfect; £49, or exchange.—76, Neate St., Alhany Rd., Camberwell, S.E.S.

19²⁰ Alldays Allon Model de Luxe, 2-speed, hand elutch, kick starter, horn, lamps, tools, com-plete, mileage under 750; £75, lowest.—C. Williams, 55, Beckenham Lane, Shortlands, Keat. [3350

A LLDAYS 4h.p., 2 speeds and free, will climb any-thing, Lucas head and rear, born, good tyres, etc., £70. trial; also F.N. 4-cyl. eporting mount, wants few re-pairs, £25; two £90, offers; can be seen after 6 even-ings.—G. Leach, 42, Pave Laae, Newport, Salop, [3863

A RIEL.—Brighton, Hove and district.—Turpin's, 22 and 29, Preston Rd., Brighton. [020]

CYRIL WILLIAMS, for early delivery of Ariels.— Chapel Ash Depot, Wolverhampton. [2267 A RIEL 31/h.p. Model with sidecar, available Mav.— John Aldrich and Co., Diss, Norfolk. [3451

FOR Early Delivery of Ariels, all models, apply Bedford Garage, Walsall. Phone: 270. [530] A RIEL Combination, new from works Easter, 1920, complete with lamps, here, etc.; £165.—Convn. Hornchurch. [3366]

19 19 5-7h.p. Ariel Combination, 3-speed C.S., accessories; £150 cash.—24, Westmorland Barrow-in-Furness.

A RIEL Combination, new condition, 4h.p., 3-solve sidecar; for quick sale, 290.—Cringle Patrick St., Peel, Isle of Mac.

A RIEL, all models, early deliveries; all parts stocked.—F. Speakman, Ariel Expert, 7, Rochdale Rd., Harpurhey, Manchester. [7414]

WAUCHOPE'S, 9, Shoe Lane, London, E.C. Early delivery of Ariel machines anticipal book new for 3½h.p. and 6h.p. twins. [6352 A RIEL 1913 31/2h.p. Combination. 3 speeds. kick starter, Brown and Barlow, U.H. mag.: £98.—Mandes', 100, Gt. Pertland St., London. [3907]

F.O.C.H. have a 1919 Ariel Combination, electrically equipped, ready for the road.—Fair Offer Car House, 5, Heath St., Hampstead (near Hompstead Tube Station). Phone: Hampstead 3752. Hours 9-7, including Saturdays.

A RNO Motor Cycle, 31/3h.p., .3-speed Starmey-Archer gear, in good running order, with wicker sidecar; \$25, no offers, quick sale.—Figg, Enfield Farm, God-monolector, Hunts manchester, Hunts.

Auto-Wheels.

A UTO-WHEEL complete, in perfect order; £10.— [3480] Brook Blo3., Burnham-on-Ses.

Wall Auto-Wheel, in first-class condition; £12 secures.-Miller, 63, Bolton St., Chorley. [3330]

AUTO-WHEEL, in good condition: £10/10.—Apply, 534, Kingston Rd., Raynes Park, Wimbledon.

A UTO-WHEEL (Wall's), gent's cycle, 24io. frame-girt, £14/10.—Marks, 121, Acton Lane, Chiswick, W.4.

FOR Sale, hand tricycle and Auto-Wheel attached.

-Particulars, C. R. Stuart, Dunstan's College,
Catford.

A UTO-WHEELS.—Cash £25, or £5 deposit and 37/6 monthly; descriptive catalogue post free.—M.Y. Dept., The Metropolitan Machinists Co., Ltd., 248, Bishopsgate, E.C.2.

Bat

6 h.p. Bat-Jap and C.B. sidecar; £65.-537, Holloway Rd., N. [3439]

BATS for early delivery, apply, Bedford Garage, [5308]

BATS, 1920.—We have commenced deliveries.—The Rochester Auto and Supply Co., Rochester. [0198

4 6h.p. Bat-Jap, 2-speed countershaft; £58, or offer.—Hillside, Beechwood Rd., Leagrave, Lutoo.

BATJ.A.P. Twin Combination, 6h.p., Roc gears: £55. Appointment by letter.—23, Streatham Rd., Streat-[5371]

1920 6h.p. Bat, Model' 4, just delivered; £156, by appointment,—Boulton, Smallthorne, Stoke-cn-Trent, Staffs.

BAT-J.A.P. Combination 6h.p., twin-cyl., engine just overhanded, good condition: £50.—Beck, 4, New Ed., Ash Vale, Surrey. [3487]

6 h.p. But, sporting model, 2-speed, just overhauled and enamelled, very fast; bargain, 80 gns.—Foster, Greyhound, Ardingly, Sussex.

BAT-J.A.P. 6h.p., 1914, single, T.T. hars, fast mount, good tyres, recently overhauled; £58 cash.—Collins, 5, Churchfields, Sahsbury, Wilts.

BAT-J.A.P. 1916 Twin Coachbuilt Combination, 3: party. A.P.A.P. 1916 Twin Coachbuilt Combination, 3: party countershaft, kick start, clutch, fine condition; friad allowed; £95.—Wood, 16, Hewitt St., Cuttain [3505]

THE BIRMINGHAM HOUSE

FOR MOTORISTS

87-91, John Bright St.

Phone: 662 Mid. 'Graph : "Lytcar, B'ham."

Power

Speed .



COMBINATION



7-9 h.p. Powerplus spring frame model, complete with dynamo, lighting set, electric horn, and speedometer, and fitted with luxurious coach-built sidecar, with com-modious locker in rear of body.

> £223 14

plus delivery charge.

🖪 I can give almost immedi- 🖪 ate delivery of a limited number of these famous machines.

MOTOR CYCLES FOR SALE.

Bat. Bat.

BAT-J.A.P. 4h.p., Bosch, B. and B., spring fram recently overhauled and enamelled, in top-hornning order; £35. — 23, Otterburn, St., Tootis S.W.17.

Blackburne

WAUCHOPE'S, 9, Shoe Lane, London.—Early of the livery of the p. and Sh.p., Blackbarne machine

19 20 2%h.p. H.B., Blackburne engine, 2-speed, 19 start, brand new, for immediate delivery; £94

-Drake and Mount, Bracknell.

F ARLY Delivery or the Celebrated Blockbutne m chines from the accredited agents.—The Lankest Engineering Co.. Motor Cycle Dept., 63, Brighton R Surbiton.

BLUMFIELD 31/h.p. C.B. Combination, 3-spec clutch, B. and B., Bosch, fost and reliable; 25 -A., 24, Caldew St., Addington St., Camberwell, S.E.

19²⁰ Bown-Villiers, 2½h.p., 2-speed, kick starte and clutch, in stock.—Frank Whitworth. Lt. 139, New St., Birmingham. [X2]:

F.O.C.H. have a Bown-Villiers, sporting little b ready for the road; hargain, £38.—Fair Offer House, 5, Heath St., Hampstead (In: Hampstead T. Station). 'Phone: Hamptsead 3752. Hours 9-7, cluding Saturdays.

Bradbury.

BRADBURY and Sidecar: £55, or good sele.—Released 439, Park Lane, Macclesfield.

4 h.p. Bradbury, wicker sidecar; £52/10; any trial Slater, Newsagent, Ashton, Preston. [33 19²⁰ (March) T.T. Bradbury, lamp, horn, as ne £92.—Raingill, Ringway, Altrincham. [34

BRADBURY.-Order now to avoid disappointment.

The Walsall Garage, Wolverhampton St., Walsa

PRADBURY Combination, 2-speed, kick starter, g condition; £75.—Woodgers Garages. 307, 6thawk Rd. Shepherd's Bush, W.12.

PRADBURY. 1914, 4h.p., T.T., aluminium dis very sporty, not scratched, like new, guarant perfect, photo: £48.—30, Harold Rd., Upper N wood, S.E. Phone: Sydenham 1284.

19 19 Bradbury 6h.p. Combination, 3-speed c shart gear, coachinit sidecar, complete lamps and hora, etc., in excellent condition; besover £145.—Apply, E. Wade-Wilton, Bramley, Y

Brough

BROUGH 1920 5h.p., brand new, countershaft speed; list price,—Doncaster Autocers, Ltd., D caster.

SOUTH Statfordshire Agents for Broughs, early livery guaranteed. Bedford Garage. Wals 'Phone: 270. Brown.

BROWN Combination: £32; will exchange for Le or lightweight.—Hall, Hockman Cottage, Whetsto London.

BROWN 3½h.p., Bosch, B.B., new tyres and b first-class running order; £20.—Jos. Smith, R cliffe, Northumberland.

BROWN Combination 35/sh.p., 2 speeds, free gine, Bosch mag, new B.B. carburetter and is car, in perfect running order; any trial.—Seen at 7.30 p.m. at 67, Charlotte St., London, W.1. 1250.

B.S.A.—The Walsall Garage, Walsall Booking order for all models; rotation deliveries.

B.S.A. Combination, 1919 Model H cycle, 1915 s car; £125.—Baines Bros., Ltd., Gaiosborong

B.S.A. Medel De Luxe, perfect, new Dunley and tube; £15; ride away.—Fishery Forge; moor Herts.

3 1h.p. B.S.A., 1914, chain drive, 2-speed, fine col 2 tion; £55.—Can be seen at Rosehill, Manor H Sutton Coldfield. [X16]

B.S.A. 1913 3½h.p., 2-speed, K.S., mechanic perfect: £45.-35, Cumberland Rd., South N

B.S.A. 31/h.p., 1913, 2-speed, free engine, hub & lamp, horn, tools, sound order; £55.—Particul Bontle, Hartley Wintney, Hants.

B.S.A. Combination, 1914, 3-speed, kick start, combinit sidecar, lamps, horn, etc., in splendid contion; £99/10.—West, Barford, Warwick.

B.S.A. 3½h.p. 1912 Combination, belt drive, M. ford sident, Canac carburetter, Boson mar., speeds, pedal start; £68.—Mandes*, 100 Gt Poffs., London.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

MOTOR CYCLES FOR SALE. Douglas

3h.p. 1913 Douglas, practically unused during war, 4 new awaiting delivery after completely over-ling by makers, good as new.—Box 4,447, c/o The for Cycle.

OUGLAS 25hp., W.D. ex works 1919, makers colours, splended condition, complete accessories, res; 270.—Willowbunk, London Rd., Bromley, Kent. tone: 1041.

DUGLASES 23h.p. always in stock at competitive prices, open till 7 p.m. week days, 5 p.m. Satur n.-Smith's, 86, Chalk Faron Rd. (opposite Chalk na Tube Sintiou).

D 19 Douglas 25th.p., 2-speed, T.T., excellent condition, not ex-Army, fully equipped; £73; will se 100 miles on receiving £2 deposit.—187, Bristol., Birmingham. [X2117]

D 20 Douglas Combination, brand new, fitted all lamps, horn, and special Easting wind screen, unused; immediate delivery; £185.-2, Nightingale, Lower Clapton.

OUGLAS 25th.p., 2-speed, fully equipped, polished aluminum discs, long copper exhaust, buffer forks, tera' colours, fine condition; £60, or near.—24, South, Newport, 1.W.

OUGLAS 2'dh.p., 1916, uncrated September, 1919, perfect running order, complete; £65; seen by iointment. Somerset; going oversea.—Box 4.449, The Motor Curle. [3918] The Motor Cycle.

D 19 25th.p. Douglas, W.D. model, tools, horn, etc., op 3 s new, mileage under 1,000, owner hought ger machine; £75, or nearest. — Gilliat, Burton (Mark, Kettering, Northants.

OUGLAS 27th.p., not W.D., Bosch, very confortable Brooks saddle, good tyres and lamps, Stewart banical boun, semi-T.T. bans, condition spendid: £6. h.-1, Pendrell Rd., Brockley, S.E.4. [3847]

OUGLAS 25th.p. late 1916, speedometer and watch, long exhaust, footboards, mechanical horn, lighting, and tools complete, as new: a bargain, £90.—Apply er 7 p.in., 30, Falmouti Rd., S.E.1.

DOGLAS, 1920, 4h.p., magnificently equipped with electric lighting, electric horn, bulb horn, lect condition throughout, indistinguishable from r.—Parker's, Bradsbawgate, Bolton. [X2102

OUGLAS Combination, 4h.p., strong and fast, 1913, new lamps, screen, cover, 2 spare tubes i tools, in beautiful condition; £120; bargain.—A. zelman, 74-5, Fore St., Moorgate, E.C.2. [3550]

f Appears Ridiculous to Advertise when you have no stock, but we are giving deliveries to the entity. But the control of the c

O.C.H. have a late model 25(h.p. Douglas, fully equipped, ready for the road,—Fair Offer Car se, 5, Heath St., Hampstead (near Humpstead Station). 'Phone: Hampstead 3752. Hours 9-7, nse, 5, H

OUGLAS, soiled, in crate, with front brake, 3 toolbags, and large despatch rider's case, 65 gns.; 5 second-band machine, £55.—Garage, 5. Edward machine, £55.—Garage, 5. Edward Machine, 18 farm by N.W.i. 3 [3879]

O.C.H. have a 1919 4h.p. Douglas Combination, latest type clutch, fully equipped, ready for the A-Fair Offic Car House, 5, Heath St., Hampstead Humptead Tube Station). Phone: Hampstead (2. Hours 9-7, including Saturdays,

19 Douglas 25th.p., as new, not W.D., Lucas King of the Road, front lamp set, Lucas hack lamp Cower hora, knee grigs, footboards, aluminium in case, nnd tool kit; 290,—100. Shot-up-hill, clerood, NW. Tel.: Humpstend 4588.

3hr. Wor Office Douglas, hear entirely verhanded. It epithed and enomelocd in these work, new Dumblest translations of the state of the

OUGLAS 1919 (late) 4h.p. Combination, P. and H. head light, Miller rear, T.W.R. sidecar, Impps, sys spedometer, Lucas horn, Easting windsteren, new to bet, chain, tube, tools complete, only done 1,200, muctured, storted winter, property of neval officer; 1 gas.—12, Victoria Rd., Charlton, S.E.7. [5292

3h.p. Douglases, frames stove enamelled, transfers, 4 new handle-bars, mudguards, tyres, saddles, ks, and toolbags. We are in a position to supply aediately; prices from 270. Also we can supply y Douglas spares, including one or two frames, ply to R.L., Motor Works, 35, Frogmore St.,

(1956) September and the Douglas Combination, special and cutter state that throughout 2 new multives, Klax and bulb part throughout 2 new multives, Klax and bulb part throughout 2 new control of the Combination of the Com



"All machines quoted below tor immediate delivery and at fixed prices. Do not be disappointed at the prices going up. We can quote you the machine you require, for immediate delivery, at a price that will suit you."

Combinations.

1920 H Model MATCHLESS Combination, Lucas Magdyno, complete with horn, as new. 1920 H Model MATCHLESS Combination, Lucas acetylene lamps Lucas horn, been ridden

10 miles, 1920 A.J.S. Combination, complete with hood windscreen, 3 lamp sets, and horn; all ready or the road; never been ridden. 1920 5 h.p. A.J.S. Combination, screen, no acces-

sories, as new.

dyno, all complete, as new.
1920 AMERICAN EXCELSIOR, fitted Henderson

Elite Sidecar, dynamo ighting, electric horn, Brand New. 1920 INDIAN Combination, fitted with Swan sporting Sidecar, disc wheels all round, T.T. bars, dynamo lighting, indistinguisbable from new Very smart ot. ... 1920 31 h.p. SUNBEAM fitted with Dinky Sidecar,

black and gold to match bike, not done 20m. 1920 3 h.p. ROVER Combination. Brand New. In stock

1920 4t h.p. B.S.A. Combination, all chain drive, not registered.

1920 6 h.p. ENFIELD Combination, Lucas
Magdyno, fitted with hood, windscreen, as new.

Solo Machines.

1920 3½ h.p. | Brand New. LEA-FRANCIS, M.A.G. engine, 1920 31 h.p LEA-FRANCIS, J.A.P. engine, only done a few miles.

1920 41 h.p. B.S.A. complete, as received from

1920 3 h.p. SUNBEAM not been ridden.

overhauled by makers, complete with lamps and horn, splendin condition, 1920 solo A.B.C., 4-speed, brand new, immediate

delivery:
1920 6 h.p. countershaft ZENITH. Sidecar for same if required.

Cars.

Aero Model MORGAN. Brand New. For Immediate Delivery.

HENDERSON ELITE SIDECARS IN STOCK FOR

We are Agents for the famou: DINKY SIDEGAR.
Ali models in stock.

We are London Agents for CASTLE 3-wheelers.

Deliveries commence soon. First-class Combinations Wanted for spot cash High prices paid for good machines.

order, and the second state of the second stat

MOTOR CYCLES FOR SALE.

DUZMO 3½h.p. 2ingle and 28.p. Twin Orders in All Lancashite and Cheshira enquiries to Leach and Seed, 16, John Dulton 85., Manchester (6272

Edmund.

23h.p. Edmund, spring frame, 3 models.- Lists free from Gourlay's, Fallowfield. [8991]

19 19 Edmund, spring frame, 25th.p. J.A.P., Enfield 2-speed gear, complete with lamps, horn, tools, and spares, splendid condition; 65 gns.—Hickson, Moreton St., Winnington, Northwich, Cheshire. [3647]

Elswick.

ELSWICK 2-stroke 2½h.p., perfect condition, foot-boards, hamps, ready to ride away; £35, a read bargain.—Asherott, Robert St., Milford Haven. [3500

Endurance.

19 19 8h.p. Endurance (J.A.P.) and sideen, thorough running order, original tyres; £135.—Coines, 74. Surrey Rd., Bournemouth, [X2139]

Enfield.

Enfrield 1917 2-speed Lightweight, splendid condition; £56.—Tippen, Marden, Kent. [3858] WAUCHOPE'S, 9. Sline Lane, London, E.C.4.— 2½h r Royal Enfield, new 1920 model; £73/10. A LSO 3h.p. Royal Enfield, 1916, mag. engine, wheels, Stuart horn, Lucas lighting; £60.

Enffeld 1916 6h.p. Combination, excellent condition; £128.-11, Sherburne Crescent, Preston, 26567 ENFIELD 3h.p. Twin, 2 speeds, clutch, like new, lamps, horn; £60.-36, Thorold Rd., Illord.

ENFIELD Combination, good condition; £115.-Woodgers Garages, 307, Goldhawk Rd., Shepherd's Bush, W.12.

19¹⁶ 6h.p. Enfield Combination, Lucas dynamo lighting; £135.—626, Lea Bridge Rd., Leyton. [3767]

3h.p. Enfield, 2 speeds, K.S., excellent tyres, and running order: £55, or exchange Sun-Villiers, Excelsior.—Lyon, Soham, Cambs. [X2109]

res excel-Entrield 1916% Combination, lamps, tyres excel-lent, little mileage; consider lightweight in ex-change.—Lewis, Llangloffan, Letterston. [3459]

ENFIELD 3h.p. Twin, 1916, engine No. 02125, 2-speed, kick start, lamps, atc. excellent condition; £65.—30, Cleveland Park Av., Walthamstow. [3539

10 20 Enfield 2-stroke, 2-speed, not run 100 miles, uncared March, P. and H. front and rear, Lucas horn; £68. or offer.—Nutshell, Stonehill, Bordon, [3593 hom; £68. or ofter.—Nutsinen, statement, $E_{\rm NFIELDS.-Place}$ your name on our list without delay, rotational delivery strictly adhered to, no premiums.—Bedford Garage, Walsall. Phone: 270. 55306

ROYAL ENFIELD, £52; 2½h.p. M.A.G. twin ep-gine, 2-speed, kick start, lamps, accessories, spares, perfect condition.—14a, North Rd., Richmood, Survey,

perfect condition.—14s, North Rd., Richmond, Surray,
[3272]
ENFIELD Combination, 6h.p., just delivered, not
ridden, ong-dynamo lighting set, Lucas horn:
£225.—Arnold, 45, Summerland Rd., Minehead, Somer-

E NFIELD Brand New 1920 6h.p. Combination, not registered, Magdyno lighting; best over £220.—626, Lea Bridge Rd., Leyton. Phone: Walthamstow 800. [3766

10 16 Enfield Combination, 8h.p., speedometer, Lucas lamps and horn, new Cameo wind screen, new sidecar apron, etc.; £145.—374, Grove Green, Rd., Leytonstone.

ENFIELD 1920 Combination, can be supplied with trade and touring bedies.—Clifford Wilson Manufacturing Co., 70, Royal Hospital Rd., Chelsea, S.W.3. [3605]

Rensington TOSACOCHE Combination, 1914 in ENFIELD-MOTOSACOCHE Combination, 1914 in drive, lamps, horns, speedometer, etc., just overhauled; 270, or near offer: after 3.—Humphries, 3, Bowster Place, Blackheath, London.

Excelsior.

1920 American Exvelsior, just delivered; 144 gns.
| 1920 American Exvelsior, just delivered; 144 gns.
| 1920 American Exvelsior, just delivered; 144 gns.
| 1820 American

EXCELSIOR 31/h.p., Bosch mag., B. and B. carbur-etter, tyres new: £22; ride away.—Renton, 19, Denmark St., Leytonstone. [3335]

EXCELSIOR Big Six Combination, 3-speed counter-shart, clutch, chain drive hood and screen; 85 gns.—Leemun, Highbridge St., Waltham Abbey, (X1911 BRITISH Excelsior, 1919 (late), 25/th.p., 2-stroke, 2-speed, complete with lamps, horn, leg shields, etc., as naw; 270.—Howe, 16, Gold St., Tiverton.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. B37

MOTOR CYCLES FOR SALE. Excelsior.

7-9h.p. de Luxe Excelsior, excellent condition, com-plete with electric lighting and horn, speedometer, coachhulit sidecar, Cameo wind screen, pillion seat, uggage and petrol carriers; offers.—Illingworth, engi-neers, Kendal.

THE New 1920 American Excelsion represents the best value for money on the market. Book now for early delivery. Fitted with Swan de Luxe sidecar.—Edwards and Parry, 4, Blenheim St., Boud St. Mayriati 2666

fair 2656

A MERICAN Excelsior Combination 7-9h.p., new A MERICAN Excelsior Combination 7-9h.p., new 1917, small mileage, been stored for 12 mouths, engine like new, C.B. sidecar with locker for 2 period tins; what offer over £150.—McKinley, Railway St., 21, 1918.

BRITISH Excelsior 8h.p. Combination, 1920 model. Lucas dynamo lighting, electric horn, 2-seuter sidecar, 2 wind screens, diese all wheels, spare wheel junused); first over 2200 seenres.—D. R. Lloyd, Mindy, Resolven, near Neath.

Fafnir

3½ h.p. Fainir, U.H., Amac, new Clincher de Luxe tyres and tubes, overhead valve, ride away; £28.—
 76, Western Rd., Southall, Middlesex.

FN

F.N. 4-cyl. 5-6h.p., good condition, ride away; £35.—63, Waterford Rd., Walham Green. [3283] CROW Bros., Guildford, F.N. agents for the 7h.p. 4-cyl, and 2%h.p. lightweight. Book your machine

19¹⁴ F.N. 7h.p.*4-cyl. Combination, 3-speed, clatch, shaft drive, Bosch mag., good condition; 80 gms.—[3310

4 CYL. F.N., 5-6h.p., 2-speed, mechanically sound. good tyres; £45.—C/o Hogben, The Garage, Upstreet, near Canterbury. [3594

5-6h p. 1909 17006 F.N.; £30; T.T. position, sounds pretty, can move; trial, photo, etc.; no offers.—31, Cressider Rd., N.19. [3640]

F.N. 4-5h.p., drop frame, slight adjustments, plated rims, less front tyre; also Humber combination; before 7.—Coote, 12, Broadway, Streatham. [3309] OLIVOS Converted F.N. Coachbuilt Combination, 5-6h.p., 4-cyl., 2 speeds, hand chutch, latest Bosch, Amac, electric lighting, speedometer, discurbed, hood, apron, valances, smartest F.N. on the road: 290-Cq., 63, 800n Rd., Brixton, S.W.2. [3892]

1914 7h.p. F.N. and Millford Sidecar, just re-enamelled, new tyres and tubes, new Bonniksen speedometer, new Ward and Goldstone electric light-ing set, engineer owned, ridden 8,800 miles, perfect condition; 2155.—206, Parliament 8t., Derby. [2210]

Gamage.

19¹⁹ Gamage, Villiers, Albion 2-speed, Amac, etc., as new; any trial; 248.-17, Uxbridge Rd., Hanwell, W.7.

Grandex

GRANDEX-PRECISION 4h.p., 3-speed, comfortable wicker sidecar, good condition, lamps, etc.; £55.—C. Lawrence, 40, Buckingham St., Aylesbury. [3420]

Harley-Davidson.

HARLEY-DAVIDSON, all models.—Official agents,
The Motor Cycle Mart Stafford St., Walsall. HARLEY-DAVIDSON New 4h.p.; best offer over £160 secures.—Hughes, Buller Barracks, Alder-[3531]

HARLEY-DAVIDSONS, all models, immediate de-livery,—Mandes' Motor Mart, 100, Paris St., Exeter. [3781]

lamps, 1915 Harley-Davidson Combination, 3-speed, lamps etc., in good order.—Alf. Sharpe, Gosberton Spalding.

BROOK Bros., Burnham on Sea, can offer all model
Harley-Davidson from stock; write to day for
particulars. [1261]

HARLEY-DAVIDSON, 1916, 7-9h.p., torpedo side-car :£130/10, nearest offer. — Wargent, 191, 1918 Rd., Oxford.

19 18 Harley-Davidson, condition as new, sidecar new; £150; exchange.—136, Lavenham Rd., Southfields, S.W.18. [3681 electric

HARLEY-DAVIDSON 1915 Combination, electric model, in splendid condition; £35.-54, High Rd [349]

19¹⁸ Harley-Davidson, 7-9h.p., perfect, and indistinguishable from new; £120.—Letters only, Deller, 16, Camden Gardens. Shepherd's Bush. [3851]

HARLEY-DAVIDSON, 1919 (Nov.), 7-9h.p., all accessories, Mills-Fulford sidecar, all Al, owner got ar, what offers:—McNamara, Westlands, Mansfeld. (X2063)

10 20 7-9h.p. Harley-Davidson, not run 100 miles, perfect condution, speedometer, all lamps (acctyclene), horn, Rennoc coachoulis sidecar; sole reason for sching is ill-health; any trial or inspection.—Apply in first instance to Taylor, Cyole Agont, Kettering, [3410]

Tyre Specialists

THE MOTOR CYCLE.—Supplement.

REGULAR STOCK LINES The Premier House for Genuine Bargains. 264-266. Vauxhall Bridge Rd., Victoria, S.W.1.

Telephone: Victoria 6553,



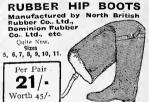
BELTS	IN STANDARD LENGTHS					
Avon Pedley	\$in. 1/3	1/7	Zin.	rın.	ılın.	Prices
Dunlop— Flat Top						per Foot.

RETREADING

Heavy 17/6 Medium 15/-All casing repairs are

charged extra according to the description of repair. Repairs are executed at our own works under expert supervision.

SPECIAL ALLOWANCES FOR OLD COVERS.



"A BOON TO THE MOTOR CYCLIST."



MOTOR CYCLES FOR SALE,

Harley Davidson. 19 20 7-9h.p. Harley-Davidson, mag. model, mil 1,500, condition perfect; accept £180; oper expert inspection.—G. M. Cooke, Gweunap, Nye Lane, Bognor.

HARLEY-DAVIDSON, 1913, Gloria sidecar sp meter, electric lamps, mileage under 3,000 splendid condition; £200.—A., Moorlands, Heat Av., Wohing.

HARLEY-DAVIDSON Combination, 1920, wheels, every accessory, including screen, and cover, etc.; £230.—Harvey Hudson's, South World (next the George Hotel).

19 15 Harley-Davidson Combination, recently hauled and enamelled, Tan-Sad, wind schood, all in perfect order; £140.—Cornelius, 34, Vage Park, Manthorpe Rd., Plumstead. WAUCHOPP'S, 9, Shoe Lane, London, E.C. 7-9h.p. Harley-Davidson and sideear, 1919, 8 did condition, £195; also 7-9h.p. Harley-David Model J new 1920 model, for immediate deli £191/2/10.

1918 Harley-Davidson 7-9h.p. Coachbuilt Comton, splendid condition, electric lighting, chanical born, 3-speed, kick start, tyres as new trial given and open to expert examination; 182165; seen week-ends London-Apply Harley, 4,273, c/o The Motor Cycte.

Hazlewood

5 ·6h.p. Hazelwood Combination, j £136.-12, Bridge St., Cambridge.

HAZLEWOOD-J.A.P. 4h.p., Combination, 3-s complete, accessories, splendid condition, as seen after 6 p.m.; £35; a bargain.—21, Ritherton Balham, London, S.W.17.

HAZLEWOOD 1920 5-6h.p. Combination of only used for a few miles; a sound combination the right price, £186.—Elce and Co., 15-16, Bis gate Av., Camomile St., E.C.3.

WAUCHOPE'S, 9, Shoe Lane, London, E.C. 8-10h.p. Henderson combination, 4-cyl., 2-s, free engine, handle start, all accessories; £125.

HENDERSON 10h.p. 4-cyl. Combination. 7 electric light, in thorough good order, any typrice £150.-21, Wheathill Rd.; Anerley, S.E. 'Physics & 150.-21, Wheathill Rd.; Anerley, S.E. 'Phys H.B.

EGERTONS, Northgate, Ipswich, can give del H.B.—Phone: 962.

Hobart

19 20 Hohart 2-stroke, 2-speed model, for delivery.—12, Bridge St., Cambridge. for imme

Humber

BEDFORD Garage Walsall, of Humbers; rotational delivery district agents

19 14 Humber 21/2h.p., splendid condition; Watson, 4, High St., Windsor.

£ 32.-3½h.p.p T.T. Humber, good running order cheque secures.-J. H. Bradley, 16, King Ludlow.

3 1h.p. 1913 Humber, single speed, perfect coading tools, spares, accessories; £45.—Goode, 652, Addale Rd., Sheffield.

HUMBER 31/4h.p., 2-speed, free engine, Bosch wicker sidecar: £36; after 5.-46, Bawdale East Dniwich, London, S.E.22.

HUMBER 1912 3½h.p., handle starter, free et 2-speed, with sidecar, ready to ride away; £40.—Beadell, 8, King St., Maidenhead.

HUMBER Combination (2-speed), handle start, built sidecar, powerful and smart: \$55.-67, bury St., Coldharbour Laue, Camberwell.

4 h.p. Humber, Mills-Fulford sidecar, wind etc.; £85.—Write, 113, Empress Av., Ilford.

H UMBER 2¼h.p., good running order, 3 non-tree coils, heavyweight frame, minus front forks, 6 Multi gear; bargain, £25 the lot.—Tickner, Brom

EARLY Delivery of the Celebrated Humber made from the accredited exects.—The Lankester gineering Co., Motor Cycle Dept., 63, Brighton Surbiton

HUMBER 1916 6h.p. Combination, fully equi-splendid condition throughout; £125; a half down, or exchange.—Bunting's Motors, W

1914½ Humber 3½h.p., as new, clutch, kick accessories; nearest 50 gns.; stored 4 years: 2 anywhere, or sidecar.—3, Victoria Gardens, Lad Rd., W.11.

H UNBER 31/2h.p., 2 speeds, handle start, B mag., B. and B. lamps complete, born, protools, running order; #£256.—Scott, Estcourt Ter Newmarket.

HUMBER 254h.p. Twin. 3-speed, hand and clutch, recently rebushed, new pistons and splendid running order; best over £45.—Tray Uxbridge Rd., Slongh,

New Hudson,

W HUDSONS, immediate delivery.-A. J. Young and Co., Ltd., Newmarket. Phone; 214, [0193] W HUDSON Lightweight, 3-speed, chitch, good condition: £33.-57, High Rd., Wood Green.

W HUISON 1917 2 h.p., 2-speed, lamps, etc., good condition; £45.—Cooper, Hawthorpe, Bourne, 5285

W HUDSON 1919 Combination, splendid con tion.-109a, St. James's Rd., Croydon, 'Phon

W HUDSON 25(h.p., 1917, 3-speed clutch, tyres good, Bosch mag., perfect condition; ±40, or -83, Croydon Rd., Auerley.

hp. New Hudson-Jap, 3 speeds, clutch, new heavy Dmilops, mechanically perfect; bargain, 256, or at offer.—44, St. Donatt's Rd., New Cross, 8.F. [3361]

[356] [37] July New Hudson 4h.p. 5-speed Combination, 2 perfectly new tyres, 3 lamps, horn, spare new tools, splendid condition; nearest £150.—Hirst, 12, William St., Huddersfield. [3432]

W HUDSON Cancibnit Combination, late 1-15, 3-speed, kick start, countershart, thoroughly over-d and stove enamelled and painted, like hew; £120, 4, Ashford Rd., Eastbourne.

1, Ashford Rd., Eastbourne.

20 New Hudsons, both T.T. and tourist models can always be inspected at our showrooms; onces and any investigation by return; good ser and quick delivery.—Paskell, The new Hudson (Gi, Pipott, 44, Finsbury Pavenent, E.C.2. Ubans. 1a, Loudon Rd. Thanet; 81, High St., seate.

New Imperial.

OW Bros., Guildford-New Imperial-Jap agents and expert repairers since 1914. [2066]

W IMPERIAL, 1914, 2 h.p., 2-speed, good dition; £42,-54, Palace Rd., Streatham Hi AUCHOPE'S, 9, Shoe Lane, London, E.C.4.— 2½h,p. New Imperial, new 1920 model; £74/11.

TIMPERIAL-J.A.P., 1920, 2-speed, h. clutch, kirk start, 300 miles; first £70.—Chamberlain, Ashby-de-la-Zouch. [3472

W IMPERIAL, 2½h.p. J.A.P. engine, suit short man or boy; £55, or nearest offer; deposit.—Hares, Lurgashall, Petworth. [3263

W IMPERIAL Combination, 8h.p., new November, 1919. Easting screen, Lucas lamps, tools, speed: π: £153; trial.—Baldwin, Abbott's Ann, Andover.

W IMPERIAL Combination, late 1919, 8h.p., 2-senter sidecar, hood, screen, speedometer, whole in lass condition, small mileage.—Seen Wray Pink te, Reignte. [3328]

W IMPERIAL-J.A.P. 8h.p., March, 1920, and Henderson Elite sideour, electric light, 2 accumu-, wind screen, speedometer, horn, spares, perfect; gas.—May, Nether Edge Rd., Sheffield. [3622

20 6h.p. New Imperial-Jap Combination, delivered last March, mileage 200, complete with all h, horn, Tan-Sad seart, is unscratched and ew; any triel given; £160.—West, Oaston Rd. at the complex of the combination of the co

Norton.

AUCHOPE'S, 9, Shoe Lane, London, E.C.4.
4h.p. Norton and Swan Sidecar, 1920 mo.l.
t condition, as new; offers.

RTON T.T., 1917, P. and H. lamps, Lucas hom, knee grips, Dunlop tyres, all in perfect order; rial; £85.—Ashworth, 647, Attercliffe Rd., Sheffield.

U. 1914 Combination, Millford, speedometer, etc. good condition; £75.—'Phone: Hamp. 7822. [3534

1.p. V Twin N.S.U., 2-speed, Bosch mag, B and B carburetetr, excellent condition; price £28. 5 p.m. 178, Roman Rd., Bow, E. 186, 5 p.m. 18680.

N.U.1.

FIT.—We are sole wholesale and retail agents for Staffordshire, and can supply these famous machines budy delivery.—Walsall Garage, Walsall. Tel.: 444
[722] SPARROW, Ltd., Osborne Garage, Yeovil, official N.U.T. agents, now booking orders for early de--Write or 'Phone for particulars. Tel.: Yeovil 18395

W N.U.T., Magdynamo, horn, knee grips, tuned by J.A.P.'s, never ridden; price £178.—'Phone: ers Green 828. Maxwellton, Chase Side; South-N.

ROPSHIRE.—N.U.T. sole agents for the county; demonstration model in stock. Ordere booked in 7 rotation for early deliveries.—James Garages, h Stretton.



Put this Oollar'in Your pocket

E save you 5/- on every pair of Ustikop, you buy.

You pay 9/- to have your boots soled twice with leather and rivets One pair of Ustikon cost 3/9. and will outlast two pairs of leather soles. Not only do you effect this economy, but the boots become ABSOLUTELY WATERPROOF



Complete with full Sol-fix directions Post Free size when ordering Please state

Elite Rubber Co., Ltd. Tyre Specialists

Vauxhall Bridge Rd. Victoria, S.W.1.

MOTOR CYCLES FOR SALE, N.U.T.

N. U.T. 1920 Model 35/h.p., Lucos dvaama lighting, electric horn; 140 gms, complete.—Authorised London exents, Vivian Harde and Lane, Ltd., 24. Woodsteek St. 16ff Oxford St.), Bond St., W l. "Phone: Maylife 555. Book now for early delivery" [0080]

О.К.

O K. Junior, brand new, 2-speed, 1920 model, stack; list price, £65,-Tippen, Marden, Kent

1920 O.K. Villiers, 2-speed countershaft, in stock; £65,—Frank Whitworth, Ltd., 139, New St., Birmingham. (X2156

Biranigham.

F. O.C.H. have a 1919 O.K. Junior, Mark V., ready
for the road.—Fair Offer Car Home, S. Heath
St., Hampslead (rr., Hampslead Tube Station).
Phone: Hampslead 3752, Hours 97, [3613]
[3613]

Omega

19 20 Omega-Jap, 2-speed, not ran 100 miles, perfect; 63 gas.—Cartwright, Springbank House,
[3355]

19 20 254h.p. Omega Model C., 2-speed, clutch, kick starter; list price 74 gns., plus 26/- carri-Taylor's Garage, Falmouth. OMEGA-J.A.P., 2-speed and model de luxe; at 71 and 79 gns, respectively; early deliveries.—Lloyd and Son, 29, Station St., Lewes. [7966]

P. and M.

P. and M. 3h.p., reconstructed; £30,-58, Salt Manningham, Bradford. [3

P. and M. 2-speed, free engine, accessories; £33; after 7.-Wildcroft, Elmstead Woods, Kent. [3498]

P. and M.-Brighton, Hove and district; prompt livery.-Turpin's, 29, Preston Rd, Brighton

P. and M. Combination; £50, or nearest offer,—Owens, Park Villa, Newtown, Montgomeryshire, [3645] 19¹⁷ P. and M., new condition, lamps, etc., semi T.T. bars; £75.—Bide, Highlands, Farnham,

P. and M. Combination, 1919, all accessories, cellent condition; £115.—View 25, Ladbroke

P. and M. Coach Combination, Dunlops, very good condition; any trial; £65.-60, Caithness Rd., Streatham Rd., Mitcham.

1920 P. and M., latest type, ratchet hand brake, brand new and unregistered; £130.-2, Nightingale Rd., Lower Clapton.

1919 P. and M. Combination, perfect condition, complete, lamps, tools, new tyres; £105.-94, Southwark Park Rd., Bermondsey. [3660 P. and M. Reconstructed W.D.; £78.—Clifford Wilson
Manufacturing Co., 70, Royal Hospital Rd.,
Chelsen, S.W.3. Kensington 7113.

19 19 314h.p. R.A.F. P. and M. Combination, used: £130; to be seen after 8 p.m.—Lands 33, Lancaster Rd. Notting Hill, W.11.

19 19 P. and M. Combination, condition perfect, ex-pert examination invited, private owner, lamps, etc.; £130.-26, St. Edwards Rd., Reading. [3719

19¹⁹ P. and M. Combination, as new, new tyres all round, 2-speed, K.S., splendid puller, perfect order; 100 gns.—91a, Drayton Gardens, Kensington, 13366

1358

19 19 7. and M. coachbuilt siderar, wind screen, extra luggage locker, electric lighting (accumulator), spare wheel, speedometer, Tan-Sad, numerous spares, 1220.—Rev. Arrowsmith, 17, Arbury Rd., Cambridge, 13289

PHELON and Moore, ex-military stores, overhead and sent on approval, £78; complete with B.S. No. 2 sidecar, £115; trade supplied.—Mandes', 10 Gt. Portland St., London. Also Paris St., Exeter

Gt. Portland St., London. Also Faris St., Exceeding the Combination, Nov., 1919, enzine 3826.

Paragon C.B. sidecar, Lucas laups, lorn, Easting streen, apron, mat, foot pumit, tools, spares, 700 miles, fully insaired, indistinguishable from new 1125, offers, and terr 7, or week-end.—F.E., 34, Fordel R.L. Cair 2538.

P. and S.
WAUCHOPE'S, 9, Shee Lane, Fleet St., London.—
P. and S. 2-stroke, 2-speed model, Villiers engine, £69/15; Kick start and clutch models, 277/10; from stock.

Peugeot.

PEUGEOT 3h.p., completely overhauled, in good condition: £55.—Cox, 46, Parkhill Rd., Croydon. [3477

Portland.

PORTLAND, Sept., 1919, 25th.p., 2-troke, 2-speed; 258-175, Morris Green Lane, Bolton. [3348]

Precision

Precision
T. T. Precision, 4h.p., Druids, Basch, footrests, very fast; £35.—63, Solon Rd., Brixton. [387]
Lh.p. Precision C.B. Comb.nation, 3-speed, clutch, good condition; £85.—175, Morris Green Lange, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1384, 1 Bolfon.

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue. Ball

Premier.

PREMIER 2½b.p., 1914, 2-speed, clutch, spares; #30. -11, Lalor St., Fulhan: Palace Rd., Fulhan: [3582] PREMIER 1914 24h.p., 3-speed hub, foot clutch, perfect running order; £48.-63, Bayham Place. [3390]

PREMIER 35h.p., good appearance, 3-speed, Bosch mag., B. and B., excellent condition: hargain, 55 gns.—Cathro, 65, London Rd., St. Leonards. [3516]

PREMIER Combination 31/4-h.p., 3-speed and clutch, lamps, complete, good tyres and helt, ready for road; £75.—115, Grove Rd., Walthamstow, E.17. [3621]

PREMIER. 7-9h.p., 2 speeds, free engine, dutch free covers and tubes, lamps, horn, Tra-Sai eddle, which was concluded to the constant engine, with Swan coachbuilt sidecar; 55 gns.—Apply, after 6 p.m., A. Heroe, 158, Lynton Rd., Upper Grange Rd., Bermondery, S.E. [5553]

Priory.

Priory.
WAUCHOPE'S. 9. Shoe Iane, London, E.C.4.—
2½h.p. Priory 2-stroke, new 1920; £67/5/171

Puch.
Puch, 2½h.p., Bosch, B. and B., T.T. bars, lamps, and horn, fine condition; 32 gas., or exchange good 2-stroke; after 7.—153, Pembroke Rd., Seven, Kings, Illord.

Quadrant.

QUADRANT, 3h.p. new hand controlled Mabon clutch, B. and B., spring forks, new belt, wants battery, good climber and fast; £16.—Harold Dooley, 5, Clarendon Rd., South Woodford, E.18. [3882]

1916 Quadrant Combination, 4½h.p., conntershaft, kick, chain drive, Canoelet sidecar, wind screen, lamps, Juggage carrier, ewn chain and Dunlop, gennine machine; 285—Bird, Goddard Av., Swindon. [3453

WAUCHOPE'S, 9. Shoe Lane, London.—New Quadrant combinations and solo machines, aspeed, clutch and K.S. models, all-chain drive, 1920 models; book now; deliveries in 10 days.

QUADRANT 1820 Models at List Prices, be seen inverse; solo, £105; combination, £125, 0 der from the firm who have been connected with the present-day Quadrant from its inception; we deliver in perfect tune, and back up the sale by the highly specialised service we offer. The Quadrant is of Rolls-Royce quality at Ford price—Clifford Wilson Manufacturing Co. 70, Royal Hospital Rd., Chelsea, S.W.3. Kensington 7113, 3507

Radco.

R ADCO 2-stroke, perfect, engine No. 15285, aluminium footboards, tyres, belt good; £30.—391, Brockley Rd., Crofton Park, S.E.

RADCO 2-stroke, P. and H. lamps, Lucas horn, speedometer, Amac, splendid running condition; £33.—Johnson, 12, Wyvis St., Poplar, E. [3499]

Regent.

SEND Postcard for particulars of Regent 5-7h.p. flat
twin to us. We can give earliest deliveries of
these machines.—Elliott Bros. and Stevens. Cambuslang,
Lanarkshire agents.

R EGENT 5-7h.p. Flat Twin; earliest deliveries.—Full particulars from The Lancaster Motor Co., 158, Norwood Rd., West Norwood, S.E., distributing agents for South-east London.

Reading-Standard.

Rending Standard.

19 20 Brand New Reading Standard Motor Cycle
Combination, 10h.p., electric model; best offers
wanted, or exchange (adjustment) for a car; seen after
2 any day.—8, Brackley Rd., Beckenham (hall hour
from London Bridge).

Rex.

TWIN Rex, Bosch mag., minus crank case; £15, or will sell parts.—20. Cooper St., Nottingham, [3854]
REX, 3½h.p., Dixie, Amac, good tyres, ride away; £26.—76, Grange Walk, Bermondsey, S.E. [3884]

REX 4h.p., B.B., Bosch, nearly new tyres, very fast: £29 secures.-203, Carlton Rd., Worksop. [3584

WAUCHOPE'S, 9, Shor Lane, London, E.C.4.—6h.p. Rex and sidecar, 1912; £80. [8460 5-6h.p. Rex. 1911, 2-speed, clutch, smart sporting 'bus; \$50.-Root, 79, Huntingdon Rd., East Finchley.

REX 6h.p. Combination; £80; with spares.—Mr. F. Green, 106, Coningham Rd., Shepherd's Bush, [3566]

REX 31/2h.p., running order; price £22.—Particulars apply, Neilson, 29, Trizell Av., Blaydon-on-Tyac, Co. Durham. (D) [3279]

REX Reyal Combination. 6-8h.p., 1912, 2-9-ped, ride away; 275.—Raven, Halstead, Essex. (5567)

10 14 Rex 8h.p., clutch, handle stuter, very fast; 260; with new C.B. sidewar 285.—Woodgers Girress, 507, 60dlawk Rd. Shepherd's Buch, W.12, (5320)

3½ h.p. Speed King Rex, powerful, mag." just over-bauled Simms, 160 lbs., idle since 1914: trial; £30.—J. Panes, Hyde Place, Llanhilleth, Mon. [X2033]

AUTOCAR COL

We have large stock of 7-9 Powerplus

Machines of recent date.



The whole of these have been thoroughly overhauled and are ready to ride away.

Price £125

Special Terms to Agents.

Write, 'phone, or call.

216, Gt. Portland St. LONDON, W.

Phone No.: Mayfair, 4535.

MOTOR CYCLES FOR SALE.

REX Motor Cycle and Sidecar, 6½h.p., in good ning order, just overhanded. Bosch mag., fre gine; price £50.—Beeston, Cholmondeston, near jord, Cheshire.

6 b.p. 1913 Rex Twin, 2-speed, handle starting, 4 Splitdorf, adjustable pulley, and handle lamps, horn, etc., stored 4½ years, splendid cond £65; bought lightweight.—Box 4,420, c/o The 1 Cycle.

Rex-Jap.

Rex-Jap, 1915, T.T., Bosch, B.B., Lucas length of trial, \$\frac{\pi}{\pi}\$ And the grips, fast, sporting bus, good tyres belt; any trial; \$\frac{\pi}{\pi}\$ Barnes, 5, Albert St., M. Cumberland. (D)

Ombierand. 19 14 hp. Rex-Jap de Loue Combination, al closed chain drive, 5-speed gear, box, kick completely corrhanded, swelled the complete combination of the combi

ROVER T.T. 1919, condition like new, fine

NEW 1920 Rover Combination, 6h.p., latest im ments; £200.-Young, Misterton, Somerset. FOR Sale, 1919 twin Rover and sidecar, as go new.—Messrs. J. L. Balmforth, Park Rd. G

ROVER 5-6h.p., Twin, conntershaft, kick st just delivered; list price.—Knight, 51, Hig Reigate.

ROVER 3½h.p., 1919, 3-speed, clutch, good tion: hest offer over 2100.—J. Currie, Uni

ROVER, T.T., 1918, fast, new tyres, lnmps, hor cessories, little used, condition as new; Collins, Ranby, Lincoln.

19 16 Rover Combination, 31/sh.p., C.A.V. lie usew Cameo wind screen, etc.; £115.—374, Green Rd., Leytonstone.

ROVER 5-6h.p.-Twin Combination, Dec., 1919, age about 500, Lucas lamps, horn, condition seen evenings; price £210.-57, Argyle Rd., Ilf

ROVER, 31/2h.p., new April, 1919, 3-speed or shaft, clutch, K.S., Bowden, extra air, and horn; £95, offers.—Brown, Beechcroft, D

ROVER, 31/2b.p., T.T., Philipson, disc wheel March, 1920, lamps, etc.—Fisher, Windsor Garage, Brighton Rd., Croydon. Phone: 6519.

1920 3½h.p. Rover Combination, 3-speed ger kick starter, clutch, etc.; list price £1721119 £3/11/9 carriage; first cheque secures.—Taylor's age, Fallmouth.

19 20 Rover 31/h.p. Combination, new, imm delivery, 3-speed countershaft, latest all drive, latest Rover sidecar; maker's price.—Garage, Unbridge. ROYER 1919 5-6h.p. Combination, 3-speed, drive, complete with accessories, and in storder; £175.-Elee and Co., 15-16, Bishopsgat Camomile St., E.C.3.

Camonine St., Ecol.

ROYER (Nov., 1919), 3½h.p., 3-speed counter semi-T.F. bars, new condition, not ridden 100 offers over £105 wanted.—Richards, Baldhu, Wind., Stockton Heath, Warrington.

3 1h.p. T.T. Rover, 1914 short whelbase mod 2 cently overhauled, enamelling, plating exclectric lamps, Klaxon, fast, sporting 'bus; £5. Marmora Rd., Honor Oak, S.E.22.

L ATE 1919 5-Sh.p. Rover, Bonniksen, electric literative literative for completely equipped, sporting ear; £155 solo, £185 combination, or nearest in Newsome, Ouklands, Earlsdon, Coventry.

£200.—1919 Rover motor cycle and sidecar, delivered March this year, only done few hiles, complete, with all lamps, Jones speedo Stewart, Warner, and Cameo wind screen, et vately owned.—Seen at Temeside Garage, Ltd., L

Royal Ruby.

EGERTONS, Northgate, Inswich, can give en

WAUCHOPE'S, 9, Shoe Lane, London E 8h.p Royal Ruby and sidecar, late 1919 equipped, all best accessories; offers.

ROYAL EUBY 8h.p. Combination, delivered 1920, lamps, horn, splendid lot; only tried miles; owner buying car; £175, hargain.—Dum Urchford, Devizes, Wilts. miles; owner buying Urchfont, Devizes,

Rudge

WAUCHOPE'S, 9, Shoe Lane, London, P. 31/2h.p. I.O.M. Rudge, 1919, £105.

RUDGE Multi 1916 I.O.M., perfect condition

B42 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

Triumph.

Triumpii.

Gloria wicker sideaur, tyros excellent, engine freet, electric light, necessories; best offer over £70 gares. Bedford.—Box 4,444, c/o The Motor Cycle.

18-1919 Trimmph, countershaft, splendid condition,
big spinoket, exceptionally last, complete with
can accessive and Sevanti; any tink 2105, or heat
6x-Tibbetts, May Villa, Western Rd., Stou XX 916
VO.C.fl., have a 33-hp., Trimmph, Philipson, pulley,
in grand order, ready for the road—Fair Offer
House, 5, thenth St. Hampstend for. Hampstend
handles Saturdays.

ZER 1919 Trimmph.

ATE 1919 Trimph, counter-haft, new condition,
Miller lamps, mechanical and halb horis, Cowe
is a date, and usual accessories; £110; meet any
in, Stoke Mandeville, G.C.R.—Box 4,417, c/o The
tor Cucle.

Velocette.

tVRIL WILLIAMS, for early delivery of Velocette.

-Chapel Ash Depot, Wolverhampton. (2265)

Verus.

ERUS, new, used demonstration, 2½h.p., clutch, kick the starter; 75 gns.—North End Garage, Full St., 13382 rby.

y. EX G. MUNDY can give immediate delivery of Verus; caquiries invited.-1, Duko St., Rich [0208

FERUS, the 254h.p. 2-stroke that pulls like a 4h. immediate delivery from stock, 2-speed, clutt start; £80.—Cleare and Lowe, 125, High 8 colwich.

DELIVERY from stock, 2½h,p. 2-speed K.S. Verns markines. A serious touting mount. Send us are enquiries for other models.—Elliott Bros. and evens, Cambuslang, Glasgow. [0125]

Victory.

'ICTORY Matchless 8h.p. Combination, new Whitsuctide, 1919, lamps, horn, spare wheel, tyre, ergge grid, excellent condition; £160.—Crowther, 13, † Lane, Brighouse, York:.

Vindec.

'(NDEC New 254h.p. 2-stroke, 3-speed gear box 1926; £73.

LSO Twin 5-6h.p. Combination, 1914, 3-speed Sturmey-Archer hub with pedal start, handsome as sidecar with dickey seat, stormproof apron, apped with lamps, electric horn; £75, no offers—minster Garage, Upminster, Essex.

'INDEC 5b.p. Twin, 2 speeds, coachbuilt sidecar, in good order.—Sanders, Fuzze Farm, Elton, terboro'. [X1668] FINDEC 5h.p., 2-speed, and coach sidecar (new body);
- £65.—Halifax Motor Exchange, Union St. South

b.p. Vindec, Bosch, B. and B., spring forks, engine, running order; £28. - 14; Phœnix

Wilkinson.

VILKINSON Combination, 4 cyls., W.C., 3-speed, fully equipped; £130, or exchange lower power d cush.—92, Blyth Rd., Leyton. [3512

Williamson.

VAUCHOPE'S, 9, Shoe Lanc, Lendon, E.C.4.—
Sh.p. Williamson combination, 1914, w.c.;
[8457]

VILLIAMSON Combination, 1916, 8h.p. Douglas w.c. engine, thoroughly overhauled, C.B. sideon, peeds, K.S., lamps, Kluxos, speedometer; owner lury-car: twree very good; whole machine first-cluss farm 6803.—30, Versker Rd., Kensington, W.14.

Wolf.

912 2/2h.p. Wolf, m.o.i.v., new tyre, helt, runn order. -P. Fairview, Tonbridge. [37]

VOLF, 2-stroke, 1915, splendid condition; £35.— Lamberhurst, Priory Av., Southend-on-Sea. [3280 VOLF.—All 1920 models, delivery within one month at list prices.—J. Trevor, 32a, George St., Han-r Sq., W.1.

9 15 Wolf 23th.p., 4-stroke, sound running smart appearance, Miller lighting set; 238. la Laurels, Cowley, Oxford.

916 21/h.p. 2-stroke Wolf, new 1919 engine, new E.L.C. magneto and Dunlop belt; bargain, £35, dee, Chapel St. Ibstock, Leicestershire. [X2070]

TOLEY A.D. and Wolf-Villers.—We are sole con-cessionaires for London and the counties of iddleses, Suntry, Sussex, Ken, and Essex, Sub-cits warded. All models always in stock for immediate terry, Tel.: 6626 Museum.—A.S.C., 60, Montiner W.I. [3426]

Wooler.

COOLER 25th.p., delivered last week, lamps, horn; \$100, or nearest offer.—Currie, 35, Jesus Lane, abridge.



THE MOTOR CYCLE.—Supplement.

We have IN STOCK ALWAYS

MACHINES

(Solo and Combination Models)

of the best makes for IMMEDIATE DELIVERY

It is decidedly to YOUR ADVANTAGE to deal with securing not only IEDIATE DELIVERY. IMMEDIATE but a WIDE CHOICE OF MACHINE. For example. our Stock includes:

A.B.C., ARIEL, ALLON BLACKBURNE, 4 h.p. 4 h.p. DIAMOND, EDMUND, J.A.P., ENFIELD Lightweight INDIAN POWERPLUS, Solo or Combination, IVY Light-weights, L.M.C. Combinations NEW HUDSON Lightweights, NEW IMPERIĂL, Ŏ.K., SPARKBROOK Lightweights, WOOLER, CEDOS, SUN, HOBART ETC.

Also a few Shop Soiled 1920 Machines at prices which represent

SPECIAL VALUES



London Road, Bicester, Street, Oxford.



MOTOR CYCLES FOR SALE.

Zenith

ZENITH 6h.p. Combination, 1919, like new, a real's line machine; £155,-'Thone: Hamp. 7822. [3538 ZENITH 1916 8h.p. Countershaft Touring Combination, overhauled, must well; £125; evenings.—30, Chandos Rd., Cricklewood. [3657

ZENITH T.T., 1915-16, 4h.p., single, in good c tion, very fast; £65,-Apply after 6 p.m., M D. Farmer, Woodbank, Erith, Kent. al condi-

ZENITH-GRADUA, 8h.p. J.A.P., clutch, kick start, 2-scatter sidecar, overy accessory; consider ex-change,—12, Letroy Rd., Shepherd's Bush. [376]

ZENITH Combination, 8h.p., 1915, K.S., and cl in first-class order; £120,-Harvey Hude South Woodford (next the George Hotel).

19 16 Zenith 4-5h.p Twin, clutch, kick start, new clother compy succear, new electric lamps, very smart and sporty; £105.-374, Grove Green Rd., Leytonstone.

ZENITH 1920 5h.p. Spotting Model, twin, perfect not done 100 miles, owner bought combination; lost offer over 2130 secures.—Box 4,415, clo The Mater Cycle.

ZENITH, bought new last year and not ridden 200 miles, 3½h,p., as new, lamp, hom, begshields, etc.; 90 gns., or near offer.—B. Clifford, Che-tal, Dursley, Glos.

ZENITH-GRADUA, 1914, J.A.P., B. and B., Bosch, lan.ps, Klaxon, spring pillion seat, good Dunlops, mechanically perfect; £60.-66, Blackthorn St. Bow, E.S. [357.

ZENITH 4½h.p., 1918, J.A.P. engine, Gradua gears, Machanically perfect, £40; sidecar, £7/10; together £45; any trial 4 up.—Marks, 121, Acton Lane, Chiswick, W.4.

ZENITH Combination, 5-6h.p. J.A.P. engine, clutch, kick start, chain and helt drive; owner too nervous to drive; £115.-57. Kenbury St., Coldbarbour Lane, (3519)

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. Zenith and Sidecar, 1915, dutch, and kick start, £115; also new 1920 8h.p. Zenith; immediate delivery, £154.

1914 Zenith-Gradue. 6h.p. J.A.P., countershaft car, all accessories, tyres as new, thoroughly overhauled and re-namelled; £125.—Gibbins, Friars Walk, Leves, Sussex.

1830 Zenith, fib.p., clatch, kick starter, sportine Swun Levi altered to match, counfielts equipped with best accessories regardless of cost, spare tree, complete assumee, purchased February, condition as new, mileage under 1,000; nearest offer to 200 gns.—Warren, The Bungalow, Beckton, E.16.

Ladles' Motor Cycles.

Ph.p. Lady's Minerva, Bosch. Amac, in good running order; £24.-76, Western Rd., Southall, Middle [3793

ADY'S Douglas, 1915 or later, 3-speed and clutch;
-Price and particulars to D. Mairs, Shankill Rd.

Miscellaneous.

FOR Immediate Delivery.

ARMIS 31/2h.c. 2-stroke, 2-speed; £85

CALTHORPF 2%h.p. 2-stroke; £71/8

CALTHORPE 254h.p. J.A.P.; £74/11.

METRO-TYLER 21/6b.p. 2-stroke; £74

TXION 21/2h.p., single speed; £60.

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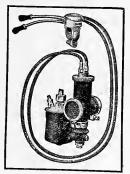
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m ORD}$ Van, good running order; £160, or offer.— [3686

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6 h.p. Twin N.S.U. Eogiae, Bosch, B. and B.; £14.

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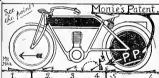
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EXCHANGE good gent's cycle for 50° twin magneto.

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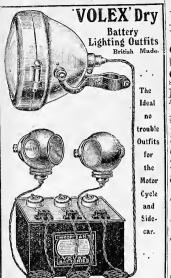
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Armstrong and Sturmey-Archer Hub Gears. Sturmey-Archer Couniershaft Gear Parts Stocked, When sending wheels please remove all outside fittings, label clearly with owner's and our address and advise hub number and type of gear.

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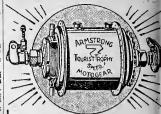
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Siow. [8917]

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WE are in a position to supply any Douglas spares whatsoever per return of post. Following will give you an idea of what we have and our prices for same: Douglas stands, 15/-; carriers, 25/-; frames, 24/4; gear boxes, 45/10/, front and back mudgards, 24/4; gear boxes, 45/10/, front and back mudgards, 12/10; spring for the complete, 25/17/6; brings, 21/10/, flywheels, 21/10; spring forks complete, 25/17/6; springs, 21/10/, flywheels, 21/12; valves, 4/-; Amac carburetters, new, 22/10; councting rods complete, 21/, flywheel sprockets, 15/; crack-cases, flowheel half, 21/5; ball bearings, flywheel half, 21/5; ball bearings, flywheel half, 21/8; calk spring half, 14/-; magneto wheels, 6/-; ntermediate wheels, 6/-; tappets, 5/2/5, locking chains, 8/z, toobbags, 10/6 Sphinx plugs, 4/-; soggles from 2/6 to 4/-.

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HARLEY Touring Handle-bars, complete £4,-Below.

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Every machine overhauled, tested, and guaranteed in perfect condition, guaranteed in perfect condition.

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6 h.p. NEW IMPERIAL-J.A.P., 1919. enclosed chain drive, hand clutch.

accessories.
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2-speed gear, accessories.

We invite your enquiries for any make—we can probably fix you up, as we have many other machines coming in shortly.

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Caution in Driving.

NCE more we are constrained to ask readers to exercise every care in driving. So many newcomers are on the roads at the present time that it is well to avoid any possible chance of incidents which may cause the novice to "lose his head." Quite a large number of drivers have yet to know, by instinct, what to do in an emergency, and, until they have become more accustomed to their machines, motor cyclists will be well advised to keep a good look out. To those who only recently have acquired a motor cycle, we would say that over confidence at times reveals to the more experienced driver that egotism of which later one is ashamed. The novice—and all drivers are novices until they have been on the road at least a year or two-should avoid high speeds on the road. He should keep to the left side of the road, and, at all times, he should be able to stop within a few yards, especially on winding roads. He should not take any bends at a high speed until he is able accurately to judge the safety margin, as sometimes he may find that he cannot hold his machine on the left side of the road and, consequently, swerves to the right side.

Judgment and Experience.

Motor cyclists are no more to blame in this respect than owners of cars; in fact, the latter are often the greater culprits. Particular care is necessary when driving in traffic, and considerable judgment is necessary when passing a vehicle from behind. This judgment can only be obtained from experience, and young riders should remember that it is generally accepted that, when overtaking an obstruction, anyone coming in the opposite direction has the right of way.

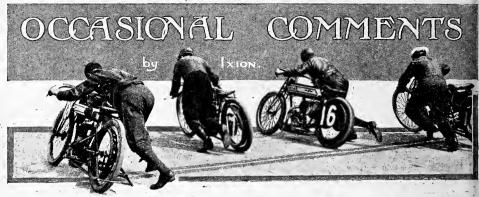
The rider who "blinds" past everything on the road is usually a novice, and, curiously enough, seldom makes a good average.

It must also be remembered that, after a fast run in the country, one's speed in traffic is apt to appear slower than is actually the case. If every motor cyclist and car owner—expert and novice alike—would exercise discretion and consideration and so avoid any suggestion of recklessness, the whole community would benefit, and motorists would cease to be looked upon with suspicion by public and police.

The Virtue of Appearance.

HE engineer who concentrates entirely upon mechanical efficiency, is sometimes apt to overlook the importance of appearance. This and the question of quality are perhaps more important from a sales point of view than the engineering ideals, which are sometimes not appreciated by the public. If a list of the most popular machines is made, it will be found that in almost every case appearance and quality are the outstanding features. The latter, of course, includes finish.

With so much new blood in the designing field, we are induced to draw attention to these points, and urge designers of unorthodox machines to pay greater attention to superficial appearance, for, in the enthusiasm created by a new design, those responsible overlook the fact that familiarity may appear to make even the most ugly machine look pleasing. does not necessarily mean that it is essential to follow conventional lines in order to make a good looking machine. The unconventional good looking machine. machine may be good, bad, or-indifferent in appearance, but generally there is no valid reason why it should not be pleasing to the eye. If the designer will recall all the unconventional machines produced during the past decade, he will know that several of these, following quite unorthodox lines in their mechanical features, attract rather than repel the prospective purchaser. On the other hand, motor cycles embodying accepted practice at every mechanical point, for the want of a little thought, are made to appear heterodox. . . .



A Boom in Baby Two-strokes.

OGETHER with a pal or two I have just spent a full week on the road, and we marvelled much to see that apparently two machines out of every three were baby two-strokes. This applied not only to elderly potterers, nor yet to utility riders pursuing their business ends near towns, but equally to youthful joyriders out on the long trails. We discussed the possible explanations o' nights, not without heat. The Leander man opined that a debased breed of youngsters is arising in the land, whose idea of fierce joy attains no higher level than that of ambling along on a slow and handy mount. The man with a scarred face and one arm had no doubt that the riders in question were Conchies. The economist pointed out that wages are rising and that the young artisan bachelor can afford to spend £70 on a hobby, though f_{150} may be beyond his reach. The trade rider remarked that deliveries of the heftier machines are still rather behindhand. Uncle reminded us that he began on a 150 lb. machine, and sometimes feels he would go back to one if anything at so low a weight were procurable nowadays; there are, he fancies, more novices abroad than ever before, and they will acquire the 7-9 h.p. taste in due course. Well, Asquith is back in Parliament, and we'll wait and see!

Necessary Spares.

VER since the man who ate the first oyster yielded the palm for valour to the man who first rode a bicycle which contained a gallon of highly inflammable spirit, the means to ignite it, and the ultimate certainty of a heavy fall, we motor cyclists have been advised in cold print never to leave home without carrying certain spares. The list-as usually given-includes a plug, a valve, some copper wire, and a few nuts. As my locks have grown silvery at the game, may I be permitted to offer younger and greener brethren a revised version of this ancient tale? You should, but need not, carry a plug; after all, plugs are cleanable, and, anyhow, somebody will presently come along and give you one. It is an insult to Sheffield to carry a valve; I have not broken one since my first grandchild was born, and I never own (or, at least, buy) a valve. Why carry copper

wire when you can buy wire if needed in a town, to pinch it off a fence if needed in the country? Why carry spare nuts? There are 100 different sizes of the machine; you cannot carry a spare of each, unless you keep a trailer for the purpose, and if a nut drop off you can generally borrow its fellow temporarily from some other gadget on the bus. But there are two things you must carry if you wish to finish your journey with certainty. One is whatever transmission spare will ensure you against a bad fracture of your driv (this may imply a spare belt with two extra fasteners or at least a baker's dozen of chain bits). The other is absolute insurance against a tyre hang-up; translated into invoice style, this means a spare tube and a fin. gaiter.

Clean Trousers.

PARAGRAPH about leg-wear has brought me a good deal of correspondence. My emphasiwas upon the tendency of the ordinary leg overalls to get dirty on the inside when drawn off over a soiled boot, so that in time the overalls spoil your trousers. The John Bull people make an overall which is free from this vice. The Brooks spring legging is equally efficient, but a user finds that it is inclined to slip down, and has extended his pair with thigh pieces, so that they can be held up by a belt. The College mudshield people make an ingenious gaiter, which is of the smartish shaped-to-the-calf-variety, and has extensible fasteners, so that it can be worn over stockings or trousers indifferently. I did not mean to imply that nobody had solved the problem in question, but rather to point out that 99% of us wear leg overalls which soil our trousers at every wearing after the first.

If it had been Chains?

LL the world knows that chain spares are rather hard to come by in these days, and the machine I ride asks for a size which does not dwell in small cycle agents' showcases. I know cynics who say that if a back chain goes, it thrashes all the spokes of your wheel, and that if a front chain goes, it kinks your crankshaft, so that in either case chain spares are equally useless. This statement is one of those half truths which are more pernicious than any lie. It is true that a bad chain smash often does some-



BLOCKING THE ROUTE,

Consideration for competitors is often lacking on the part of spectators at sporting events. This picture was taken at the top of Kirkstone Pass, where the road was almost completely blocked by cars and motor cycles. The difficulties of the London-Edinburgh ridders were increased by the rain and dense mountain mist.

thing else. It is also true that at least 50% of the chain breakage troubles are curable by the road-side if you carry about 1 lb. of spares. It is also true that if you have not got the necessary bits in your bag, it is probably useless to wire to the maker for them, hopeless to borrow them locally, and heart-breaking to search the county for a dealer who has them. Belts, I must admit, are easier to come by, but a belt is light to carry, and a surprising lot of places are ten miles from anywhere.

A Portable Hand-cleaner.

ECENTLY I- had quite an ordinary puncture, and mended it quite satisfactorily in ten minutes or so. Though the roads were bone dry, I was in a pretty mess at the end of the job. I had been seated perforce on the dusty road during my wrestle with the back tyre, and my trousers and shirt had suffered-I had wisdom enough to remove my reefer coat and tweed jacket before starting work. Furthermore, my hands were simply filthy, thanks to the dust on the wheel, and the oily carbon spat out in that neighbourhood from the exhaust delivery pipe. I was rather tidily dressed for me, as I was going to see some people with whom I am not on slop suit terms, and my efforts to get a wash were quite amusing. I first tried-at a "pub," but it was out of hours, and they thought I wanted an illegitimate drink, so no-body came to the door. My next effort was at a cottage, but the matronly person who opened the door thought I was mad or drunk, and hastily slammed the door again. Finally, I made shift in a brook with the aid of a pocket handkerchief. Meanwhile, of course, I had dirtied my handle-bar, gear lever, and oil pump very successfully. I wonder nobody has ever marketed a small canister of dilute liquid soap, to be carried on the road, and replenished at home from a gallon can. I must fake up something when I am through my present tin of Flash. Some modern machines are fairly clean to ride, provided no trouble occurs; hence one feels rather disgusted if a puncture reduces one to the semblance of a chimney sweep.

But you should have seen Robinson on his last ride with me. I had the legs of him, so he got plenty of dust. He also had two punctures, so his hards, clothing, and levers gradually grew very foul. Moreover, he was as "pluff as a wilkie," as they say down west (Angliee, as flabby as a toad), and sweating niddling heavy over the tyre repairs, he had been mopping his heated brow in replacing a stiff cover. Tipping is not the only cause for our unpopularity at first-class hotels. I usually carry rag inside my head lamp, and if I could snuggle a small tin of Ethol and water into some odd corner, I might even turn up smiling after mending a chain.

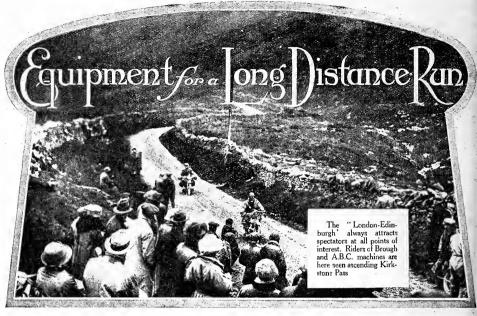
Waterproof Sparking Plugs.

FIND that many new riders, employing the motor cycle for business purposes, are still ignorant that there are waterproof plugs on the market. Many of us are frequently compelled to leave our machines in the open for periods long enough to drench the plugs if rain happens to be falling. It may be outside a business house, outside a friend's door, or outside a teashop on tour, or on the side of a freak hill when we are watching a big trial. To get a start with the plugs externally sopping is less easy than it looks, a little overhead cover being generally desirable to dry the parts out properly. It is, of course, quite easy to waterproof a plug with the aid of faked oddments, such as a small tin punched to thread over the terminal stud and to act as an umbrella for the insulator. But the professional article is almost always better than the amateur's improvisation, and there are now several first-class waterproof plugs on the market. They should receive the preference from all riders who expect to leave their machines uncovered in the rain. Whilst I am on this point, may I point out that a hinged saddle which could quickly be turned upside down under the conditions indicated would be quite popular. A wet saddle is only tolerable if one is wearing seated waterproof overalls.



TWENTY-ONE YEARS OLD—STILL GOING STRONG.

This machine, which is over a score years old has its original steel bushes. Its owner, B. F. C. Fellowes, made a good climb as far as "The Struggle" on Kirkstone in the London-Edinburgh run, and after a lew minutes rest finished the hill successfully. The tank bears the motto, "Ne Fronti Crede."



Notes on Some of the Machines in the London-Edinburgh Trial.

UITE a large number of people congregate at the start of the London-Edinburgh run in order to inspect the machines and note the "gadgets" details of equipment used by the riders tor their long journey.

In many cases one could see that the machines were new and little used 1920 models just fresh from the showrooms, and fitted out with almost every conceivable item of equipment; but, as in nearly able item of equipment; but, as in nearly every big trial, there were present a number of machines which have been through a good deal of use and which were equally interesting.

One of the items of interest to all and and and the state of the present of the pr

sundry at the start was the new Delta



Instrument board and windscreen of the Delta sidecar.

sidecar fitted to a 1920 four-cylinder Henderson, the special feature of the outfit being the torpedo-shaped body slung on long cantilever springs from the sidecar chassis. The body is cylindrical in shape and reminiscent of the Zeppelin, while the passenger is seated on a large cushion on the floor, with ample padding and upholstery at the sides to provide comfort. An instrument board with clock, switches, illumination light, mirror, map cupboard, and an Avro adjustable windscreen were fitted. In the tail is a large locker for various sundries, and luggage can be accommodated on a very neat aluminium carrier situated at the extreme rear of the chassis.

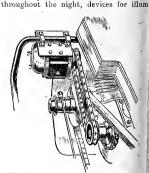
This sidecar is finished off with nickelplated bands and nose caps on the body, and the equipment is completed by a polished disc to the sidecar wheel and an electric head light and horn.

Electricity as a Stand-by.

One of the competitors possessed a big Zenith combination equipped with a C.A.V. light car dynamo lighting outfit. The dynamo was clamped to the forward and upper sidecar connecting tube by two brackets and a large steel plate, the drive being taken through a Whittle belt extending from a special pulley mounted on the engine crankshaft. The accumulators were carried in a compartment under the seat of the sidecar, a switchboard being located in a protected position inside the forepart of the sidecar body. installation of the various cables between the dynamo, accumulators and switchboard were substantially carried out.

As a safeguard against sudden cuttin out of acetylene lighting, the Metro-Tyl-team had a small electric head and ta light fitted to each of the machines. emergency lighting system consisted of small head light mounted on a U shape spring bracket, which, in turn, was bolte to the upper part of the front fork while at the rear of the machine ther was a small electric tail light. Th miniature lighting system is not expensive to rig up for the purposes of a tria and should prove most useful in the event of a breakdown of the mai acetylene system.

As in previous trials which extende



The C.A.V. dynamo and Whittle belt drive on C. S. Lake's 8 h.p. Zenith.

Engloment for a Long Distance Run .--



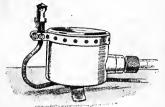
Rear view of the Delta sidecar, showing the neat luggage carrier.

nation of the various instruments on a machine, as well as route cards and maps, played an important part in general equipment. The rider of an Indian illuminated his speedometer by means of a miniature lamp such as is used on aeroplane instru-ment boards. It was secured by a length of Meccano strip, clamped around the speedometer.

An Unusual Speedometer Fixing.

Almost every machine carried its full complement of instruments and various accessories, which, in the majority of cases, were fitted up in a very neat manner. For example, the Verus two-stroke lightweight had the speedometer and watch located at the side of the tank on a cross-bar bolted to the tube under In this position these two the tank.

instruments were very easy to see when riding, and relieved the handle-bars of their weight,



Electric light for the speedometer rigged up with the aid of a strip of Meccano and two small bolts on W. Hallett's Indian.

OF THE EDINBURGH ECHOES RUN.

THOUGH sidecar passengers appeared to travel in much greater comfort than before, many owners had not cultivated the art of travelling light, and not cultivated the art of travelling light, and "excess luggage" was very noticeable. One enthusiast, S. Marshall, set out ma 14 h.p. Dunlop scooter. He did not arrive at Edinburgh.
Another enthusiast, T. Fawcett, having

had trouble with his machine on the way to London, bought a new Invicta-Jap in

a small town en route, and, arriving late, was allowed to start after the cars. He completed the journey.

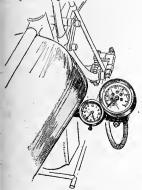
E. C. Lunnis (8 Sunbeam sc.) broke chain near Doncaster.

Chassis Weakness.

Broken sidecar chassis were numerous than one expects on a 400-mile run. D. H. Noble (10 Reading Standard) bandoned his attachment near Don-aster; E. H. Newman (4 Government nodel Sunbeam) also had trouble in this espect.

Robertson-Brown (10 Henderson) and 3. P. Stuart Clarke (7 F.N.) both suffered from bad petrol bought on the oad, which left a resinous deposit.

Tyre troubles there were in abundance. Geoffrey Hill (33 Scott) had his clean



The speedometer and watch mounted on cross-bar at the side of the tank of a Verus two-stroke, ridden by S. Dunford.

sheet spoilt by punctures at Penicuik. Crostwaite (5.6 James sc.) and L. G. Pulzer (8 Clyno-Jap sc.) were among the others who also experienced similar

J. W. Wills (23 Verus) started with his clutch out of action, but succeeded

in reaching Edinburgh.

When passing through one town on the Great North Road, on quite 60% of the machines the rear lamps were out. A reader who discussed the matter with a sporting policeman probably saved "official" action by interesting the officer

in the run.

Mr. G. T. Jefferson, of 130, Anlaby Road, Hull, lost an attaché case containing a quantity of Triumph spare parts and personal items in a separate case

between Baldock and Biggleswade. A Thornton-Pickard quarter-plate folding camera was lost by another competi-tor between Ilkley and Patterdale. The owner is Mr. F. Wolstenholme, M.U. Insurance Co., Ltd., East Parade, Leeds.

A Sporting Effort.

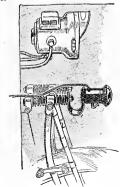
The performance of B. F. C. Fellowes, of Nottingham, was noteworthy. A good deal of interest was evinced in his "built-up" machine. The engine was a twenty-one year old 2\hat{2} h.p. De Dion, in which were the original steel bushes. It had a detachable cylinder head and an automatic inlet valve. The carburetter was an old type B. and B., and the magneto a Simms. The drop-backed frame was of modern type, and, fitted with T.T. bars and painted a bright yellow, picked out in black, the machine looked very attractive. Rigid forks were fitted and a three-speed gear in the back hub. Such a veteran machine could hardly be expected to make a clean ascent of Kirkstone Pass. The bottom gear was 8 to 1, and although Fellowes konked out twice on the way up the Pass, he managed to restart each time with the aid of a little assistance. Fellowes made the run from Nottingham to London, and London to Edinburgh without incident. Return-ing to Nottingham, however, he had the misfortune to break his front down tube of the frame.

Our readers possibly do not realise the amount of work and the organisation involved in providing a report and photo-graphs of the trial. As in the case of

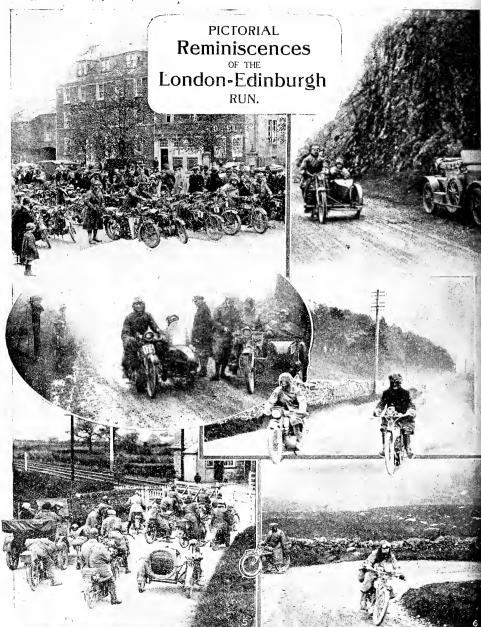
Porlock in the London-Land's End Trial at Easter, members of the motor cycle staff observed every performance on Kirkstone Pass and the non-stop section in Scotland, and on both these places, in addition to the start, our photographers were stationed. Another photographer accompanied the competitors from Doncaster to Patterdale, and one member of the staff competed on a solo machine, in order to see the trial from a competitor's point of view.

The Late Mr. J. D. N. Dickson Hill.

It is with great regret that we have to announce the death of J. D. N. Dickson Hill (5-6 Zenith) at Ponton. After leaving the first breakfast stop, he made a good ascent of Gonerby Hill. but unfortunately was travelling too fast to take a corner properly, and crashed into a wall. He was unconscious when picked up, and was eventually conveyed to Grantham Hospital, where he passed It would seem that his accident away. was chiefly caused by inexperience and want of care, but it is sad, indeed, to think that the motor cycle pastime has been robbed of so enthusiastic a young sportsman. Mr. Hill was learning motor engineering at the Blériot Works, Addlestone.



Emergency electric head lights on one of the Metro-Tyler machines.



(1) Early arrivals at Moffat. (2) An 8 h.p. Matchless and sidecar at the top of the Devil's Beef Tub. (3) A. L. Huggins (8 Zenith) passee G. S. Wright (8-10 Henderson) on Kirkstone. (4) Father and son near Skipton—F. W. Applebee (21 Levis) and F. A. Applebee (Indian Scout). (5) Competitors keld up at the crossing near Kendal. (6) In the Land of Mists and Mountains.



POSSIBLY those who compete in a big open reliability trial have a vague idea that there must be a certain amount of work attached to unning the event, judging by the number of arrows in the route, or from similar deductions. Those notor cyclists who are unconnected with a motor cycle lub, however, have little idea of the enormous amount if work entailed by such a trial as the Victory Cup competition, run off by the Birmingham M.C.C. a veek or so age, though they may have derived a certain amount of pleasure and information through eeing the competitors pass a certain spot.

The first task of a club committee, having decided o hold an open reliability trial, is to draft out the ules for the event. The majority of the big clubs olding big trials have had previous experience of his, and, therefore, the task is not particularly diffiult, unless some new form of test is to be tried, then care must be taken to provide no loop hole to likow any competitor to get through without either assing the test or losing marks.

The Route.

Having drawn up the rules, the route must now e selected; possibly an old course will be chosen, is slight modifications may be made, or an entirely ew course mapped out. In the latter event, it means lat some enthusiastic committeemen must go over it ground and make out a report for consideration the whole committee before any of it can safely included in the trial.

Distances must be carefully checked, suitable checking points must be noted, and roads which would be dangerous, or cause confusion in the trial, must be excluded.

Prizes must be found and allocated to certain classes, officials appointed, and all details of the event laid down. Then the rules can be sent out to all likely competitors, and a copy sent to the A.C.U. with a request for a permit. These rules, it should be noted, are only supplementary to the A.C.U. open competition rules, which run to several pages.

A keen secretary will send out entry forms and regulations to every firm in the trade, to every motor cyclist who has ever before entered in one of the club's competitions, and to everyone who has ever entered in any other club's competition. This may mean the addressing and despatching of anything up to 500 entry forms.

Large Number of Officials Necessary.

Whilst the entries are coming in, arrangements are being made for the dozens of observers, checkers, and other officials who are required if the trial is to be a success. In the Victory Cup Trial there were no fewer than seventy officials in addition to the ordinary officers of the club.

Then, when the entries begin to arrive in numbers, each one must be tabulated to show which class the machine entered will go into, whether the entry fee is correctly paid, whether the entrant possesses an A.C.U. driving licence, and so on.

Organising a Big Trial.-

Route cards must now be prepared, together with observers' sheets, time-checking sheets, competitors' observation cards, or report cards, instructions to checkers, marshals, etc.: "official" badges must be ordered, arrangements must be made for petrol and oil at the starting point, for competitors' lunch, and for their tea. Police en route, and sometimes road surveyors too, must be advised of the trial, and a hundred and one other similar matters attended to.

When the Day Arrives.

On the day of the trial, if every official is in his place, things go smoothly and easily. At the starting point, competitors have their watches sealed—that is if the Birmingham Club's system is used—in order that they may go by their own time all through the trial, number cards are fixed, and machines scrutinised to see that they comply with regulations; then comes the start. In the Victory Trial, the first man got away at 9 a.m., whilst the last man did not start till nearly three hours later, there being a minute interval between each competitor to prevent "bunching" on hills.

When the trial is over, the arrows, which are put up all along the route the day before the trial, are sometimes collected again, as printing is a heavy item in these days, and, on a 140 mile course, 100 big card-

board arrows do not go very far.

Competitors sign in as well as being timed in, and must hand in their report cards containing information regarding their own or other competitors' stops. Failure to report is a very scrious offence.

Checking sheets from officials stationed at various parts of the course dribble in for days;

then the real work commences.

Probably the simplest and best plan to

the names, numbers, and all information regarding each competitor, and against the names entered the remarks taken from the observers' and checkers' report sheets.

Working out the Results.

In working out the Victory trial, there were ten sets of checking sheets, each containing the notes of at least four observers, so with 170 competitors there were 10 × 4 × 170=6,800 figures to call out and enter before the more serious business of working out the formula results in an acceleration test takes place. The Motor Cycle formula involves quite a nice little

sum for each of the 170 competitors.

When all figures are entered and checked, the winning names can be sorted out. But even now the officials' task is not completed, pressmen are at the door awaiting results, which in a few cases must be posted to the less enterprising papers. Various queries are raised by disappointed competitors, as to why they did not have gold instead of silver medals, and so forth, the inevitable crop of rumours has to be endured, and finally, when all accounts in connection with the trial have been squared, there remains nothing but the engraving of the prizes, medals, etc.

Competitors who wonder why results cannot be published the same day as the trial, or even a couple of days after, will perhaps now understand the reason, and those who grumble because an arrow is missing, or not easy to see, will remember there are "heaps and heaps" of work to do in connection with a big

trial, besides just fixing arrows;

The hon, secretary of any club which runs an open trial is a very hard-worked man, and to him every competitor and official owes a debt-of gratitude.

VERNON BROOK.



COULSON INNOVATIONS.

Direct-acting Leaf-spring Forks. Detail Improvements in Brake Work and Finish.

NEW design front fork is now fitted to Coulson B, motor cycles. The movable portions of the fork bearing as front wheel spindle slide in bronze

ashes contained in the front members of the forks, which are packed with grease, while at the point where the front members coil check springs are inserted. These two members are suitably bridged, and are means of liftks to short leaf springs anchored to the fork crown. A fork of this design was fitted to a machine entered in the London-Exeter run at Easter, and was briefly described by us on that occasion. Three types of

Three types of carhuretters — the Capac (an old favourite with this firm), the single-lever Amac, or the new Silex

or the new Silex or the new Silex The latter is a carretter manufactured by Messrs. Jones d Marchant, of Weybridge, which was scribed in our issue for April 15th.

The latest type of Coulson spring fork.

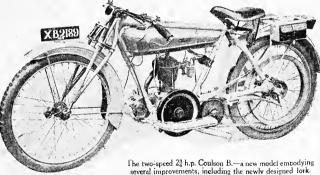
A slight modification has also been roduced into the rear brakes, the erating rod passing through the spindle which one end of the band is auchored magneto guard of ample dimensions



has also been added, and improvements have been made in the finish of the machines.

A new model 23 h.p. Coulson B. has recently been placed on the market incorporating many of the principal improvements we have just reviewed. It is a most attractive machine, finished in French grey and blue. The distinctive Coulson streamline tank is retained, and th. new fork, Capac carburetter, and a Sturmey-Archer two-speed countershaft gear are inco-porated, the gear box being mounted on an aluminium plate on the bottom bracket.

A particularly attractive feature is the handle-bar, which is in one with the head clip. It is perhaps well to advise readers who are not familiar with Coulson B. motor cycles that they incorporate in this model an efficient spring frame, using quarter-elliptic leaf springs under the chain stavs.



AMERICAN ENGINES FOR THIS COUNTRY.

An overhead valved twin engine of American design that is shortly to be narketed in this country.

TWO American power units, new to British motor cyclists, will shortly appear in this country. Known as the Lake engines, there will be two sizes, a single of 570 c.c. and a V twin of 1,140 c.c., nominally rated at 5-6 h.p. and 12-15 h.p. respectively.

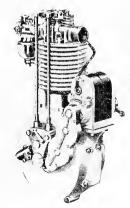
In both engines the same size cylinder is used, viz., 85.7 mm. bore and 99 mm. stroke, and detachable cylinder heads, overhead valves, and mechanical lubrication are their salient features.

The lubrication pump (which is attached to the outside of the crank case) has a controllable stroke, and forces the oil via the front cylinder to the moving parts of the engine.

Phosphor bronze bearings are used for the small ends of the connecting rods, roller bearings for the big ends, and ball bearings for the crankshaft.

Constructed of tubes, with steel tips, the valve push rods are said to be very light, while the rockers and gear wheels appear to be well designed.

The Lake engines are handled in this country by Messrs. Shillan, Beck and Co., Inc., 90, Cannon Street, E.C.2.



The Lake single cylinder with overhead valve mechanism. Its capacity is 570 c.c.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Heriford Street, Coventry, and must be accompanied by the writer's name and address.

SPEED WOBBLE.

Sir,-The letters upon speed wobble have been of much interest, as evidenced by the following, which is perfectly true. At a certain public school the proud possessor of a brand new Norton was asked if he ever had a speed wobble. His reply was no, but he could easily get one by paying extra.

Lichfield NORTON.

PETROL CONSUMPTION ON V TWINS.

Sir,-In your issne of May 20th, I certainly think that W. Arthur Long does not realise the petrol consumption

that can be obtained with an 8 h.p. Jap.

I have a 1919 New Imperial Jap and heavy Grindlay de luxe sidecar with hood, screen, and full equipment. My first carburetter just managed to get me 40 m.p.g., no matter what size jet I use; so now I have a single-lever Amac, and my last two-gallon tin has given me 134 miles, plus one inch of benzole now in my tank,

I have never driven my outfit without my passenger. Hornsey Rise, London, N.9. SAM WELLER.

SPEEDS. Sir,—In the issue for May 20th, your correspondent "A.G." states that he has attained the speed of 65 m.p.h. on an absolutely untuned 4 h.p. machine. If this remarkably fine machine were thoroughly tuned, he might put 10 or 12 m.p.h. on to this speed, then, if he cared to compete in the next speed trials, some of our better known speed "aces" would speed trials, some of our better known speed 'aces would have to look to their laurels. In comparison with the above, the performance of "L.R.'s" big 7-9 Indian, which can only do an equal speed, although carefully tuned, and on a picked trial insignificant! Rugeley.

COURTESY ON THE ROAD.

Sir,—The above topic has been discussed several times in your valued paper, and I think another worthy example would justify its inclusion. Coming home from Norwich a few nights ago I happened to have the misfortune to break a belt, losing one of the fasteners. After searching in vain for the missing fastener, another motor cyclist came along, and, without request, offered to tow me to a repair shop. In the course of conversation, I learned that he had just covered about 130 miles during the afternoon, doubtless rendering him less fit than when he started; but the fact, coupled with his kind offer and assistance, makes one wish that many more motor cyclists would take a lesson of the "good Samaritan." GORDON B. SMITHDALE.

THE SINGLE-GEARED MACHINE.

Sir,—I have recently noticed among your correspondents, great tendency to deplore the passing of the sporting single-speeder.

Many have sent in suggested designs of more or less merit, but I am sure all will regret the passing of the Martin motor cycle. I recently rode and owned a 2 h.p. single-speed: it was everything a rider could want—light, strong, handy and simple It could "twist the tails" of a great many Yankee omnibuses on the level, and gave next to no trouble.

The high prices people are willing to pay for the secondhand sporting grids of early date, show what an enormous sale there would be for the new 'buses.

And, I am sure, there are many riders of these excellent little machines who would welcome any attempt of Harry Martin to restart their manufacture. Purley.

DOES RACING HELP?

Sir,—Having read the remarks of Sydney du Rose under the heading of "Racing" in your issue of May 20th, one is prone to question on what authority he bases the state-ment that in reply to "'Does racing help the motor trade?' the answer comes back every time. "No." For his enlightenment, and the enlightenment of others

likely to be misled by his remarks, it should be noted that there is no test, be it on test bench, road test, workshop, or laboratory, which so surely discovers the weak points of the motor bicycle, either in relation to design or metallurgy, the motor bicycle, either in relation to design or incenting, as racing. Possibly when your correspondent is sailing along on his 1920 Utopia devoid of every mechanical trouble he will think kindly towards the professional speed merchants, and in lieu of his motto "Reliability, not spurts, please," substitute "Reliability Through spurts," and as graciously add, "Thank you."

H. C. G. ALLEN.

A CRITICISM.

Sir,-I am always most interested in "Ixion's" notes on Scott machines, as I happen to be riding one at present myself.

I wish I could tell him how to overcome the trouble of filling the oil tube. I have always found it to be a very tedious and messy job; the aperture is too small, and the

filler is inconveniently situated.

Perhaps "Ixion" can help me by telling me how he gets the two front transmission chains in alignment after shifting the countershaft. The Scott instruction book insists that perfect alignment is essential, which, presumably, is a fact of which most people are aware. Nothing, however, is said of the method of aligning the chains.

The Scott is a delightful machine to ride, its one great drawback being, to my mind, the transmission, which in my opinion consists of too many chains of too light a type.

F. D. MARTIN.



D. R. O'Donovan and the 31 h.p. Norton sidecar with which he recently broke several records at Brooklands.



ON THE NEW LONDON EDINBURGH ROUTE Two Metro-Tyler two-strokes at the top of the long climb out of Moffat

W LIGHTING REGULATIONS.

ir,-I notice with surprise that your readers appear to e the proposed new lighting regulations as a matter of rse. Personally, I fail to see why a motor cyclist, with without a sidecar, does not need the same illumination the road as the largest car, to enable it to maintain the d limit at night. To restrict the motor cyclist to one p, and to limit the size and power of that lamp, seems be most unreasonable.

he recommendations of the Parliamentary Committee on hts and Vehicles, in this respect, appear to have been unlated with no regard to the equal needs of illumination the car and the motor cycle. Can nothing be done to edy this state of affairs before it is too late? May I eal to the great associations and papers which work for interest of motor cyclists, to do everything in their er to prevent this extraordinary measure from becoming

e correspondent and others may rest assured that the oposed restrictions will not become law without the ost vigorous protest.—ED.]

EVE VALVE ENGINES.

r,—In your issue of May 15th you publish a letter under heading of "Sleeve Valve Engines" from Mr. D. P. rhead, who makes some observations on my invention. quite agree that, from the drawing published (which was ly diagrammatical), it would appear to have sharp edges the inner sleeve that would cause pre-ignition, but in tice there are no such edges, and I do not agree that pre-tion would be likely-less likely, in fact, than with a pet valve engine; as the cooling should he much better ng to the broad seating, direct cooling surface, and extra ng provided by the incoming charge.

regards his objection that mechaniefficiency will be low, owing to the of two sleeves, my patent applicaspecies is used, and still gives a ter port area than either of the nes mentioned, with only a in lift he poppet sleeve, still retaining all ne popper serve, still retaining an radvantages, including a perfectly netrical port arrangement. He also set that I will have trouble in getmy patent through.

might mention that I have already an air-cooled two-sleeve model runbut have not had time to get any ite results, but hope to be able to further details shortly. My model. laptation, has a bore and stroke of 38 mm., and is mounted on a 3½ h.p. ision engine having an external camwith chain drive from the timing

The crudeness of this model is o my lack of workshop facilities and

night mention that the details and ing published in The Motor Cycle

were made some time ago, and it was not my intention to divulge more than necessary to explain the principle. Muirhead and others will probably think the inner sleeve will rock on its scating, but I have many ways of overcoming this fault should it develop. W. M. ALLISON.

A.C.U. "GET-YOU-HOME" SCHEME.

Sir,-Recently I was driving my side-car outfit between Newmarket and Thetford, when I had the misfortune to have the rear cylinder blown off, with the result that my passenger and myself result that my passenger and mysel-were stranded on the roadside ten miles from the nearest station. A passing motorist kindly conveyed my "Get you Home" youther into Newmarket, and in less than one hour a courteous re-presentative of Criswell's Garage had arrived with a car and proceeded to tow

I Mofat the outfit into Cambridge, afterwards driving us to the station, thus enabling us to reach home the same evening, which otherwise would have been quite impossible. The expense incurred was, of course, very much

possible. The expense intered was, of course, very more in excess of my year's subscription to the A.C.U.

I pride myself on being a very careful driver, and this is the first serious accident I have had on the road in a period of about ten years. The moral is, that, however careful one may be, accidents may occur, and the wise motor cyclist will take advantage of the protection and assistance afforded by membership of the A.C.U. OTTO THOMAS.

SPEED OF A PIGLET

Sir,-A few weeks ago I read in your journal a letter from correspondent on the speed of a hare, and I thought the

following experience might be of interest:

While the guid wife and I were having our usual week-end jaunt, we suddenly encountered a small pig, which had evidently strayed from the farm. Owing to the prevailing high price of porkers, and the impecunious state of the family exchequer, our sty was empty. The wife and I exchanged meaning glances, but the little rascal must have sensed our itelenious intention, as he did a miniature hairpin turn, opened out the throttle, and was off in a flash. We gave chase, and when my "Try-some" combination was getting in the neighbourhood of about three figures per hour (guessed, as we were speedometerless for afore-mentioned reason), the object of our desires was about holding his start. His topographical knowledge of the locality was excellent, and just as we thought the prize was nearly in the toe of the sidecar the little porcine quadruped blighted our hopes by executing a quick leit-hand turn, followed by a fine nose dive under the farmyard gate, giving a derisive flourish of his caudal appendage as a final. Usual disclaimer. ZUMMERSET. Minehead.



A SUCCESSFUL RACING CYCLE CAR

A. Frazer-Nash (G.N.), who did well at Brooklands on Whit-Monday, when he won both the First Cycle Car and First Light Car Short Handicaps.

POLICE PERSECUTION.

Sir,—Is it not time that motor cyclists insisted on the A.C.U. and the A.A. taking up this question of the police and their petty tyranny on the road? Not only police traps, but now a new form of petty aggravation is arising, and we have police stopping one to measure number plates, examine silencers, and measure the size of letter on the number plates. In a word, motor cyclists (as well as car owners) are being badgered for no reason at all. It is beyond a joke, and surely the associations that profess to look after our interests could make a strong protest to the Home Office. Personally, I do not mind being stopped for my Omec. Personally, I do not mind being stopped for my licence, but when it comes, as it has this last week, to being held up several times in a day, and kept delayed from one's journey for anything from twenty minutes to half an hour, whilst police play about with measure and rule, and take copious notes, it becomes a nuisance.

No other traveller is subjected to such petty tyranny, and a strong protest should be organised at once. It is no good waiting for months, until, like police traps, the thing becomes a custom to which we meekly submit.

(REV.) R. C. MEASURES.

AIR STRANGLERS.

Sir,-Regarding the reference to "Air Stranglers" by "Ixion," in a recent issue, I venture to suggest that the latest pattern Everest carburetter represents the ideal

arrangement.

The 1920 pattern Everest is provided with two separate throttles, the forward one of which comprises the carburetter proper, housing as it does the jet, which is provided with a series of vertically spaced outlets arranged to be uncovered by the upward movement of the air throttle. This form of construction provides what may be called an expandable carburetter, as the jet area and the air port area increase in definite proportion. Several variations of jets are provided to suit all types of engines. At the rear of this is fitted the air throttle, which permits of the admission of air to the carburetter being restricted to any desired extent. For instance, at starting the whole of the air supply may be out off and the whole of the jets exposed, and, with the first depression of the kick starter, mixturemay be drawn into the engine of any desired strength, which enables an easy start to be obtained under any condition.

Another point is that, although the control is 99% automatic, the strength of the mixture may be altered instantly

to meet any particular requirement.

ERNEST P. EVEREST.

INCREASED MOTOR TAXATION.

Sir,-In view of certain statements which recently appeared in the press, may I restate briefly the case for private motorists. No representatives of their interests on the Government Committee accepted unreservedly the proposals for heavy increased taxation on a horse power basis as against the infinitely more equitable principle of taxation proportionate to use.

The scheme is all wrong, it is illogical and unjust to the last degree. The private motorist will not have it. We, his representatives, shall resist it to the bitter end by every

available means.

It surely is superfluous again to point out that whereas the main principle of taxation for road funds is that the revenue must be raised in accordance with the use of the roads, the many motorists who, by force of circumstances, are throughout the whole year only able to use their machines occasionally, are to be made to pay as though were always using the roads.

Why not make us all, moderate drinkers and abstrainers

that we don't want and can't consume?

We as a class, were invited to advise the Government how best and most equitably motor taxation should be imposed. Our advice was taxation proportionate to use, therefore-retain the petrol tax. A flat rate on petrol, with a reasonable increase in the existing vehicles taxes, will meet the case as far as the private motorist is concerned, and will find the money required from him with a greater degree of certainty than by means of the scheme proposed by the Government. This being so, one has yet to learn why the authorities are still endeavouring to thrust on the owners of private motor vehicles a scheme which is opposed by motorists throughout the United Kingdom.

If we, as merely a section of road users, have to pay big share for the use of the roads—and that in itself unjust—in the name of all that is fair, let us pay accordin to the measure of that use. Any other method is wrong and no amount of special or specious pleading by a Govern ment Department will make that wrong right. STENSON COOKE, Secretary

The Automobile Association and Motor Union.

SUMMARY OF CORRESPONDENCE.

Lenses in Goggles .- We have received a number additional letters regarding suitable lenses for motor goggl from readers who mention other opticians who supply sugoggles. These include E. R. O. Freeman and Sons, Merth Tydfil, and R. C. Appleby, 17, Church Street, Enfiel Middlesex. The latter optician also draws attention to t desirability of the glasses, as nearly as possible, corresponing with the centres of the pupils of the eyes. He points that the statement of the pupils of the eyes. out that usually goggle glasses are larger and wider than necessary. Mr. Appleby supplies and fits lenses to a goggles, either from prescription or by analysis from a proof lenses that suit the wearer. "C.D.F.," of Selt recommends Stanley and Co., 13, Railway Approach, S.E. and from several years' experience advises the fieuzel-gre as an anti-glare, which, he states, gives natural colourit whereas smoked or blue glass destroys this.

COURTEOUS TREATMENT .- In contradistinction to the ma complaints of bad treatment at the hands of manufactural repairers, we have received a large number of letter giving credit where due. "LP 1837," London, states of Messrs. Middleton, of Finsbury, recently supplied a pair Messrs. Middleton, of Finsbury, recently suppined a pair old type sidecar springs in three days at pre-war pric. "R.C.W.," of Sutton Coldfield, writes in praise of the go treatment from Messrs. F.N. (England), Ltd.; and J. Smith, Warrington, gives an example of the businesslimethods, of the Cowey Engineering Co. Messrs. Allda and Onions are praised by the Rev. B. H. R. Stower, a the makers of the Lincoln-Elk by T. Hunt, Maltby. "Ca. R.F.A." gives examples of good service by Sloan's Garaf High Street Amesbury, and the Magneta Renaiting High Street, Amesbury; and the Magneto Repairing C of 78, Hampstead Road, London, are recommended by

Paterson, of Donne

TAXATION .- We have been inundated with letters protest against the proposed new taxation. Generally t correspondence refers to the unfairness of the methods si gested, and a large number insist upon the retention of t gested, and a large number hasts upon the retention of the tax as the most fair means of taxation. W. M. Kir Ramsbottom, suggests a "strike" of motorists from Janua 1st, 1921, while J. McAllister, of Taynuilt, Scotland, the formulated a scheme for the issue of tax stamps, which are forwarding to the proper quarter. "Bradbus," are forwarding to the proper quarter. "Bradbus," Malmesbury, who uses his machine for business purpose consumes about two gallons of fuel per month, and does n see why he should pay an amount equivalent to a mu greater distance. J. T. Bradford, of Colne, urges eve motor cyclist to join either the A.A. or the A.C.U.

8	BOOKS AND MAPS FOR MOTOR C		ISTS
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A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," A Tudor Street of questions or general interest received from request and our reputs timeter. All questions amount or adurcased to the father, and present a father of the father of the

Jet Sizes.

Will you tell me the best size of jets to use with a three-jet carburetter? My machine is a 1913-14 Royal Enfeld with 6 h.p. J.A.P. engine.-C.H.

bably you will find that the jets most able are 000, 1, and 7, but it is usually essary to experiment with quite a nber of different jets in order to arrive the best setting.

An Old Pattern Engine. I have a single Rex engine,

85 mm. bore, and wish to know date of manufacture. Ball bearings are fitted to the mainshafts. internal cut cams operating nondjustable tappets. The magneto is ear-driven and fitted in the rear of he engine. The cylinder has two long

olding-down bolts in addition to four There is also a tap fitted in ie crank case, connected to the cylinder nder inlet valve seat .- F.W.W. engine you describe is one of the 2 models.

Difficult Starting.

My 1920 8 h.p. Matchless with Amac one-lever carburetter is very difficult to start. Sometimes I have to kick for about an hour before the engine starts, ven when I have injected petrol into eads on the top of the mixing chamber r vaporiser, two large and one small. 'he lower large one is screwed down is far as it will go, the upper large has a space under it in to 75 in.; ie small head is screwed inside the pper one of the two large ones, but screwed up gin. to hin. above the oper large one. Is it newness of achine only that causes the difficulty? his machine is said to be specially usy to start even in cold weather and om cold. I have found the opposite; n you help me?-O.A.

hout actual inspection of the machine is rather difficult to diagnose the ble. If you prime the engine it ald fire almost at once, and the fact it does not do so points rather to tion trouble than to any defect of carburetter. It would be advisable emove the contact breaker cover and nine the rocker arm, particularly ng whether this is free on its bush. details you give respecting the milled Is on the top of the carburetter ing chamber are rather vague; the truction of this part of the carbu-

retter is as follows: Screwed on to the top is the lid proper of the mixing chamber, on the top of this, and held close to it by a spring is a disc, which, when rotated, exposes air holes for the purpose of making temperature compensa-tions. Covering this again, but at a distance of about 13 in., is a dome, and in the centre of the latter is a small milled screw which acts as an adjustable stop for the Bowden cable. We would advise that you write to the makers of the carburetter explaining your difficulties, when they will, no doubt, forward you an instruction booklet containing sectional illustrations which will be of assistance to you.

Removing Magneto Sprocket.



Does the tapping off and on of a magneto sprocket as done by a proper mechanic injure the magneto ?--A.R.

Removing the magneto sprocket by the method mentioned will not cause any damage.

IMPORTANT DATES.

Sat , June 5th-Ilkley Open Reliability Trial. Tues., June 15th-Junior T.T. Race, Isle of Man. Thurs.. June 17th— Senior T.T. Race, Is'e of Man. Fri.. June 18th—
Speed Tria's on Douglas Promenade. Speed Tria's on Douglas Promenade.
Fri. an 1 Sat. June 25:h-26th—
Dublin and District M C.C. Open Twentyfour Hows Reliability Trial.
Sat., June 26th—
M.C.C. Team Trial for "The Motor Cycle"
Mon, July 5th, to Sat., July 10th—
Scottish Six Days Trial.

Scottish Six Days Trial.
Wed, July 7th—
Union Motocyclist de France et Automobile Club de l'Ouest, Grand Prix Race for Motor Cycles and Cycle Cars.
Wed, and Thurs, July 7th and 8th—
Arbathou They Trial.
The Company of the Cycles of the Cycl

Thurs., July 15th, and Fri., July 16th-Irish End-to-end Trial

Sat., July 17th-Cumberland County Open Reliability

Sun., July 25th, to Aug. 1st — International Six Days Trial in France. Sun., Aug. 1st, to Wed., Aug. 4th— Anglo-Dutch Trial in Holland.

Sat., Aug. 7th— S.A C.U. Inter club Meet at Callander. Mon., Aug. 23rd, to Sat., Aug. 28ta A.C.U. Six Days Trial.

Sat., Sept. 4th— Scottish Speed Championship; at St. Andrews. Scott Trial in Yorkshire.

A Mysterious Knock.

Recently I went for a ride on my 3½ h.p. Sunbeam. Leaving Manchester, I made a non-stop run to Ambleside, and commenced the ascent of Dunmail Raise. Two-thirds up I heard a mysterious tap in the cylinder (like a hammer tap), and this continued until the power fell of all continued in the power fell of all continu the power fell off altogether, and I stopped. It was not the ordinary form of engine knock. Could you please advise me as to the probable cause of this noise?—G.W.B.

We can only conclude that the noise of which you complain was a common engine knock due to overheating or to pre-ignition. The former trouble might be caused by insufficient lubrication, and the latter by the use of a sparking plug which will not stand up to continuous driving, especially when bad hills are reached, and the throttle is opened wide. There is absolutely no reason why the 3½ h.p. Sunbeam should not climb Dun-mail Raise. (As you refer to the town of Ambleside, we think that the hill you attempted was Kirkstone Pass, since Dunmail Raise starts from Grasmere.)

Magneto Defect.

Some months ago I bought a 6 h.p. outfit fitted with a magneto which gave an exceedingly " spark in the front cylinder, and an exceedingly weak one and frequently none at all in the back cylinder. The trouble is apparently referred to in Young's "Magnetos," on pages 79-80, but I do not understand how to apply the remedy there suggested in "reducing the apparent to the proper section." "reducing the energy output."-J.H.L.

The remedy suggested by the writer of "Magnetos" is one involving questions of design, and could not be applied by the average rider. From your description we cannot tell you what the defect is in the magneto, but it may be due to the contact breaker casing, which carries the cams, being tilted a little, thus causing the points to open unevenly. Notice whether the points separate to the same extent when the heel of the rocker arm passes over each cam. If the contact breaker is in order, remove the carbon brushes and clean them; also clean the slip ring by inserting a piece of petrol soaked rag on the end of a peucil through a brush orifice, rotating the magneto at the same time. Should the magneto still give trouble, we would recommend you to send it to the makers.

Carrying an Extra Passenger.

I purchased a 4 h.p. Campion (J.A.P. engine) last season, and fitted a Henderson B1 sidecar, and find there is not sufficient room for my wife and child (aged nine) to travel in comfort. I have been told that a heavier sidecar would be too big a strain on the engine, so before doing anything I thought it best to seek your expert advice on the subject, and I should esteem it a favour if would give me your opinion .- A.C.G.

would give me your opinion.—A.C.C.
There is no reason why your machine
should not pull a heavier sidecar, or one
with a more roomy hody. At the same
time, however, we would suggest that a
better way out of the difficulty would be to fit a properly sprung pillion seat on the carrier of the motor cycle, preferably one having a back rest and support for the rider's feet.

Petroil Lubrication for Scotts.

I should be glad if you will give me some information on the subject of petroil lubrication on a 1919 Scott and sidecar; also the amount of oil used per gallon

of petrol. I have tried all adjustments of the sight-feed lubricator, but find this method very expensive, one quart of oil seldom lasting more than 100 miles. I have been well satisfied with the machine except in this one particular.-C.F.S.

When using one of these machines we obtain regularly 250 miles per quart oil consumption. There is no need to use the hand oil pump, as the engine itself will draw oil through the lubricators, and the drip should be regulated to about thirty drops per minute. It is not altogether satisfactory to use the petroil system entirely, as by this method the main bearings do not receive proper labrication. We would suggest that you add about one-third of a quart of oil to two gallons of petrol, and occasionally give a slightly additional charge of oil through the hand pump.



The following resolution has been passed by the Council of the British Association of Trade and Technical ournals, Limited:

"In view of the expression of opinion by Sir Auckland Geddes, as President of the Board of Trade, regarding the acceptance of advertisements of goods manufactured in late enemy countries, the Council have carefully considered the whole position. They now recom-mend members to adhere to the adopted policy of the Association not to accept such advertisements for the present, in order to enable British manufacturers to recover their normal working conditions. At the end of the present year (1920) the subject will again be considered, with a view to further advising members on the subject."

The publishers of "The Motor Cycle" readily accept this recommendation, and have, in fact, constantly refused offers of advertisements of German goods.

Consumption of Two-stroke.

Can you suggest any reason for excessive petrol consumption of a excessive petrol consumption of a 2th p. two-speed two-stroke motor cycle? The jet has been reduced to the smallest possible limit, there is no apparent leakage in the carburetter, and the engine has just been decarbonised in order to see if that would allow it to take more air and so reduce the consumption. In spite of this, the greatest mileage it will do is 40 m.p.g. of petrol.—M.R.

Instead of reducing the jet size, you might try the effect of lowering the petrol level so that it is not above in from the top of the jet. The ignition timing should also be fully advanced when the machine is running. You can verify the

timing by noting whether the piston on top dead centre when the contabreaker points are just commencing separate, the ignition control lever being fully retarded. Also make certain the the belt is adjusted to the correct tension

RECOMMENDED ROUTES.

WARWICK TO EASTBOURNE.-W.F. WARWICK TO EASTBOURNE.—W.F. Warwick, Gaydon, Banbury, Deddin ton, Oxford, Dorchester, Wallingfor Pangbourne, Reading, Odiham, Farnhar Guildford, Dorking, Reigate, Crawle Handeross, Cuckfield, Uckfield, Haiham, Eastbourne.

LEICESTER TO BRIGHTON .- J.G.B.

Leicester, Lutterworth, Rugby Ro to Watling Street, Kilsby, Daventr Towcester, Buckingham, Winslow, Ayle bury, Wendover, Great Missende Amersham, Beaconsfield, Slough, Win sor, Staines, Kingston, Dorking, Reigat Crawley, Handcross, Brighton.

CROYDON LYNMOUTH (DEVON). B.S.H.

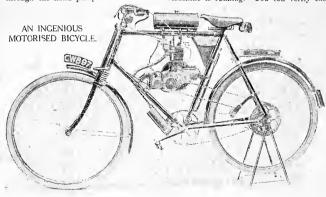
Croydon, Carshalton, Sutton, Ewe Epsom, Leatherhead, Guildford, Faham, Hale, Odiham, Basingstoke, Owton, Whitchurch, Andover, Weyhi Amesbury, Stouehenge, Heytesbur Warminster, Frome, Shepton Mall Glastonbury, Street, Walton, Bridgwatt Quantoxhead, Williton, Washford Dunster, Porlock, Countishury, Ly mouth.

TORQUAY TO OTLEY (YORKS) .- W.M. Torquay, Teignmouth, Dawlish, E minster, Exeter, Honiton, Yarcomb Chard, Ilminster, Ilchester, Shept Mallet, Radstock, Bath, Swainswic Tetbury, Cirencester, Northleach, Bor ton - on - the - Water, Stow-on-the-Wol Chipping Norton, Banbury, Byfield, Da entry, Kilsby, Lutterworth. Leiceste Newark, East Retford, Doneaster, Ferr bridge, Wetherby, Aberford, Collinghar Harewood, Pool, Otley.

FARNHAM TO MANCHESTER .- J.C. Farnham, Hale, Odiham, Heckfiel Reading, Tilehurst, Pangbourne, Strea-ley, Moulsford, Wallingford, Shillin ford, Dorchester, Nuncham Courtena Oxford, Deddington, Banbury, Southan Coventry, Bedworth, Nuneaton, Watlin Street. Sibson, Twycross, Appleb Parva, Coton-in-the-Elms, Walton-o Parva, Coton-in-the-Elms, Walton-or Trent, Barton-in-Needwood, Rangemor Sudbury, Great Cuhley, Clifton, Asl bourne, Alsop-en-le-Dale, Buxton, Whale Bridge, Stockport, Heaton Norris, Mar chester.

MANY QUESTIONS BY POST.

In addition to the selection of queries published weekly in the columns of "The Motor Cycle," an average of approximately 230 enquiries are answered through the post every week. Correspondents would greatly assist our task in answering so many enquiries if they would keep their queries concise and to the point.



An Auto-wheel engine carried in a standard cycle frame is the basis of this neat little machine. No structural alterations are made to the cycle other than a wider pedal bracket axle. forks were fitted as a luxury. The gear ratio is 11 to 1, and the chain wheel is clipped on to the coaster hub like a speedometer pinion. The conversion is the work of Mr. H. Brown, of Nelson (Lancs.)

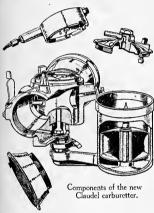
MOTOR CICLE

A NEW CLAUDEL-HOBSON CARBURETTER.

SOME ROAD EXPERIENCES.

FOR some time past we have been using a Claudel-Hobson single lever carburetter on a 4 h.p. Triumph and sidecar. To attach any fitting to a Triumph which is not made by the company may be likened to "painting the lily," but it is our duty to test the latest of everything. Hence the fitting of the new Claudel carburetter.

A full description of the Claudel carburetter appeared in *The Motor Cycle* of April 10th, 1919, page 369, and since that



date the latest pattern, though substantially the same, has been slightly modified in certain details. There is an ingenious arrangement on the top of the vaporising chamber allowing the Bowden control wire to be attached in three different positions, a point which is of considerable value to those who have to fit the carburetter. The control wire is attached to a disc rotating inside the cap of the vaporing chamber, and this disc is provided with two pegs engaging with holes in the actual throttle barrel. The disc is held in position by means of a spring similar to that employed on a magneto contact breaker. On the lower portion of the cap are three slots engaging with a projection on the carburetter casting, so that the control may be made to assume three different positions.

In actual running the carburetter greatly adds/to the flexibility of the engine. Slow running is all that can be desired, the acceleration is excellent, while the power is within the smallest fraction as good as that derived from a two-lever instrument.

Although, in designing it, the makers have fitted one lever, they apparently realise that atmospheric conditions affect the carburation considerably, especially on motor cycles, where the carburetter has to work in the open air and not under a warm bonnet, as in the case of a car. Consequently, the firm has fitted a small shutter with a slide through which the main air enters, allowing the degree of

fixed air at slow speeds to be controlled. When starting in normal weather the lever closing the shutter is drawn back and an easy start is at once obtained. When the engine is running the lever may be set to a midway position or farther open, according to the atmospheric conditions prograiting.

conditions prevailing.

In a consumption test we carried out
to other day no fewer than 76 m.p.g.
were obtained, a very satisfactory result
for a machine fitted with a heavy sidecar.

The Claudel-Hobson carburetter is made by Messrs. H. M. Hobson, Ltd., 29, Vauxhall Bridge Road, London, S.W.1.

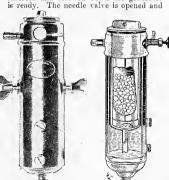
THE 1920 FALLOLITE GENERATOR.

IT is rather more than a year ago that we described the Fallolite lamp and generator. Since that time a great deal of work has been put into the designing of an improved generator for motor cycles. The lamp, which has been well tried and thoroughly proved for some time, remains unaltered.

It will be remembered that it is necessary in the case of the Fallolite lamp for the gas to be introduced to the lamp under slight pressure. Gas passes through a miniature Bunsen burner, protruding through the centre of the reflector, and impinging upon a pastile of rare earth, which becomes incandescent.

The carbide is inserted in the container until it is threequarters full, and the water is poured in until it reaches the level found on unscrewing the topmost of two plugs. A condenser chamber is embodied in the bottom of the generator, and any water which is condensed can be withdrawn by releasing a drain plug.

When the carbide container has been inserted and screwed down the generator



Exterior and section of the Fallolite

air is blown through the tube, and the needle valve immediately shut off. The slight amount of pressure so brought about causes the water to rise and attack the bottom of the carbide, when gas is at once generated. The gas then passes, ria the outlet shown on the left side of the drawing, and the small copper pipe into the condenser chamber, out through the tube on the right-hand side, and past

the needle valve to the lamp. As soon as the generation of gas starts, the pressure on the surface of the water causes it to rise continually to the carbide through the perforations in the bottom cup of the container. In the event of the pressure executing the limit of safety, gas can blow off through the safety valve shown on the left side of the drawing. The actual valve is protected by a cap, and the valve is of the hature of an ordinary tyre valve, namely, a piece of rubber slipped over a tule, closed at one end, with a small hole connecting it to the generator. In the event of this rubber perishing, it can easily be replaced.

It will be seen, therefore, that the generator is comparatively simple, and that there is nothing to go wrong, while the light shown by the Fallolite lamp is particularly brilliant.

The sole manufacturers of the Fallolite lighting set for the wbole of the British possessions are the Acetylene Arc Co., Ltd., 117, Bollo Bridge Road, Acton, London, W.3.

A NEW ACETYLENE GAS

A PRACTICAL form of head lamp, known as the Criscol, has been placed on the market by the Service Co., Ltd., 289, High Holborn, London, W.C.1. It is finished in black, with plated cowl and

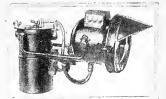
plated cowl and front rim, is provided with a genuine mangin leus, and has an adjustable focus.

adjustable focus. The chief item of interest in the outfit is the large generator, which is designed on extremely prac-tical lines. By undoing two wing nuts, the top of the generator, which conreservoir, can be detached. The carbide is carried in a small container, the bot-tom of which is perforated, and



A practical acetylene generator with separate water container.

water percolates through a central pipe having a brass distributer at its lower end. This container is free to oscillate, so that the waste carbide is shaken down to the bottom of the generator case.



The Criscol lighting set.

SCOTTISH SIX DAYS— Last Day's Route

Rumours of Undue Severity
Prove to be Wilhout
Foundation.

From Our Scottish Correspondent.



On one of the test hills to be included in the Scottish Six Days Trial,

T was with considerable surprise that one learnt that dissatisfaction had arisen concerning the alleged severity of the route chosen for the last day of the 1920 Scottish Six Days Trial, and that the Manufacturers' Union, clearly with insufficient data, were energetically condemning the course chosen as a "machine breaking affair" which should not be included in an event of such importance. Previous to the reception of this information the writer was well acquainted with the country over which the route lies, having traversed the same ground in a one day trial which was held in winter under adverse weather conditions, and including, moreover, shorter checks and several difficult hills not to be ascended in the Scottish Six Days; while it may be pointed out that in a more recent Edinburgh Club trial over the same route, the reason why only two competitors survived was that almost all went astray owing to a badly placed arrow!

Knowing that such discontent prevailed, it was with much satisfaction that we learnt that immediately succeeding the London-Edinburgh, several riders, including members of the Manufacturers' Union, who had journeyed north in the classic event, were to be piloted over the much discussed course in order to see for

themselves.

Unfortunately several who were expected evidently overslept, and the party that left the Edinburgh Club at mid-day was smaller than anticipated. The "official" cars were a 15 h.p. I.O.M. Straker-Squire, the property of A. H. D. Aikman Smith, secretary of the trial, and a 20 h.p. Chevrolet, with the veteran organiser, Campbell McGregor, at the wheel, carrying members of the trade. Several solo machines and sidecars, on which were mounted London-Edinburgh competitors, made up the procession.

Redstone Rig-an Easy Climb.

Glorious weather prevailed, and after lunch at Gifford, the first hill to be observed, namely, Redstone Rig, was quickly reached. This is an exceedingly easielil, hardly worth observing—indeed, the solo riders expressed some surprise that it was to be observed, as under the prevailing weather conditions it was hafdly necessary for them to change down from top gear, while the single-cylinder sidecars climbed it with consumnate ease.

Immediately succeeding, the route lies over miles of moorland track, presenting for the most part a

hard gravel surface, though in parts rough and rutty. There are many small water-splashes, one or two at the foot of steep rises, which may harass belt-driven machines a little, but none are in non-stop sections. This applies throughout the trial. All the machines that were with us had no difficulty whatever in following the Chevrolet, which, though carrying five stalwart passengers, covered the distance over which the check extends within two minutes of the time to be allowed to competitors.

A Long Trying Gradient.

The next feature of note is Elmscleugh Hill. This is a long, trying gradient, though quite straightforward. There are no hairpins which require "stunt" riding, and only in the case of a severe headwind would it cause any embarrassment to a modern machine.

Thenceforth the route is again over moorland track leading through beautiful scenery, and presenting several difficult gradients which are not to be observed in the Scottish Six Days. At one point a burn of some depth is crossed, and here most of the solo riders were compelled to balance with their feet in the water. We found several Edinburgh motorists here, and forthwith Claude Duncan (Norton), J. Newman (3½ Sunbeam), and J. W. Wills (2¾ Verus) amused the assembly by scaling the almost perpendicular course of an old pack road leading up from near the water's edge.

The third test hill to be included is Talla, which is a long straight hill with a severe gradient, but not

extraordinary in any way.

Summing up the impressions of the day, it can quite safely be said that every one present was considerably surprised that, through lack of first-hand knowledge, this occasion should have been seized upon for causing dissatisfaction with the choice of the Edinburgh Club. This last day is infinitely less severe than some of the routes with which the famous Scottish event is associated. There are no hills to compare with Amulree, and no checks so difficult as the check which last year immediately succeeded Amulree. Competitor should experience difficulty on this day, unless, of course, his machine has considerably fallen off in power during the preceding five days, and one imagines that one of the objects of the trial is to test the machines for the maintenance of power.



Times to Light Lamps.

June				9.37	p.m.
22	5th	•••		9.39	,,,
31	7th	•••		9.41	,,
7.9	9th	•••	• • • •	9,42	,,

Benzole Exports.

No fewer than 12,769 gallons of benzole and toluol were exported from this country last month. In April, 1919, the figure was 5,199 gallons.

Where the Petrol goes to.

The late Mr. Dodge (of Dodge car fame) owned a 30 m.p.h. motor yacht which consumed 130 gallons of petrol per hour, enough to take the average sidecar 10.000 miles.

Taxation and Prices.

The proposed taxation of £1 per h.p. on cars has had the effect of raising the value of light cars. Some people prefer to pay £100 extra for a car which may be taxed £10 or £12 to purchasing a more powerful car at a lower price, but which would be liable to beavier taxation.

Open Speed Trials at Luton Hoo Park.

Permission has been granted to the Luton and S. Beds A.C. by Lady Ludlow for the use of Luton Hoo Park as the course for the open speed trials to be held on July 24th. Full particulars and entry forms will be sent to interested motor cyclists on application to the hon. trial sec., Mr. J. Simpson, George Hotel, Luton.

A Loss to the Women's Police Service.

We regret to record the death of Miss Damer Dawson, Commandant of the Women's Police Service. Miss Dawson was a keen motor cyclist, and used a motor cycle in the course of her duties.

Humber Trial.

All arrangements for the annual Humber reliability trial, fixed for June 26th and open to employees of Messrs. Humber, Ltd., are well in hand.

All types of motor vehicles can be entered, and in addition to the Humber challenge cup, silver cups and other prizes will be awarded in the various classes.

This trial was instituted last year in order to interest employees in their productions, and to show in a practical manner the difficulties which motor vehicles are expected to overcome.

How to be Popular.

The Ilkley L.C. and M.C.C. is nothing if not up-to-date; acting upon a suggestion arising from our recent correspondence, under the above heading, on the subject of tipping at the luncheon stops of reliability trials, a "food controller" has been appointed for the open trial on Saturday, 5th inst. For a quite moderate sum this gentleman (Mr. N. O. Vinter) will arrange for the competitors' lunch and tea, and the disbursement of suitable gratuities at the stopping places, thus taking all responsibility upon himself for the "popularity" or otherwise of the trial with the hotel staffs. Incidentally, this trial will not include a large number of watersplashes as many have thought possible.

Special Features.

EQUIPMENT FOR A LONG RUN.
ORGANISING A BIG TRIAL.
NOTES FROM THE ISLE OF MAN.

Printers' Slips.

Printers' slips in daily papers are responsible for many mistakes in advertisements of motor cycles. Each week we receive from readers a large number which vary from lightweights at £850 to 1820 big twins.

Team\Winners at Storeton.

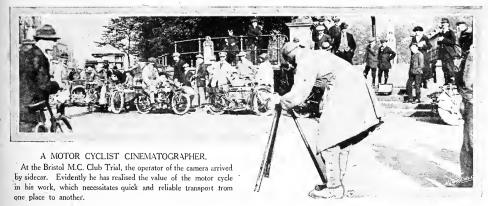
The awards in the Liverpool M.C. Speed Trials have now been confirmed, and are substantially the same as have already been published. The team prize, however, goes to the Norton team with twenty-two marks, the A.J.S. coming second with twenty-oné.

A Youthful Gold Medal Winner.

The youngest successful London-Edinburgh competitor is probably J. C. Watson, who piloted a 4 h.p. Harley-Davidson flat twin. He is the eldest son of Alderman Duncan Watson, Mayor of Marylebone, and managing director of the Harley-Davidson Motor Co., London.

The Motor Cyclists' Camp.

Many motor cyclists may decide to spend their holidays under convas this year, and so revive memories of 1915 and 1916. No more independent or healthful method of holiday making can be imagined, and given a powerful side-car machine, the mobility of the whole outfit is a decided advantage.



T.T. and Summer Number.

Our issue for June 17th—published on the day of the Senior T.T. Race—will form the T.T. and Summer Number, and will contain special features of interest to the sporting motor cyclist who wants the latest T.T. news. Touring and regular features will not be neglected.



All competitors in the T.T. will be obliged to wear this type of safety helmet. In 1917 it probably saved the life of several riders who had spills.

A.C.U. Rally at Knutsford.

Two hundred and fifty members representing eleven different clubs were present at the rally and reunion of the North-Western Centre A.C.U., h Knutsford Heath on the 23rd ult. held at

A large crowd of spectators and motor cyclists were present to watch the arrival of the various clubs. Eleven individual prizes were awarded for smartness, ingenious device, oldest machine, and

other classes.

The following table shows the result of the official count :

82 59 52 1 62	30 24½ 24 18	2,460 1,445 1,248 1,116
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. 62	24	
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	181	925
		570
18		540
		396
	1	390
	25	325
	-2	
. 33		264.
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Percentage of members by mileage from club headquarters.

Pertinent Questions.

Have you paid your revenue tax? Is your driving licence up-to-date? Is your machine correctly registered? Does your silencer conform to police regulations?

Has your machine two brakes, and are they in perfect order?

Are your numbers the correct size, and are they legible?

Scottish Six Days Entrants.

The result of the first ballot for starting position in the Scottish Six Days Trial is as under:

- as under:

 1. Rev. J. M. Philpott (2% Wilkin).

 2. H. B. Denley (8 Morgan).

 3. Alan B. Fairley (3 AB.C.).

 4. R. S. Macrae (7-9 Harley Davidson so.).

 5. Caracted Macgregor (Brougher angle.

 6. W. Westwood (4 Triumph).

 7. F. J. Hutchison (——).

 8. Robert (3 AB.C.).

 9. Ernest W. Choldcroft (4 A.J.S.).

 11. Hugb Gibson (——).

 12. James Bock (——).

 13. James Bock (——).

 14. J. P. Brown (8 Henderson).

 15. J. Westwood Wills (——).

 16. J. Machael (1 A.J.S.).

 17. J. Alanchison (1 A.J.S.).

 18. James Bock (——).

 19. J. James Bock (——).

 10. J. Machael (1 A.J.S.).

 10. J. Alanchison (1 A.J.S.).

 11. J. R. Brown (8 Henderson).

 12. James Horizon (8 Henderson). under mentioned entries have received.
 - E. A. Colliver (Indian Scout). T. S. Sharrott (Indian Scout). Claude Duncan (3½ Norton). H. Alexander (8 Matchless sc.).

A Demonstration of Reliability.

The Wooler Breaks Long-distance Records.

ON Thursday, May 27th, F. A. McNab, astride a 23 h.p. Wooler, success-fully broke and established several records. In Class B for 350 c.c. machines, records. In Class B for OSC C.C. Inactines, he raised a speed of the 350 mile record, previously held by R. N. Stewart (N.S.U.), to an average of 42.86 m.p.h., and created new records covering a distance of 400, 450, and 500 miles, whilst in that same class the eight and nine-hour records previously held by Stewart were also, by the conservations of the control of also broken. His successes were also extended to the 500 and 1,000, c.c. lasses. In the former he established new ten, eleven, and twelve-hour records at an average speed of 40 m.p.h., and in the latter class he raised a speed held by H. A. Collier, on a Matchless, to 40.60 and 40.62 respectively in the twelve-hour and 500-mile records.

The engine used was that fitted to the machine on which he made his attempt a a broken connecting rod. The equipment included Palmer tyres, John Bull belt, C.A.V. magneto, Vacuum oil, and Pratt's spirit. An additional oil tank was fitted in order to reduce the number of halts.

CLASS B .- 350 c.c. New Records.

		h,	m.	s.	Speed,	Speed.
350	miles	 8	9	438	42.86	41.01
400	,,	 9	32	125	41.94	_
450	21	 II	10	83	40.30	
500	17	 12	18	323	40.62	

Provisional results of the Cork and District M.C.C. one day trial. -

HUTCHINSON CUP AND SIDECAR PRIZE.—J. Healy (4 Norton sc.); second prize, A. D. Carton (3½ Sunbeam); third prize and president's novice cup, R. A. Pericho (6 Martinsyde-Newman), TEAM PRIZE.—R. S. Russell (5½ Scott), E. B. Russell (5 Brough), and R. A. Pericho (Martinsyde-Newman),

8 hours' record 342 1,338 42.84	
9 ,, ,, 375 4,668 41.77	
10 ,, ,, 412 906 41.25	
11 ,, ,, 442 693 40.22	_
12 ,, ,, 487 - 455 - 40.60	_

McNab's speeds also take previously unestablished ten, eleven, and twelvehour, and the 450 and 500-mile records for the 500 c.c. class, and the twelve-hour and 500-mile records in the 1,000 c.c. class. He also establishes a record for the seven hours in Class B (350 c.c.). Such results demonstrate the successful development of the 23 h.p. flat twin.



A RECORD IN POST-WAR RECORD-BREAKING. F. A. McNab at speed on a 23 h.p. Wooler. He broke and established sixteen records in twelve hours.

AN IRISH OPEN TRIAL.

syde-Newman). Lightweight prize: C. W. Johnson (21/2 Diamond). Special prize: J. A. Wilson (4 Triumph).

GOLD MEDALS.—R. S. Russell (3% Scott), J. A. Wilson (4 Triumph), J. T. Walsh (4 Triumph), A. D. Carton (3% Sunbeam), E. B. Russell (5 Brough), P. H. Hurse (44 B.S.A.), J. Healy (4 Norton Sc.), J. Brown [2% Donglas), C. A.

Murphy (Enfield), R. A. Pericho (Martinsydo-Newman sc.), and J. Gibbons (4 Triumph), STLVER MDDALS.—R. Swanton (7-9 Indian sc.), R. H. Good (4 Norton sc.), and J. Woods (4/4 B.S.A.).
BEONZE MEDALS.—A. Healy (Blackburne), C. W. Johnson (2½ Diamond), J. J. Mulligan (2½ Triumph), A. W. Aters (Norton sc.), R. Ropham (Blackburne), and D. Duggan (Indian Sc.),



The start of the Senior One Hour Trial, won by J. Emerson on an A.B.C.

The B.M.C.R.C. Brooklands. Meeting at High Speeds and Exciting Finishes,

U NDER good weather conditions, the B.M.C.R.C. held its second 1920 members' meeting on Saturday last, Some excellent racing was witnessed. All the events were started and finished at the fork, an arrangement extremely con-

venient to the crowd of onlookers. The first event, the Novices' Scratch-Sprint for 350 c.c. solo machines (two laps), drew eight starters. Tudor Thompson, on an overhead valve 23 Douglas, won the event at a speed of 55.21 m.p.h., while G. S. Boston (23) 55.21 m.p.h., while G. S. Boston (2²₄ A.J.S.) and A. F. Houlberg (2³₄ Wooler) finished second and third respectively. A considerable number of competitors

entered for the second event, the Novices Scratch Sprint, 500 c.c., solo machines, and fifteen faced the starter. A very fine race resulted over a distance of two laps, in which H. H. Beach (5½ Norton) won at a speed of 64.2 m.p.h.

The third race on the programme, the Novices' Scratch Sprint over two laps for solo motor bicycles not exceeding 1,000 e.c., attracted six starters. This event provided an exciting struggle between O.

M. Baldwin on a Matchless with an 8 h.p. o.h.v. J.A.P. engine and H. R. Harveyson riding an eight-valve Indian, the former being the winner at a speed of 72.25 m.p.h.

Following this event was a race for Following this event was a race for passenger machines (500 and 1,000 c.c.), two laps. J. D. Hawkes, on a racing Morgan with an eight-valve M.A.G. engine, easily finished first. O. de Lissa on a 996 c.c. machine, came home second, with E. C. E. Baragwanath, riding a Zenith sc., third. The winner's speed

was 59.22 m.p.h.

In view of the near approach of the T.T., the Junior and Senior one hour races were most interesting. The for-tunes of the competitors varied very considerably. In the Junior event ten machines started, and the result was as follows:

(1.) Tudor Thompson (23 Douglas), 50 m. 77 yds.

(2,) A. E. Wills (23 Douglas), 46 m. 1,630 yds. (3.) A. Watson (23 Douglas), 45 m.

Ten machines started in the Senier One Hour event. J Emerson put up one nour event. Semerson part up a wonderful exhibition of consistent and fast racing with his A.B.C., and at the finish was seven lays ahead of the nearest competitor, after having completed twenty circuits at a speed exceeding 64 m.p.h. The results were:

1. J. Emerson (3 A.B.C.), 64 miles 180 yards.

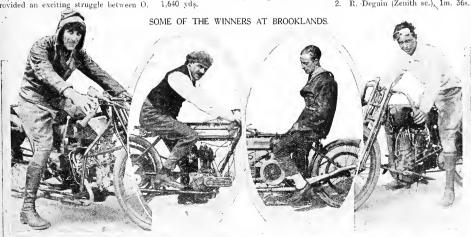
2. L. E. Pope (Zenith), 45 miles 456 yards.

5. H. R. Harveyson (Indian Scout), 41 miles 245 yards.

The Surbiton Handicap, two laps, was the last item on the programme, the entries ranging from a 211 c.c. twostroke New Hudson to a Henderson side-car. This event was undoubtedly the most exciting race during the afternoon. The results were :

1. F. R. Spikins (Harley-Davidson), handicap 6s., speed 68.32 m.p.h.

2. R. Deguin (Zenith sc.), 1m. 36s.



J. Emerson (A.B.C.), Senior One Hour Trial Race.

H. H. Beach (Norton), Novice 500 c.c. Scratch Race.

Tudor Thempson (Douglas), One Hour Junior Trial Race.

F. R. Spikins (Harley-Davidson), Surbiton Handicap.

LONDON-EDINBURGH RESULTS.

An Analysis of Official Results. Complete List of Motor Cycle and Cycle Car Competitors and Awards.

282 Motor Cycles, Sidecars, and Three-wheelers started. 222 finished. 121 Gold Medals. 9 Bronze. 13 Disqualified. 75 Silver.

OFFICIAL TABLE SHOWING STARTERS, FINISHERS, AND AWARDS,

	Entered.	Started.	Retired:	Finished.	Gold Medal.	Silver Medal.	Bronze. Medal.		No Award.	Dis- qualified.
Solo Motor Cycles	166 .	146	26	120	71	28	6	2	2	8
Sidecars and Three-wheel Cycle Cars	150	136	34	102	47	47	. 3	4-	-	_ 5
*Four-wheel Cycle Cars and Cars	65	54	10	44	29-	10	1	-	1	3
Totals	381	336.	70	266	150	85	10	2	3	. 16

^{*} Included in this class were 9 cycle car starters, of which 2 retired, I was disqualified, I no award, 3 gold medula, and 2 silver medula.

S will be seen from the accompanying official schedule, solo motor cycles did hetter in the London-Edinburgh run than either of the other two classes of vehicles. The finishers were 82% of of vehicles. The finishers were 82% of the statters, while in the sidecar and three-wheeled cycle car class only 75% of starters finished, as against 81% in the case of cars, which class included four-wheeled cycle cars. Analysing the results further, it is interesting to see which type of engine made the highest score. If we exclude the car class, and with it the four-wheeled

the car class, and with it the four-wheeled cycle cars, a careful examination of the official lists of awards reveals that flat twins lead with 85.7% finishers of those that started, two-strokes coming second with 84.6%, V twins third with 81.0%, single-cylinder four-strokes 72%, and four-cylinder machines last with 62.5%

Actual awards have not been taken into consideration. We have merely taken those that started and finished, disregarding the disqualifications and "no awards.

A.B.C.

*J. Baker. Disqualified. C. Keith-Robinson. Gold medal. *W. J. Fleetwood. Disqualified. N. V. Allbon. Gold medal. E. P. Fowler. Gold medal. *G. W. Lush (sc.). Disqualified.

A.J.S.
W. J. Lake, Retried.
W. J. Lake, Retried.
W. Dis. (sci.), Sifery medal.
W. Dis. (sci.), Gold medal.
R. A. Biggs (sc.), Gold medal.
J. R. Bell (sc.), Sifer medal.
W. Julian (sc.), Retired.
W. Julian (sc.), Retired.
G. H. Symaters (sc.), Memeral.
J. Coppr., jun. (sc.), Retired.
W. C. Heny (sc.), Gold medal.
O. Wade (sc.), Gold medal.
O. Littlewood (sc.), Gold medal.

*J. Beet (sc.), Disqualified= †W. P. Tippett (sc.), Silver medal.

ALLON.
*L. E. Clulee. Disqualified,

ARTEL. ARIEI.

\$D. S. Baddeley. Gold medal.

†L. Pulham. Silver medal.

F. E. Jones. Gold medal.

F. A. Longman (sc.). Gold medal.

BEARDMORE-PRECISION. †O. P. C. Collier, Silver medal, BLACKBURNE.

BLACKBURNE.

J. A. Watson Bourne. Award held over.
over.
H. Hall, Gold medal.
J. S. Holroyd (sc.). Gold medal.
W. A. Fell-Smith (sc.). Silver medal.
J. A. W. Armstrong (sc.). Gold
medal.
E. Hillary (sc.). Silver medal.

CIO

There were ninety four-stroke singles in the trial, of which sixty-five survived, among which the greatest number of gold medals were awarded.

Ninety-three V twins finished out of 116 starters, and out of forty-two flat twin starters thirty-six finished.

There were twenty-six two-strokes in the run, and the retirements were four; while the four-cylinders suffered three casualties out of eight starters.

Outstanding Performances.

Reviewing the individual awards and the respective performances of various makes of machines in conjunction with our impressions of the trial, we give pride of place to half a dozen makes. The success of T. G. Bullus (3½ P. and M. sc.) is worthy of special mention, for with only is worthy of special mention, for with only two speeds this 500 c.c. sidecar successfully negotiated Kirkstone and secured a "gold" while so many higher powered mounts failed to negotiate the hill. True, the makers cannot claim a 100% result, since the solo machine of this make BROUGH.

W. McKeggie. Gold medal.
§H. Karslake. Gold medal.
P. Boult. Gold medal.
†E. Mathews. Silver medal.
†E. Mathews. Silver medal.
†S. V. Chidley. Gold medal.
†W. E. Brough (sc.). Silver medal.

B.S.A †P. P. Walker (sc.). Silver medal. G. P. Osborne. Gold medal.

BRADBURY.

S. Goodfellow. Retired. CARFIELD. †R. S. Whiting. Silver medal.

CHATER-LEA. ‡G. T. Udall. Silver medal. *F. Towler (sc.). Disqualified.

CLYNO. L. S. Pulzer (sc.), Bronze medal, H. Gibson, Gold medal,

COULSON B. R. B. Clark, Gold medal, J. H. Callaway, Retired, H. Guy, Retired, C. L. Tubbs, Retired, C. H. Ward, Silver medal,

DE DION.

B. F. C. Fellows. Silver medal. DIAMOND. G. S. Davison, Retired.

DUNLOP SCOOTER, S. C. Marshall, Retired.

DIIZMO II. Le Vack. Gold medal. DOUGLAS.

St. A. Baddeley, Gold medal,
S. A. E. Lowe, Retired,
S. A. E. Lowe, Retired,
R. A. Bonner, Silver medal,
W. D. Porter McNish, Bronze medal,
E. Hawks, Retired,
F. Thorpe (sc.), Silver medal,
H. Thorpe, Gold medal,
R. A. Attwood, Gold medal,
J. P. Prior, Gold medal,
A. Milward (sc.), Silver medal,
C. L. Fletcher (sc.), Retired,
E. Kickham (sc.), Silver medal,

ENFIELD. J. G. Bryson. Retired.

F.N. § H. G. Bell. Gold medal. G. P. Stuart Clarke, Gold medal.

HARLEV-DAVIDSON.

J. A. Masters (sc.). Gold medal.
C. F. Tempie (sc.). Gold medal.
R. Carey (sc.). Silver medal.
G. Grinton (sc.). Silver medal.
G. Grinton (sc.). Silver medal.
V. McLellan (sc.). Retired.
V. McLellan (sc.). Gold medal.
J. D. Marvin (sc.). Gold medal.
J. S. Morgan (sc.). Gold medal.
J. S. Morgan (sc.). Gold medal.
S. E. Longman (sc.). Gold medal.
S. E. Longman (sc.). Gold medal.
C. Tati (sc.). Silver medal.
J. R. R. Stacey (sc.). Gold medal.
A. R. Stacey (sc.). Gold medal.
H. F. Edwards. Gold medal.
H. F. Edwards. Gold medal.
J. C. Watson. Gold medal.
J. C. Watson. Gold medal. HARLEY-DAVIDSON.

tF. C. Harvey. Silver medal.

retired. Six firms can claim 100% results. Duzmo. One entered, one gold medal. F.N. Two entered, two gold medals. Levis. Two entered, two gold medals. Lea-Francis. Three entered, three gold medals.

Martinsyde-Newman. Three entered, three gold medals.

Rex. Three entered, three gold medals. On the point of reliability, however, to the above, perhaps, should be added the A.B.C. With six entered three were awarded gold medals, and three lost their awards by being ahead of time; and if the Indian Scout models are separated from the larger machines, the Hendee Manufacturing Co. can claim 100% results with the former mounts.

Altogether thirty-six machines failed to negotiate Kirkstone Pass, of which number twenty-one were solo machines and fifteen were sidecars. In addition.

two four-wheel cycle cars stopped.

The following list shows the results arranged alphabetically according to the make of machine:

HENDERSON. †J. Robertson Browne. Silver medal, †H. V. Bateman (sc.). Silver medal. †H. B. Shntes (sc.). Silver medal. G. S. Wright (sc.). Retired. G. R. Volkert (sc.). Retired.

HOBART. E. Foster. Retired. †A. E. Walker. Silver medal.

HUMBER. H. F. O. Evans, Gold medal.
J. Mackenzie (sc.), Bronze medal.
J. E. Sharp, Gold medal.
*F. Arbuckle, Disqualified.
*Wight (sc.), Gold medal.
E. C. Redvers-Johnson, Gold medal.

T. S. Sharratt, Gold medal,
§E. A. Bridgman (sc.). Gold medal,
J. F. Perrin (sc.). Silver medal,
F. A. Applohee. Gold medal,
J. H. Place (sc.). Retired.
W. Hallet. Disgualified.
†H. Clennell (sc.). Silver medal.
E. A. Colliver. Gold medal.
I. A. Christon. Gold medal.
J. McBirnie (sc.). Retried.

JAMES. C. Crostwaite (sc.). Retired.
H. Reyre (sc.). Silver medal.
H. H. Saddington (sc.). Gold medal
G. Richardson (sc.). Retired.
C. B. Cook (sc.). Silver medal.
G. W. Langiord (sc.). Retired.

LEA-FRANCIS.

§B. Alan Hill. Gold medal.

J. Richardson. Gold medal.

A. M. Rex. Gold medal. LEVIS.

F. W. Applebee. Gold medal. H. R. Lane. Gold medal.



SUNBEAMS

WESTON-SUPER-MARE SPEED TRIALS

350 c.c. Solo

23 SUNBEAM 1st.

350 c.c. Sidecar

23 SUNBEAM 1st.

500 c.c. Solo

31 SUNBEAM 1st.

500 c c. Sidecar

31 SUNBEAM 1st.

Unlimited Solo

31 SUNBEAM 1st.

Unlimited Sidecar 31 SUNBEAM 1st.

And Fastest Time of the Day.

For Speed and Reliability you cannot beat the

John Marston Ltd., 11, Sunbeamland, Wolverhampton.



Compound Rubber Patches.

No Vulcanisation Necessary. Made in 14 Sizes, Oval and Rectangular Shapes.

Thoroughly efficient and satisfactory Repairs guaranteed with the minimum expenditure of time, trouble, and money.

TYRE

of all kinds quickly remedied



Strong Canvas Patches with Pure Rubber Facing. Made in 11 Sizes 'Oval and Rectangular,

HERMETIC

REPAIR SPECIALITIES.

There are no others "just as good." Supplied by all Cycle and Motor Cycle Agents and Garages.



The SELF-SEALING RUBBER Co.

LIMITED.

HERMETIC WORKS, BIRMINGHAM.

MOTOR (YCLE

London-Edinburgh Results .-

MATCHLESS

MATCHLESS,

1G. Nott (se.), Silver medal,

8. Julian (se.), Silver medal,

9. Julian (se.), Silver medal,

1. A. Hoult (se.), Gold medal,

7. J. Ross (se.), Gald medal,

7. J. Ross (se.), Silver medal,

6. Parkman (se.), Silver medal,

7. J. J., Witt (se.), Retired,

6. D. Hardee (se.), Silver medal,

8. J. Ellis (se.), Gold medal,

8. J. Ellis (se.), Gold medal,

8. J. Ellis (se.), Silver medal,

9. J. V. Pollard (se.), Silver medal,

10. J. V. Pollard (se.), Silver medal,

11. J. Pollard (se.), Silver medal,

12. J. Pollard (se.), Silver medal,

MARON A Mahon Retired

METRO-TYLER. † I. Stuart Bennett, Silver medal, † O. C. Roberts, Silver medal, † G. F. Ammon, Silver medal,

MARTINSVDE-NEWWAN W. P. Clifton. Gold medal. H. W. Bashall. Gold medal. J. T. Bashall. Gold medal.

NEW IMPERIAL NEW IMPERIAL.

M. A. Newnham (sc.). Retired.
R. L. Richardson (sc.). Retired.
C. Blundell. Silver medal.
†R. A. Lucking (sc.). Silver medal.

NEW HUDSON. W. J. Hylands. Retired.

NEW SCALE tH. J. Scale, Silver medal.

NORTON.
L. R. Kay. Rective Gold medal.
S. Lawrence. Gold medal.
S. Lawrence. Gold medal.
B. Jefferys (sc.). Retired.
S. Parker [sc.). Gold medal.
H. Reynolds (sc.). Siter medal.
J. Bontl. Retired.
J. Bontl. Retired.
E. B. Lathbury (sc.). Siter medal.
K. Condition of the medal.
K. Sawer (sc.). Gold medal.
K. Sawer (sc.). Gold medal.
S. Sawer (sc.). Gold medal.

S. Sawer (sc.). Gold medal.

N.U.T. G. P. G. Kidston. Gold medal. J. G. Lister (sc.). Silver medal.

ο.к. P. Pike. Retired.

PARAGON. B. W. Cooper, Retired. F. K. Portway, Bronge medul. ~

P. AND M. J. H. Barrow, Retired, T. G. Bullus (sc.), Gold medal, DILLIVER

F. P. Slater, Retired, †H. Williams, Silver medal, F. A. Beardmere, Retired,

RADCO tR. H. Baxter. Silver medal.

ROVER. §A. S. Candler. Guld medal, J. A. Hilger. Retired, J. C. Sanford, Bronze medal,

READING-STANDARD. J. D. Barclay. Gold medal, J. W. Barclay (se.). Retired, W. E. Line (sc.). Silver medal, D. H. Noble (sc.). Retired

ROYAL RUBY. J. Hargreaves, Retired.

W. A. Jacobs, Gold medal, J. P. Le Grand, Gold medal, F. White, Gold medal,

SCOTT. SCOTT.
E. M. P. Boileau, Gold medal,
E. J. Anderson, Gold medal,
G. W. Hill, Bronze medal,
G. A. Reed, Gold medal,
G. A. Rowen, Gold medal,
H. B. Browning, Award held ever,
C. Sidney, Gold medal,
E. Wasling, Gold medal,

STINBEAM. SUNBEAM.
P. T. C. Body. Bronze meti-1.
W. G. Harrison. Gold metial.
K. Kehle. Retired, modified.
R. F. Dew. Gold medal.
W. R. Preston. Retired,
E. C. Lunnis (sc.). Retired.
E. C. Lunnis (sc.). Retired.
M. Fraser (sc.). Silver metal.
H. Willison lece). Retired.

C. Bourlet, Retired,
J. A. Newman, Gold meda,
J. A. Newman, Gold meda,
A. Weeding, Gold medal,
H. E. Taplin, Gold medal,
A. F. Selby, Gold medal,
E. H. Newman, (e.), Gold medal,
A. J. Read bett, Gold medal,
Supplies (e.), Silver medal,
J. Bandlon Rose (e.), Gold medal,

TRIUMPH.
C. F. Piewman. Gold medal.
C. F. Piewman. Gold medal.
C. J. Howe, Retired.
R. McRitchin. Gold medal.
R. McRitchin. Gold medal.
R. B. Roberts. Disynalized.
J. O. Vessey. Gold medal.
J. O. Vessey. Gold medal.
J. Degyl Harvey. Gold medal.
J. C. Straight. Gold medal.
L. Raddon (Sc.). Disynalized.
E. Righoll (Sc.). Gold medal.
E. Scarbe (Sc.) Retired.
E. Karbert.
E. Cross. Gold medal.
E. Cross. Gold medal.
E. Cross. Gold medal.
C. C. Gold medal.
C. Cross. Gold medal.
C. Cross. Gold medal.
C. Cross. Gold medal.
C. Cross. Gold medal.
E. Frank (Sc.) Retired.
G. W. Jefferson. Gold medal.
E. Frank (Sc.) Retired.
E. J. Marks (Sc.) Retired. TRIUMPH.

VERUS. J. W. Wills. Gold medal, †S. Dunford, Silver medal.

WOOLER. WOOLER,
†A. C. Robbins. Silver medal,
†I. F. Hull. Silver medal,
A. F. Houlberg. Retired,
†W. Peacock. Silver medal,
W. T. Langridge. Retired,
†L. A. Runton. Silver medal,
*J. A. O'Sullivan. Disqualified,

WILKIN. J. C. Coney (sc.) Silver medal, G. W. Wilkin (sc.), Gold medal,

ZENTTH.

1. T. Gilson, Gold andul,

11. E. Symens, Silver medal,

11. E. Lenga, Gold medal,

F. E. Saller, Silver medal,

F. E. Saller, Silver medal,

F. E. Saller, Silver medal,

F. Gilson, Honey medal,

G. Gilson, Gold medal,

G. D. Nickson Hill, Retired,

Kaye Den, Gold medal,

C. Guther, Retired,

A. L. Huggins (ed.), Silver medal,

G. S. Lafk (ed.), Silver medal,

G. D. Jehnsen (ed.), Silver medal,

G. D. Jehnsen (ed.), Silver medal, ZENITH.

Cycle Cars.

A V. R. C. Empson, Gold medal, W. H. Hyland, Retired,

CASTLE THREE. S. Goodwin, Retired.

G.N. †R. G. Mundy. Gold medal C. S. Burney. Silver medal. †C. Finch. Silver medal. E. T. Gilmore. Gold medal.

1..S.D. A. Sugden. Retired,

MERRALL-BROWN. M. Brown. Retired.

MORGAN MORGAN.
R. P. Ravenhill. Gold medal.
W. Pattison. Gold medal.
S. Hall. Gold medal.
F. W. James. Gold medal.
F. H. Douglass. Gold medal.
C. J. D. Chapman. Retired.
Eric Williams, Silver medal.

TAMPLIN. *J. V. Hay, Disqualified, F. II. Richards, No award, J. Conville, Retired.

THURLOW. H. Christian, Retired.

T.B. F. S. Spouse. Silver medal *Too carly, †Failed on Kirkstone, Late. Travelling marshal,

SPEED TRIALS IN YORKSHIRE.

The Harrogate and District M.C.C. Meeting.

RAIN in the morning and thick mist during the afternoon nearly put an end to the speed trials organised by the Harrogate and District Club last Saturday; but, owing to a fair number of competitors braving the elements, it was decided to run the event in a less ambitious manner than had been planned. Owing to insufficient entries, four of the classes were abandoned.

The results of the remaining classes were as follow:

350 C.C. CLASS.
T. F. Leak (254 Douglas).
G. F. Midwood (254 Douglas).
W. R. Hill (214 Triumph). 560 C.C. CLASS.

W. E. Grange (3½ Norton). C. Michell (4 Triumph). W. Atkinson, junr. (4 Triumph). UNLIMITED.

W. E. Grange (312 Norton). C. Micbell (4 Triumph). H. Hamlyn (8 Zenith). PASSENGER MACHINES (UNLIMITED).

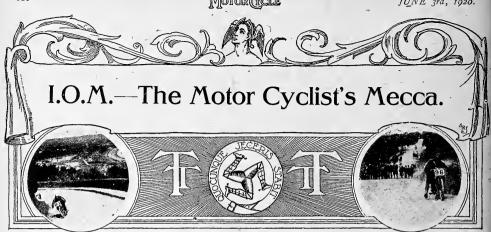
1. W. E. Grange (31 Norton sc.).
2. S. Fleming (7-9 Harley-Davidson sc.).
3. R. Robinson (5-6 Rover sc.). W. E. Grange, who won three out of the four classes, made the fastest time of the day.

An obvious feature of the event is the outstanding performance of a single-cylinder machine. As happened in the case of the Weston and Liverpool speed trials, the 500 c.c. single has again proved itself to be more than the master of from 6 h.p. to 9 h.p. twins, even when towing

a sidecar. In short speed events a machine capable of great acceleration has a decided advantage.



Despite bad weather, Yorkshire motor cyclists' enthusiasm was not damped at the Harrogate Speed Trials, and good performances were made.



Latest News from the T.T. Course. Practising now in Full Swing. Preparations and Programme for the Manx Carnival. Entries now Thirty-two for the Junior and Twenty-nine for the Senior Race.

RACTISING is now in full swing in the Isle of Man. From 4.30 each morning until 7 o'clock aspirants for the Blue Riband of the motor cycle world are getting accustomed to the course, and trying out the machines on which so many hopes are placed by rider and maker alike. All the Sunbeam riders are in the Island and their machines garaged at Skinner's Old Stables, Victoria Road, Douglas.

garaged at Skinner's Old Stables, Victoria Road, Douglas. The men look very smart in their new leather suits. Mr. J. E. Greenwood is in charge. The A.B.C.'s are on the course. Great difficulty is being experienced in bringing the machines from the boat owing to the exorbitant demands of the porters, but with the assistance of the men of the Steam Packet Co., the motor cycles are being landed safely and

Packet to, the moor cycles are string at the Woodburn the official Norton team are staying at the Woodburn Hotel, the Indians are at the Queen's, and the A.J.S. representatives are staying near Crosby. The official headquarters of the A.C.U. are at the Castle Mona Hotel, whilst their offices are in Athol Street, opposite the Times office. For experience of a proposite the Anglo-American

offices are in Autol Street, opposite the Times office. The convenience of arriving motorists, the Anglo-American Oil Co., Ltd., have arranged for petrol to be available on the Victoria Pier. Motorists visiting the Island are reminded that it is necessary to register with the Highway Board, whose offices are also in Athol Street, Douglas.

The attractive feature of the finishing section of past events is now cut out and in its stead is given the new portion comprising the Glencrutchery Road the new portion comprising the Generutchery Road and the steep descent into it from Snaefell Road. The hairpin near the Governor's house is the bête noire of the whole circuit. The road practically doubles upon itself at this point. After the bend there follows a further twist in the narrow road.

Alteration a Doubtful Improvement.

One of the Sunbeam riders describes this part of the course as a man trap, which has been included to meet the wishes of some of the inhabitants. The general opinion seems to be that the alteration in the course is not an improvement.

As a precaution against accidents, and for the safety of the general public, the route and other parts of the Island have been placarded with

warning posters.

The fact that there are far fewer competitors in this year's Tourist Trophy Races should in no way imply that the races may not be as successful and popular as in 1914. The course will be much less crowded, which will naturally benefit both the

competitors themselves and the marshals and stewards competitors themselves and the marshals and seewalls of the A.C.U., while we have a bevy of extremely fast machines in both the Junior and Senior events, with a sprinkling of well-known riders who competed in the Isle

sprinkling of well-known riders who competed in the last of Man before the war.

From the point of view of sight-seers actually on the course at the time of the races, the reduction in the number of competitors, taking into account the percentage of machines dropping out of the races, makes for a longer wait between each machine passing by. However, if one can prophesy so early, it looks as though there will be a big struggle between one or two groups of well-known machines, and an exciting finish in the two races.

Machines and Riders. Looking through the complete entry list, we find that in the Junior Race there are the following: Eight A.J.S., five Diamond, four Douglas, four Levis, four Blackburne, three Wooler, two Ivy, one New Comet, one Dot-Jap.

The last mentioned machine is a late entry, and will be ridden by Eric Longden. Numerically, the A.J.S., ridden by Eric Longden. Numerically, the A.J.S., of which six have been entered by the makers, hold the field, Eric Williams, the hero of the 1914 Junior Race, riding one of these machines as he did in the last pre-war race. This rider is also competing in the Senior Race on a 3½ h.p. Sunbeam. A. H. Alexander, another well-known T.T. rider, is riding a Douglas in the Junior, while H. R. Davies, who tied for second place in the last Senior Race, will ride a 2½ h.p. A.J.S. in both 1920 events. It will be interesting to see how the four small two-stroke Levis machines perform. They are known to be extremely tast, and between them and the new overextremely fast, and between them and the new overhead valve Diamonds there will be a stiff contest for The Motor Cycle Trophy for the 250 c.c. class. No fewer than fourteen Norton machines are com-

peting in the Senior Race, and their riders would make a keen race by themselves. On the other hand, we have five 3½ h.p. Sunbeam machines, on being ridden by G. Dance, who has been so successbeing ridden by G. Dance, who has been so successful in racing during the past season, and five 3½ h.p. Indian Scouts, two 3 h.p. A.B.C. machines, a 3½ h.p. Douglas, and a 3½ h.p. Duzmo; all of these machines forming a big battery against the numerical strength of the Norton assembly. In this race also we have the little 2¾ h.p. A.J.S. competing against all the rest, a sure sign of its prowess and the confidence of the A.J.S. Co. H. R. Davies will ride this machine. machine.



The Tourist Trophy.

O.M .- The Motor Cyclist's Mecca .-

The whole of the Island is keenly looking forward to the aces, and a great carnival week has been arranged to take alone at the same time. During that week Douglas will udeed be the Mecca of motor cyclists. Tons of confetti have peen ordered for the carnival. The arrangements for the veek include the following:

rogramme of the T.T. Week, June 14th to 19th. MONDAY .- Machines for the Junior Race must be presented

for inspection by the A.C.U. 100 yards flat race for world's championship for prizes

exceeding £100 in value. Tursday.—Junior T.T. Race.

Wednesday.—Horse races at Belle Vue.

Machines for the Senior Race must be presented for inspection by the A.C.U.

Parade of decorated motor cycles, cars, bicycles, horsedrawn vehicles, etc.

Chursday.—Senior T.T. Race.

Presentation of trophies by His Excellency the Lieutenant-

Governor. ERIDAY .- Flying kilometre race for motor cycles, 500 c.c.

350 c.c. and 250 c.c. classes.

Gymkhana at Belle Vue.

Land and water sports for men of His Majesty's visiting

Walking competition around the T.T. course for prizes up to £100.

Bowling tournament.

Golf competition. Fishing competitions.

A special permit has been issued by the A.C.U. for the tying kilometre, and competitors taking part in the T.T. tace are eligible, together with members of the Manx Motor tycle Club. The entrance fee for the T.T. riders is one unea, and for other competitors 10s. 6d. The latter cometitors have to send their name and address to the hon. ec. of the M.M.C.C., Hill Street, Douglas, together with heir 10s. 6d entrance fee to the club, so that the entrance ee, as a matter of fact, is the same for everyone.

Grandstand.

The Douglas Corporation have placed the Playing Fields the disposal of the A.C.U., and this will be the starting blace. There will be a public enclosure at 2s. 6d., a grand tand and the press stand at 10s., and another stand, which is hoped will be occupied by His Royal Highness Prince tibert, the patron of the Auto Cycle Club, who has been avited by His Excellency Lieut. Governor, Major-General by, C.B., C.V.O., to attend the races. Facing the grand that the timekeness hoves scoring beared and the tand are the timekeepers' boxes, scoring boards, and the eplenishing depot for the machines.

Grandstand Accommodation.

It is evident that those who wish to secure a seat at the starting and finishing point at Douglas should lose no time in obtaining their tickets. The Anto Cycle Union announces that a number of applications for seats in the grand stand name a number of applications for seats in the grand stand have already been received, and the accommodation at this particularly advantageous point is, of course, limited. Reserved seats are available at 10s, per day and unreserved at 5s, per day. Tickets are issued from the A.C.U. local office at Athol Street, Douglas, to which address applications for tickets should be sent without dalay. for tickets should be sent without delay.

We would remind competitors who have not yet gone

to the Island that they may not wear metal-studded boots.

Replenishing Depot.

The replenishment depôt will be at the starting point, where separate wired-off compartments, about 6ft. broad and 46in. in length, will be allotted to each driver.

The following are the entries for the team prizes:

JUNIOR RACE.

I. THE BURNEY AND BLACKBURNE TEAM: J. A. Watson-Bourne, P. J. Enticknapp, and J. S. Holroyd.

- 2. THE BUTTERFIELD TEAM: F. W. Applebee, Gus Kuhn, and R. O. Clark.
- 3. THE D. F. ANO M. TEAM: Bert Houlding, P. Pike, and F. J. Price. 4. THE A.J.S. TEAM: H. C. Heath, H. R. Davies, and Eric Williams.
- 5. THE WOOLER TEAM: J. H. McDowell, A. F. Houlberg, and J. S. Clayton.

SENIOR RACE.

r. THE INDIAN Scour's TEAM: D. S. Alexander, F. W. Dixon, and Bert Houlding. Reserve, H. R. Harveyson.

THE VICTOR HORSMAN TRAM! Harold Petty, Victor Horsman, and 2. THE VICTOR N. C. Sclater, junr.

3. CAPT. ALEXANDER LINOSAY'S TEAM: Capt. Alexander Lindsay, M.B., Jack Thomas, and Norman Błack. 4. THE SUNBEAM TEAM: F. C. Townshend, G. Dance, T. C. de la Hay. Reserve, H. R. Rice.

5. THE NORTON TEAM: D. M. Brown, J. W. Shaw, and Noel Brown.

6. Mr. T. Simister's Team: V. Olsson, F. C. North, and T. Simister.

Sailing Arrangements.

The following timetable of steamer sailings undoubtedly will be of use to all who intend going to the Isle of Man either for the practising or to witness the races:

FROM LIVERPOOL.

To-day (Thursday, June 3rd) and Friday, June 4th,

11.30 a.m. Saturday, June 5th, and Monday, June 7th, 10.30 a.m. and 3 p.m.

Tuesday, June 8th, to Friday, June 11th, 11.30 a.m. Saturday, June 12th, to Wednesday, June 30th, 10.30 a.m. and 3 p.m.

FOUR-STROKE v. TWO-STROKE. ASPIRANTS FOR THE MOTOR CYCLE TROPHY FOR 250 c.c. MACHINES.







G.-Kuhn (21 Levis two-st.)



F. W. Applebee (21 Levis two-st.)

RIDERS OF SINGLES IN THE SENIOR EVENT.



G. Dance (31 Sunbeam), the premier speedman of 1919, of whem much is expected in the Isle of Man.



H. Le Vack, who is riding the new 3½ Duzmo machine, the only single in the Senior event with an outside flywheel.



Eric Williams, the holder of the Junior Trophy, who will ride a 23 A.I.S, in the Junior and a 33 Sunbeam in the Senior Race.



H. R. Davies, who tied for second place in the 1914 Senior event, will ride a 24 A.J.S. in both Junior and Senior Races.

Extras. Thursday, June 17th, 1 a.m. Saturdays, June 12th to 26th, 12.50 night.

RETURN SAILINGS FROM DOUGLAS.

To-day (Thursday, June 3rd) and Friday, June 4th, 9 a.m. Saturdays, June 5th, and Monday, 7th, 9 a.m. and 4 p.m. Tuesday, June 8th to Friday, 1th, 9 a.m. Saturday, June 12th, to Wednesday, June 30th, 9 a.m.

and 4 p.m.
Extras. Thursday, June 17th, 12.30 night.
Mondays, June 21st and 28th, 12.30 (Sunday midnight).

NOTES IN THE PRACTISING.

Official practising commenced at 4.30 a.m. last Monday. Omerai practising commenced at 4.50 a.m. last stollday. The day dawned favourable at Douglas, though rain was reported to be falling on Snaefell as the small band of enthusiasts assembled on Bray Hill to witness the start. Special Constable Geo. Brown, a Manx motor cyclist, started the first machine at 4.50 a.m. This was D. S. Alexander the first machine at 4.50 a.m. Inis was D. S. Alexander (Indian Scout), followed at one minute intervals by de la Hay (Sunbeam), Townshend (Sunbeam), Abram (A.B.C.), Eric Williams (A.J.S.), a reserve Sunbeam ridden by Rice, Reg. Brown (Sunbeam), G. Dance (Sunbeam), Houlding (Indian Scout), and E. Greenwood (23 Douglas). Fifteen minutes later the Norton team started on the round at similar intervals, and later still the A.J.S. team turned out. The first rider to complete the course was de la Hay, who overhauled Alexander. The times made while prac-

tising are not officially announced.

Approximate times were as under:

G. Dance (3] Sunbeam. . . 49 mins. D. M. Brown (Norton) . . . 47 mins R. Brown (Norton) . . . 54 V. E. Horsman (Norton) . . 55 V. E. Horsman (Norton) . . 58 C. Williams (2³ A.J.S.) . . 50 D. S. Alexander (Indian) . . 53 N.

Times made by all were good, though, of course, not what they will be later on, when the riders become thoroughly conversant with the course. The new hairpin at Governor's Bridge was taken very cautiously by all the Sunbeam men. Competitors who have no magneto cut-out or safety helmets have to sign an undertaking that their practice laps will not necessarily count as qualifying for the actual

A T.T. and SUMMER NUMBER

MOTOR (YCLE

/ will be published on Thursday, June 17th, 1920.

Rugby M.C.C.

A sporting 100 mile non-stop reliability trial, for the silver cup (won outright) presented by Mr. G. Le Champion, will be held on the 20th inst.

Basingstoke M.C.C.

Membership now totals forty, and several successful runs have already taken place this year. The next event will be in the form of a surprise run to be held on the 6th inst.

Dorchester . M.C. and L.C.C.

Thirty riders took part in the reliability trial to Sidmouth; recently held by this club. Some very good performances were made on Trow Hill, only two competitors failing to make a clean ascent. The awards in each class were won by W. G. Churchill (4 Verns sc.), G. L. Mawish (3½ Rudge-Multi), and C. R. Gage (3½ Sunbeam).

CLUB NEWS.

Bedford and District M.C. and L.C.C.

Out of thirty-eight starters in the recent 100 mile reliability trial for the "Rudge" cup, only ten failed to make non-stop runs. The winner was J. Woodnon-stop runs. The wing (4 T.T. Triumph).

Luton and South Beds A.C.

The reliability trial from Luton to York and back, originally fixed for the 26th inst., will take place on June 12th. The change of date is to enable this club to enter a team in the M.C.C. Team Trial for The Motor Cycle Cup.

Carmarthen M.C. and C.C.C.

Twenty competitors took part in the reliability trial recently held by this club. Starting from headquarters, the club. Starting from heauquarers, modern to Newcastle-Emlyn was taken, Pentrecourt, returning via Velindre, Pentrecourt, and Llandyssul. Scourfield (5-6 Rover) ran very consistently, being only 5s out on time. The results were as follow. C. C., W. Evans (2½ Clyno); 60c. C. W. Thomas (4 Humber); single gear, A Bulock (3½ Triumph); sidecars, Swindel (7.0 Lwlies). (7-9 Indian).

Surbiton and District M.C.C.

Surbiton and District M.C.C,
The following clubs have entered to
the 100 mile reliability trial for the
Maudes Challenge Shield, to be hele
on Saturday: Motor Cycling Gipsy Club
Plymouth and District M.C.C., Publis
Schools M.C.C., Woolwich Plumstead and
District M.C.C., Bedford and District
M.C.C., Rochester Chatham and District
M.C.C., Purley and District M.C.C.
Reading M.C.C., City and Guild
College M.C.C., Cambridge University
M.C.C., Ealing and District M.C.C.
Streatham and District M.C.C., Sutco
Coldfield M.C.C., and Surbiton and Disrict M.C.C., and Surbiton and Disrict M.C.C. trict M.C.C.

Club News .-

Redditch and District M.C.C. Members wishing to compete in the half-day reliability trial for the President's Cup should send in their particulars and fee of 7s. 6d. to the hon sec. by Saturday. The trial takes place on the 12th just, over a course of about eighty-five miles, and n addition to the cup several valuable prizes will be awarded.



WITH THE CLUBS.

(1) Norton, Triumph, and Rudge riders leaving Bridlington in the recent Hull Twelve Hours Trial.

(2) The "tit-bit" of the last Botton M.C.C. Trial—the hairpin on Revington Pike.

(3) Several novel ideas were introduced at the recent Newcastle-upon-Tyne and District M.C. Surprise Competition, one of which was the blindfolding of the riders at the start.

(4) Brough and Blackburne riders crossing a watersplash during the Sheffield and Hallamshire's M.C.C. Trial. Competitors rode in pairs.

Taunton and District M.C.C.

In conjunction with the Bournemouth. Bridgwater, Dorchester and Yeovil clubs, in inter-club trial over Dartmoor to Land's End has been arranged for July ird, starting from Yeovil at 7 a.m. Full particulars can be obtained from Mr. Stuart Goodman, "Littlecourt," Taunton.

Bath and West of England M.C.

This club is holding a twelve-hour eliability trial to Lynmouth and back, ncluding the famous Porlock Hill, next Saturday. In addition to the club awards of medals, Messrs. F.R.S. Lamps. Ltd., have given the club a Victory F.R.S. electric combination set for the best performance in acceleration and hilllimbing.

Ealing and District M.C.C.

The first annual run from London to Holyhead for the "Mandes Challenge Shield" will be held on July 30th. The course, which is about 340 miles in ength, traverses some of the finest eenery in Wales, running via Farringdon, Hereford, Llanidloes, Bwlch-y-Groes, Llanrhaidr, Capel Curig, and Menai Bridge.

Week-end Club Events.

June 3.—Doncoster and District M.C.C. Speed Judging. June 4.—North London M.C.C. Meeting. JUNE 5.—LIKKEY M.C. and L.C.C. OPEN RELIABILITY TRIAL. June 5.—North London M.C.C. Staley Cup Trial. June 5.—Specifield and Hallamshire M.C.C. Run

June 5.—Stell Condon M.C.C. Starty Cyp Plati.
June 5.—Stell Condon M.C.C. Run
June 5.—Southend and District M.C. Scottish
— Speed Championship.
June 5.—Southend June 5.—Stell Stell
— Speed Championship.
June 5.—Coventry and Warvickshire M.C. Manville Trophy.
June 5.—Stell M.C.C. Route Finding
Competition.
June 5.—Stell M.C.C. Run to WestonJune 5.—Switch M.C.C. Inter-team Trial.
June 5.—Switch M.C.C. Inter-team Trial.
June 5.—Switch M.C.C. Might Run
to Edinburgh.
June 5.6.—Liverpool M.C. Weck-end to Wharfedate.

June 54.—Liverpool M.C. Week-end to Wharfe-dull Liverpool M.C. Week-end Sociol, Bristol, June 6.—Inter-Varsity Hill-climb, Kop Hill., June 6.—North Wills M.C. and L.C.C. Run to Stand Volley.

June 6.—Sutton M.C.C. Hill-climb, June 6.—Sutton M.C.C. Hill-climb, June 6.—Middleser M.C.C. Picaic.

June 6.—Denoester and District M.C.C. Run to June 6.—Notemorland M.C.C. Social Run, June 6.—N.M.C.F.C. (Partsmonth), Run to Minstead, New Forst, June 6.—Donoester and District M.C.C. Run to Mother, C. (Leeds) and Wakefield M.C. Run to Miller's Dole.

June 6.—Esser M.C. Picnic, Ashridge Park.

June 5.—Reading and District M.C. and L.C.C.
Run to Hampton Court.
June 6.—Marneton Court.
June 6.—Marneton District M.C.C. Run to
Kirkby Stephen.
June 6.—Derby and District M.C. Run to CastleJune 6.—Bedford and District M.C. and L.C.C.
Run to Derbyshirt M.C. and L.C.C.
Run to Derbyshirt M.C. Run to Reading.
June 6.—North Chestive M.C. Run to Reading.
June 6.—Sort Chestive M.C. Run to Reading.
June 6.—Sort Chestive M.C. Run to Reading.
June 6.—Sort Chestive M.C. Run to Reading.
June 6.—North Chestive M.C. Reliability Trail
June 8.—North Wilts M.C. and L.C.C. Run to
Orload.
June 9.—North Wilts M.C. and L.C.C. Run to
June 8.—North Wilts M.C. and L.C.C. Run to
Orload.

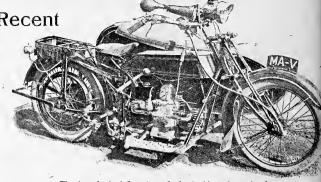
Oxford,
June 10.—Edsatern Volley M.C.C. Speed Triol,
June 10.—Doneaster and District M.C.C. Impromptu Run.
June 2.—Scarborough M. and M.C.C. Inter-club

June 12—Searborough M. and M.C.C. Inter-club
June 12—Luton and S. Bedford A.C. Reliability
Tinel 12—Luton and S. Bedford A.C. Reliability
Tinel 13—Reliability and District M.C.C. Night
North M.C.C. Roll of M.C.C. Roll
Mccting.
June 12—Public Schools M.C.C. Paperchose,
June 13—Public Schools M.C.C. Paperchose,
June 13—North Wilts M.C. and L.C.C. ComJune 14—Cumberland County M.C.C. Speed Competition.
June 13—N. U.C.F.C. (Portsmorth). Run to
June 13—Exter M.C. and J.C.C. Ran to Brizlon.

One of the Most Recent Spring Frame Machines.

The Avres-Layland-A Sidecar Outfit with Flat Twin Engine and Duplex Frame.

SOME months ago we described the design of the Ayres-Layland motor cycle, and we are now able to give photographs of the complete machine. photographs of the complete machine. As will be seen, the frame is of the duplex type, carrying the Coventry Victor engine on the lower horizontal members. The top tube is straight and inclined, at the rear end there is a wide casting which forms a saddle for the two quarterelliptic springs. A substantial web is embodied behind the steering head.



The Ayres-Layland flat twin outfit, fitted with duplex spring frame.

A feature of the spring frame is the fact that the upright fork over the rear wheel is rigid with the chain stays.

MOTOR (YCLE

which latter carry the gear box. How the gear box and the quadrant is taken up is not clear, but as we are offered a trial on the machine at any early date, this matter can be dismissed for the present.

Long links hang from the vertical fork cross bar, and to these the springs are shackled. It will be noted that the springs, although horizontal on the saddles, are inclined upwards to the shackles. This construction apparently has been chosen in order to give a low saddle position without having to embody especially long links.

Large aluminium footboards are carried on transverse tubes extending right across the frame, and the mudguarding problem has not been lost sight of. The valances of the front guard are turned out at the bottom, and should prevent mud reaching

the front cylinder.

The large tank is of the saddle type, completely enclosing the top tube, and altogether the machine, which is equipped with Sturmey-Archer gear, Brampton forks, and Wood-Milne 650×65 mm. tyres, appears to be a very attractive proposition. The makers are the Viaduct Motor Co., with works at Broadheath, near Manchester.

Construction of the duplex

frame suspension.

Douglas Pattern Capac Carburetter.

N exceedingly neat adaptation of the Capac carburetter has now been brought out for Douglas motor bicycles.

Known as the DM type, the particular Capac under consideration has the jet at the point of maximum air velocity, and inclined to the entering air stream.

The Capac fitted to a 24 h.p. Douglas, showing hot air intake directed from the exhaust pipe.

The control of the jet size by means of a tapered needle and the new fuel range jet control are standard fittings on this model. The throttle is of the piston pattern, and forms the housing for the jet, the size of which is controlled by the tapered needle. A special form of dome is fitted to the air mtake in order to keep the choke tube in place. Alteration of the size of the choke tube is rarely necessary, the carbu-retter being sent out with the correct choke tube for either the 21 h.p. or 4 h.p.

The principle on which this model Capac works is that as the throttle is opened, the air, as it enters, is directed to a greater or less degree across the top of the conical jet, part of the air passing to the lower end through the slot in the piston throttle, and part being taken directly under the piston to the engine side of the throttle as this is opened. The angle of the slots and the angle of the jet are not equal, and therefore, as the throttle is opened, the passage at the rear of the jet is increased in size, and this in combination with the inclination of the jet to the entering air stream is one of the principal factors controlling the automatic working of the carburetter.

An important improvement is the method of heating the air intake by drawing the supply from a hot air muff round one of the exhaust pipes, to the

vaporising chamber.
The Capac Co., Ltd., 2, Woodstock
Street, Bond Street, London, W.1, issue
special instructions for fitting these carbu-



The D.M. type Capac carburetter which is specially designed for Douglas motor cycles.

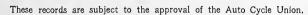
11 MORE RECORDS

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at BROOKLANDS (May 27th) by Mr. F. A. McNAB riding a TWIN-CYLINDER WOOLER MOTOR CYCLE.





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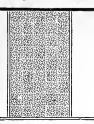
where a magneto is concerned C.A.V. magnetos have stood four and a half years of the most trying conditions in France and Flanders and will see you through anything



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T.T. Races—Isle of Man

Special Arrangements with the Auto-Cycle Union for the convenience of Members.

1.-For those taking their Machines to the Island:

Petrol collection to avoid wastage and risk of Fire. On the Landing Stage opposite the Isle of Man Steamers, and an hour-and-a-half before each day boat is due to sail, I. Blake & Co. will have a staff and collection van in . attendance. Petrol will be drawn off from the machines, measured and stored, and a voucher ticket for the quantity given in receipt. On returning from the Island it will be necessary simply to send a postcard to J. Blake & Co., 110, Bold Street, Liverpool, giving them particulars of date and time of return, name of boat, and quantity of Petrol due—it will be on the Landing Stage ready.

2.—For those coming to Liverpool by road and desirous of avoiding the trouble and risk of damage incurred by taking their Machines on the Boat to the Island:

A Garage within easy reach of the Landing Stage, spacious and stone-floored, capable of storing 500 machines, will be available at a nominal charge. This is situate on the corner of Laurence Road and Wellington Road, facing Gainsborough Road, immediately between Smithdown Road and Wavertree Road, and the attendants at the garage will advise the quickest route to the Landing Stage by 'tram or 'bus close at hand. This garage which is being managed for the Auto Cycle Union by J. Blake & Co.—will be opened from Saturday 12th to Monday 21st June,

3.—For those who are prevented from attending the Races:

By courtesy of "The Motor Cycle" telegrams will be displayed in the window of our Bold Street, Liverpool, Showrooms showing the progress of the Races at every Stage.

A.C.U. Members everywhere are invited to fully avail themselves of these facilities.

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English make, 4in. convex glass gi ing large range of vision, fit a handle-bar, all black or nickel-plat finish. Price 7/6 post free.

MOTOR CYCLE HORNS.

This is a really good deepable price. Double twist with large bulb. Finish either all nickel or black. with nickel ferrule. Price 12/6 post free.



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Large stocks, all the best makes. Lodge Standard, 5/ Forward (2-stroke), 4/-; K.L.G. Model R1, 5/-; Apollo, 4, Sphinx Mica, 5/-; Cooke, 5/-. Post free.

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Clean to use and up-to-date. 7in. Electric Headlight, beau fully made and finished, bla and nickel, fully adjustat take standard S.B.C. Bu Finest value on the mark Complete with brackets, pr

Other models in Electric Headlights, 18/9 and 27/6. Elect Sidecar Lamps, 8/6, 10/6, 18/9, and 22/6. Electric Rearligh 8/6, 10/6, and 12/6.

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Best British make, celluloid cases, stout plates. 4 volt. 20 amps., 16/3; 4 volt. 40 amps., 21/-; 4 volt. 60 amps., 27/6; 6 volt. 20 amps., 30/-; 6 volt. 40 amps., 35/-. Carriage paid.

Note-Accumulators can only be sent uncharged.



FIRST-RATE VALUE IN MOTO GOGGLES.

Dusty Days are coming. Be prepared.

Celluloid Face Shields. Very light, bound chemille. Price 2/9.

Genuine Triplex Goggles. Safety glass, absolute security fyour eyesight. Price 10/6, complete in case. Post fix

BENETFINKS UNSHATTERABLE GOGGLES.

T. A.

Oval Glasses, 'collapsible sides, edged chenille. Post free, 7/6.



We are not issuing catalogues of our motor cycle accessories, but readers to watch our announcements week by week for new offers.

BENETFINKS, 107, CHEAPSIDE

Read the following:

Dear Sirs.

It may be of interest to you to hear that the three machines that we entered for the recent London to Edinburgh Reliability Trial, and all of which reached Edinburgh to time without any mechanical trouble, had their rear wheels fitted with your Puncture Proofed Tubes. During the run, none of these machines experienced any tyre trouble whatever, notwithstanding the fact that one of the machines arrived at Edinburgh with a large piece of steel deeply embedded in the rear wheel. We enclose the piece of steel-referred to, as it may be of interest to you.

As far as we are concerned, this run has absolutely satisfied us that your tubes are a very necessary fitting; and, in fact, had this particular machine been fitted with an ordinary tube, it would have been punctured, and, considering the time it would have taken to replace the tube, this machine certainly would not have been able to reach its destination to time.

Yours faithfully,

Now send for further particulars to

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ELEVEN LONG DISTANCE RECORDS

THE FIRST SINCE THE WAR.

MacNab on a $2\frac{3}{4}$ Flat twin Wooler achieved these records equipped with a

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READ THIS TELEGRAM:

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Macnab riding a 23 Wooler made eleven records 8, 9, 10, 11 and 12 hours; 350, 400, 450 and 500 miles.

12 hours and 500 miles beat previous 1,000 c.c. class. "JOHN BULL" Belt used throughout and unadjusted. First record since the war. Subject to A.C.U. approval. Reynolds and Ebblewhite official time-keepers.—Wooler.

THINK WHAT IT MEANS.

500 Miles at 40 Miles per Hour

and this without adjustment.



McNab's machine was also fitted with

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those grips which give perfect control of the handlebars, and lessen fatigue by absorbing the road vibration.

In 1913 fifteen similar records (still standing) were made by the

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WON THE LAST T.T.

Is any further testimony required? Deliveries are hard to make, so place your order with your Agent now.

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were established on May 27th, by Mr F. A. McNab, riding a WOOLER:

8 hrs., Class B. 12 hrs., Class B. 9 hrs., Class B. 12 hrs., Class E.

350 miles (Class B.) at 42.86 m.p.h. 450 ,, ,, 40.29 m.p.h.

500 ,, ,,

" 40.29 m.p.h.

AND ESTABLISHED THE FOLLOWING NEW RECORDS:

10 hrs., Class B. 11 hrs., Class B. 400 miles ,, ,, 450 miles ,, ,,

Motor cyclists out for speed leave nothing to chance, so once again we find new records

WON ON PRATT'S SPIRIT OF UNIFORM EXCELLENCE.

Sold in the green can.—Avoid substitutes



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It was after last year's London-Edinburgh run

that we happened to be in conversation with one of the prominent competitors and, naturally, we were eager to know what this rider thought of his Brooks saddle—a B175 by the way. His reply was that he "forgot all about it."

Do you forget your saddle—or does it continually remind you of the road surface? Why not fit your machine with a similar



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During the last 12 months we have lost thousands of pounds through keeping rigidly to list prices. We never accept premiums under any condition whatever, and at the present time can offer some of the following from stock at list prices-

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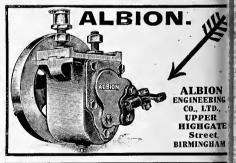
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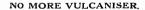
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In answering these advertisements it is desirable to mention "The Motor Cycle."

Bat.

3h.p. But-Jap Combination, countershaft, top-hole, fast; £140.—44, Junction Rd., Holloway, [4840] ATS, 1920.—We have commenced deliveries.—The Rachester Auto and Supply Co., Rochester. [0193] AT 8h.p. Combination, new, in stock; list price, 7, Exhibition Rd., South Kensington, S.W.7.

A J. B. Children Rd., South Kensington, S. 184 177, Exhibition Rd., South Kensington, S. (5221)

AT-J.A.P. 6-9h.p. C.B. Combination, 2-speed, new condition; £85.—69, Beckenbann Rd., Beckenba

AT-J.A.P. 1912 5-6h.p., N.S.U. 2-speed genr, cane sideear, good condition.—Mead, Gunville, East ar, Yeovil. [4357

20 8h.p. Bat-Jap Combination, accessories, mile-age 500; £177.—Southbury House, Mytchett Frimley, Surrey. [4825

14 5-6h.p. But, single-speed, engine recently over-handed, guaranteed in excellent running order: -Box 4,575, c/o The Motor Cycle. [5276]

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AT-J.A.P. 1915 5 Sh.p. Twin, belt drive, P. and M. gear, laups, etc., Milliord wicker sidecar; appointments only.—60, Pretoria Rd., E.11.

AT.J.A.P. Red Spotting T.T. Model, 4h.p. single, 2 speeds, clutch, tast, powerful, reliable, thoroughly hauled; 248.—10. Embled Grove, Munchester, p. Jup-latt, 2-speed and free engine, with Montgomery sidecar, in exceptionally nice order, and been well kept; £70; any trial.—A. J. Young, High Newmarket.

NTJAAP, Sh.p., 5-speed countershaft, late model, round tank, with new C.B. siderar, hood, apron, this machine has been counterly overhunder, realled and plated, and is in all respects as new; colorly smart; pice, tally equipped, £145—Wat. 181. Chaphana Rd. Theuce Brixton 2984, [5380]

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CARDMORE PRECISION 314h.p., new; seen Saturday or Sunday.—33, Kellett Rd., Buxton. [4989]

Blackburne

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BERTONS, Northante, Ipswich,—Place your order aow tor earliest delivery Blackburne,—'Phone, '962.
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ACKBURNE 25,h.p., just overhauled, perfect running order, head lamp; £30.—45, Clitton Crouch End, N. [4820]

Crouch End, N. [4920]
18 4h.p. Blackburne Combination, Cameo, lamps,
Klaxon, etc., as new: £125 offers; must sell.—
Salisbury Rd., Watroid. [4635]

Salisbury Rd., Wutfold. 220 abres, interference of the following the first from works, ideal turnout: £220; inspection in-Box 827, vio The Motor Cycle. 2290b, Blackburne, h.b. 2-speed gear, kick start, hand clytch, new, never ridden; 90 gas., plus age.—box 4.955, c/o The Motor Cycle. [5224]

RLY Delivery of the Celebrated Blackburne ma-chines from the accredited agents.—The Lankester neering Co., Motor Cycle Dept., 63, Brighton Rd., iton [2089]

p. Blackburns, handsome combination, special body, luggage grid, spars wheel, discs lined red, and H. and Fallolite lamps, D.A. cylinder, speed-er, undershield, very economical, excellent condi-throughout; £250.—Glendianing, 1, Park Parade, bridge. (4458)

O.C.H. have a Bown-Villiers, sporting little 'bus, ready for the road: largain, £38.—Fair Offer Cale, 6, 5, Heath St., Hampstead lozer Hampstead Tabbool. 'Phone: Hampstead 3752. Hours 9-7, ing Saturdays.

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ADBURX.—Order new to avoid disappointment—
The Walsoff Garage. Wolferhampton St., Walsoff Garage. Wolferhampton

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Bradbury. BRADBURY 4h.p., 1913. Watsonian C.B., sidecar, Bosch, B. and B., 3-speed hub, clutch, K.S., new bell, Dimilgas, imags, horn, spares, good appearance and condition, in regular new; £5ts.—Thornton, 83, Orbital Gl., Edulutch, Birmingham.

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BROUGH 1920 5h.p., brand new, countershaft 3 speed; list price,—Doneaster Antocars, Ltd., Doneaster.

Custer, Proceedings of the Points of Attorney (1997)

ROUGH 1916 Model H., as new; also 2-speed Difton. Trainess (1997)

Ditton.

BROITGH Model II, 1915, a.b.v. flat twin, 2-9red thoroughly overlanded, new sprackets, etc. 270.

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BROITGH 31/shp. Flat Twin, 2-9red countershaft, 1916 model, overhanded, lamps, tools, last, and reliable; £80.—Turnill and North, Peterborough, 4148

Brown.

3 1h.p. Brown, Bosch, B.B., good tubes; sacrifice £17; carriage paid.—Cpl. Hall, 1-t Buffs, Fermov, Ireland. [4995]

1reland. [4995]
3 1h.p. Brown, Simms mag., Dunlop tyres and belt practically new: bargain, £25; after 7,-11. Bramshill Gardeas, N.W.5. [X2298]

B.S.A.

B.S.A. 414h.p. Model K, all chain, K.S., perfect; £78, -49, Well St., Hackney. [5123]

B.S.A.—The Walsall Garage, Walsall, Booking orders for all models; rotation deliveries. [7216

19¹⁵ B.S.A. and Sidecar, excellent condition; £120. Hendry, Lyncham, Kingham, Oxon. [4191

19¹³ T.T. B.S.A., good running order, last; £48.— End, Photographer, Sunningdale, Berks. [4567] B.S.A. Combination, 5-speed C.S., K. sturt; £90, bargain.—J. Yates, 26b, Ingleton St., Brixton.

19 20 B.S.A. Combination, all-chain drive, just de-livered, unridden; £150.—Coatis, Glanconway, [X2434]

19 15 44h.p. B.S.A., 3-speed countershaft, good cou Sea.

B.S.A. Combination, cutch, lamps, born, wind screen, speedometer; ride away; £86.-22, Birdburst Rd., Merton. [4212]

1920 B.S.A. 414h.p., just delivered, all-chain drive: what offers?—Carter, Shotatton, Ruyton-Eleventous, Salop. [4131

POIS, Salop. [4151]

SPEED B.S.A., fully equipped, and in first-class
condition, good, reliable machine; £50.—Day.
Okehampton. [5396]

B.S.A. Combination, 2-speed, C.B., as now, any trial; 80 gas.—19, Wilcox Rd., South Lambeth, London, S.W.8. [4454]

B.S.A. 1914 5½h.p., clutch, adjustable pulley, lamps, horn, perfect condition; £50.—106, Chatham St., Walworth, S.E. [5113

19 19 B.S.A. Combination, lamps, horn, wind screen, spares, perfect condition; £130.—Drysdale, Biggleswade, Beds. [4283

B. S.A. 4½hp, 1919 Combination, fully equipped, see feet, lowerful; bugain, £132.—45. Acacia Rd. Wood Gueen, N.22.

B. S.A. Combination, 1914, 4½hp., 3-speed, clutch, kirk start, excellent condition; £100.—150, Camberwell, Rd. S.E.5.

berwell, Rd., S.E.5. [4619] **B** S.A. 1916 Combination, 4¹/₄h.p., spleudid condition, controlly used: £125.—L., 2, Wellmendow Rd., Hither Green, S.E.13. [4846]

MOTOR CYCLES FOR SALE. B.S.A.

B.S.A., 1919, complete, mileage 800, £110, cffer; 1912 Triumph 3½h.p., clutch, £50; lamps, speeds.—37, Church St., Henley-on-Thames. [4639]

41h.p. B.S.A., all-chain Model H, horn, tools, etc., absolutely as new; £93; after 7, or Sundays.— 107, Roseberry Av., Bruce Crove, Tottenham. [5156

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—44h.p. B.S.A. and sidecar, 1916, £105; also another 44h.p. B.S.A. and sidecar, 1916, offers. [5400

19 20 B.S.A., with C.B. sidecar, completely equipped with horn, tools, etc., almost new; £148, a hargain; Oxford.—Box 826, c/o The Motor Cycle. [X2413

B.S.A. 4h.p., 3-speed, countershaft, clutch, all-enclosed chain, speedometer, lamps, etc., perfect; 70 gns.—72, Longridge Rd., Earl's Court, S.W.5. [4861

B.S.A. 1914 414h.p., conntershaft, kick, speedometer, Klaxon, eogine perfect, excellent sidecar, tyres good, 2 almost new; £105.—20, Fordhook Av., Ealing.

LATE 1913 B.S.A., semi-T.T. bars, new heavy Dunlops, criginal enamel and plate as new, lamps, tools, fast; £45, nearest.—43, Leavesden Rd., Watlord, Herts.

B.S.A. 3½h.p. 1912 Combination, belt drive, Millford sidecar, Capac earburetter, Bosch mag., 2 speeds, redal start; £68.—Maudes', 100, Gt. Portland speeds, pedal St., London.

B.S.A. 1916 41/h.p. Combination, all-chain, 3-speed, kick start, mechanical horn, speedometer, many sparses: £100, cheap.—W., 39, Barnsole Rd., Gilling

B.S.A.—Early deliveries of new models, B.S.A. replacements ordecars, screens, hoods, etc., always in stock.—County Cycle and Motor Co., 307,314, Broad Republication of the control of the St., Birmingham. B.S.A. 1919 414h.p., chain-cnm-belt, and Chater-Lea sideour, Cauneo screen, lamps, horn, leg-shields tools, perfect condition; £130.-2, Dunvegan Gardens, Well Hall, S.E.9.

11h.p. B.S.A. 1920, sideoar, in splendid condition, the first all accessories; £118; owner buying car; seen by appointment after 5.—Stowell, 1, Alexander Terrace, Clarence Rd., Begnor. [4207]

1917 4½h.p. B.S.A., coachbuilt sidecar (new), 3-speed countershaft, K.S., chain-cum-beit, fully equipped, splendid condition; any trial; £105, no offers.—Apperby, Tilston, Malpas, Cheshire. [4032]

10 17-18 B.S.A. Coachbuilt Combination, Model K., lamps, complete, horn, screen, tools, thoroughly overhauled; 2130.—A. Taylor, Fruit Grower, Stockwell Gate, Holbeach, Lines. [4730]

10 19 B.S.A., H Model, Montgomery sidecar, Lucas horn, lamps, spare valves, chain, splendid condition; £130; owner bought 8h.p.—Steel, Woodfield Lodge, Lockwood, Huddersfield.

B.S.A 1917 4½h.p., 3-speed countershaft, chain-cumbelt, all lately overhauled and enamelled, with Montgomery sidecar, complete with lamps and born; price £130.—Reid, Kennethmont. [5084]

B.S.A. 1915 4h.p. Combination, all-chain, counter-shaft 3-speed, lamps, horn, practically as new throughout; £100; exchange entertained, or accept half down.—Bunting's Motors, Wealdstone. [4790]

LATE 1919 B.S.A. Combination, mileage 300, new condition throughout, complete electric lighting equipment, Klaxon, spares; £150—Robinson, Tailor, Norwich Rd., Ipswich. "Phone: 432. [5203

B.S.A. 3½h.p., 2-speeds, free engine, lamps, horn, accessories, in perfect order, very reliable, would pull sidecar, bargain; first cash £48 secures.—Butler, 10, Montross Ar., Bristington, Bristol. [3967

B.S.A. Combination, 1919, splendid condition, not done 800 miles, wind screen, lamps, horn, speed-ometer, and tools, owner buying car; £160.—Hewin's Garages, Ltd., the real service firm, Tannton. [4170]

Garages, 140, the real states and the B.S.A. (late 1916) 4',h.p., chain-belt, 3-speed, clutch, kick start, 1920 Montgomery coach side-ar merkanical horn, cameo wind screen, perfect; £116.—Smith, Ballinaboye, Shinfield Rd., Reading. [4596]

10 20 B.S.A. 4½h.p. Combination, as new at chain model, P.H. and Lucas lamp sets, Lucas horn, in perfect condition; price £150, no offers.—Allen, 30, St. Leocard's Av., Bedford. Phone: 439.

1920 B.S.A. Combination, completely equipped, 3 lamps, Stewart horn, Cowey speedometer, wind screen, many spares, etc., done 400 miles, as new; cost £170, will sell £158.—13, Lyon Rd., Harrow

F O.C.H. have a B.S.A. Medel H, fully countries, ready for the road—Fuir Offer Car Home 5, Heath St. Hampsted Incent Hampsted Tube Stationi, Phone: Hampsted 3752. Donrs 9-7, including Satur-

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B.S.A.

1919 B.S.A. Combination, 4½h.p. Model H., allchain drive, 3-speed, K.S., lighting set, tyres good, enamel, plating, engine perfect, Canolet, Easting second, new All-in Policy; £125.—Cowlishaw, Basford, Stokesmann and Combination of Combination of

1914 B.S.A., 3-speed countershaft, brand new C.B. sidecar, complete lamps, just overhable engineer, fine condition; £100.—Seen 5 p.m., at 5, Nicholson Rd., off Forest Rd., Walt

19 19 B.S.A. Combination (Nov.), 4½h.p., K.S. a chain, 3-speed, lumps, horn, hood, screen, too lugage grid, under 800 miles, splendid condition £145: after 6 p.m.—J.H.P., 55, Inglethorpe St. Fb ham, S.W.6

B.S.A., braud new, latest, 1920, all-chain mode inst delivered, complete with Lucas dynamical lighting, No. 2 sidecar, with hood and screen, new used; \$200.—Advertiser, 2, Albert Studios, Albertidge Rd., S.W.

B.S.A. 1917 44h.p. C.B. Combination, chain-cumbelt model, sidecar nearly new, with luggar carrier, apron, etc., fully equipped, all new, this outnits in really good order and condition; price 4125-watson, 181, Clapham Rd, S.W. Phone: Brixtor 2984

B.S.A. Combination, 1915-16 coll-chain, 3-speed tresholf, Millford, Lucas lamps and born, execondition; nearest to £125; no dealers—Leut, seen Thursday 6.30 p.m. to 9.30 p.m., or Sanday II to 1 p.m., at Harding's Garage, Mitcham Lune, Stham, S.W.46.

B.S.A. 4½hp. sepeed countersheft, bick ennuel before the partial masurathed, tyres and helt hardly old large partial masurathed tyres and helt hardly old large partial manual new condition; and the partial condition; any trial or examination; £120,—16, Hod desdon Rd., Belvedere.

Buchet.

BUCHET 3h.p., o.h.v.; seen running; £10.-144. Estconrt Rd., Fulham, S.W.6. [4093

Calcott.

19 15 2%h.p. Calcott, 3-speed Sturmey-Archer, water proof Bosch, R. and B., tyres new, with lamps, horn, and tools, perfect condition: trial-Mason, ly House, Thomas St., King's Lynn. [4142]

Calthorpe

CALTHORPE, 2-stroke, 2-speed, perfect order; bargain, £40.—Dowell, Bylleet, Surrey. [5089]

Calthorpe-J.A.P. 234h.p. Enfield, 2-speeds, about 1915; £45.—103a, High St., Wandsworth. [5100

19 19 Calthorpe-Jap, 2-speed, electric lighting; 266. -Holmes, 99, Exmouth St., Birkenhead, [4349 CALTHORPE 21/4h.p. 2-stroke, Enfield 2-speed, did condition; 45 gns.-4, The Square, Cars

19¹⁷ Calthorpe 2-stroke, 254h.p., 2-speed, fast, to ride away; £48/10.—The Hollies, Apple

Kent. CALTHORPE-PRECISION Junior, 2-speed counter-shaft, in running order; £27/10.—Calthorpe, 60, Castle St., Trowbridge. [X2262

CALTHORPE-J.A.P. 25/h.p., Enfield 2-speed horn, T.T. bars, powerful and fast; £45.-Thomas Rd., Hackney.

CALTHORPE-J.A.P. 1916 254h.p., 2-speed, p condition; £50; seen by appointment. Hither Green Lane, S.E.13.

3h.p. Calthorpe-Jap, 2-speed, clutch, new ty-d belt, overhauled, rebushed; any trial; Brown, 25, Bower St., Maidstone.

CALTHORPE 1920 J.A.P., Enfield 2-speed, b new, just arrived: at makers' price.—Will Simpson, opposite Olympia, London.

CALTHORPE Junior, 1914, 2-speed, footbo lamps, splendid condition: £35; evenings or days.—Croft, 84, Shortlands Rd., Kingston-on-Tag.

CALTHORPE Motor Cycles, J.A.P. 2-sneed models, took igns, 2-stroke 2-speed models, 68 gns.; 2-speed

2 3h.p. Calthorpe-Jap, 1915-16, Enfield 2-speed, long 4 copper exhaust, new valves, magneto overhauled, new chains and gear case, good condition throughout. \$40.-9, Govan Dive, Alexandria, Scotland. [425]

2 3h.p. Calthorpe-Jap, scarcely used, Enfeld 3-4 speed gear, completely equipped, and numerous refinements, extres, and sparses; all for £48.—At J. S. Jayes, 9, Princess Mews, Belsize Crescent, Hampstead, London.

London.

CALTHORPE Meter Cycles. — 25th.p. J.A.P., 21

CALTHORPE Meter Cycles. — 25th.p. J.A.P., 21

fitted with Enfield 2-speed gear. Immediate delivery from stock.—P. J. Evans, 83-91, John Bright 84. Birmingham.

Douglas.

OFGLAS 1916 2 d.p., nucrated 1919, perfect, only done few miles; 60 gns,-141, Merton Rd., whisher [4819]

mbledon.

(4810)
OUGLAS 4h.p. Combination, 1917, perfect runpoint of the property of the pro

andsworth. (503)

OUGLAS 25h.p., W.D., 2-speed, seni-T.T., very last; £53.—Dickinson, Lyndhust, Ornskit, I., Aintree. (5008)

OUGLAS 25h.p., 2-speed, uncented Jup., 1920, inc. distinguishable from new, £65.—56, David 44871

OUGLAS 1914, 25h.p., 2-speed, lungs, hern, in large, Friebull, 2-speed, lungs, hern, in large, Friebull, 2-speed, lungs, hern, in constant of the constant of

orth Commen. [4389]
OUGLAS 4h.p., 3-speed, kick start, good running groder; £77.10.—Owen, 59, Scholefield Rd., pper Holloway. orth Commen.

OUGLAS 6h.p., 5-speed. kiek start, gool rouning porder; 277:10-Owen, 59, Scholefield Rd., pper Holloway.

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920 Douglas and Sidecar, delivered this month, un-scratched, mileage 150; list price,—D., Hotel tuart, Richmond Hill. (D) [4961]



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DOUGLAS, 1920, kn.k start, delivered last weekson, John's College, Cambridge. [43]

DOUGLAS 1916 274h.p., buffer forks, all accessories, lamps, tools, etc., £63, or offer; privately owned.—Seen 135, Edgware Rd., W.2. [4463]

DOUGLAS 254h.p., 1916, accessories, aluminium discs, just overhauled and re-enamelled; £63.-P. Black, Elizabeth, Fuller's Rd., Woodford. [4509]

2 3h.p. Douglas, chitch, 2-speed, lamps, etc., equal to 4 new, makers' colours: £55; bought combination.—Owner, 120, Sutherland Rd., W. Croydon. [4003]

Owner, 120, Stitterland Id., W. Croycou.

2 h.p. Douglas Combination, good running order; 58
2 f.gns.; trial granted.—Moslin Garage, 645, Harrow
Rd, (opposite Kensal Green Tube Statton). [4205

DOUGLAS 5\(^{\text{th}}\), p., late 1917, overhauled, aluminium
discs, epleudid running order, lamps, tootboards;
bargailo, 65 gos.—55, Beddar Rd., Putuey. [4627

DOUGLAS 254h.p., T.T., 2-speed, mechanically perfect, new condition throughout; £58, near offer, barganu.-178, Gipsy Rd., West Norwood, S.E. [4114

DOUGLAS 1919 2".h.p., practically new, inlly equipped, and insured; 75 gns.—Dawson, Mayville, Churchfield Av., North Finchley, London. (5391

DOUGLAS 2 4h.p., 2-speed, ouly done few miles not W.D., all accessories; 268; exchange ligher power.—64, Church St., Edgware Rd., London. [5314]

DOUGLAS 1916 22(h.p., lately re-connelled, korn, smith, Berschord, Ramsare Rd., Broadstuns, (495)

DOUGLAS 1911 25(h.p., needs new stankshall, otherwise perfect condition, £22. Head opposite Stoncheage Inn), Durrington, Salisbury. [X2429]

D^{OUGLAS}, 1918, new, 72 gns.; also second-hand 1915 model, £55.—Garage, 5, Eglou Mews, Berk-ley Rd., Primrose Hill (nr. Chalk Farm Tube). [4661

19 Douglas 254h.p., 2-speed, mileage 300, absolutely perfect, equipped, beautiful rachiae; 72 gns.—60, Wallingford Av., North Kensir, ton. [5053

DOUGLAS Combination, 1919, in perfect mechanical condition, lamps, mechanical hota; any trial; £120.-63, Walm Lane, Cricklewood, N.W.2. [X2540]

1920 4h.p. Douglas Combination, complete with Lucas lamps, horn, legshields, sidecar unused; £165.-74, Mount Pleasant, Barrow-in-Furness. [5023

DOTCLAS 25th.p. 2-speed, uncreated Dec. 1919.

exceptionally emart and perfect machine; 252 gns.-60, Wallingford Av. North Kensington. [5034]

19²⁰ Douglas 4h.p., delivered May, mileage approximately 200; £130, or nearest; baying car.—Oswald Whitehouse, Poplars, Bridgtows, Cannock. [4192]

DOUGLAS 4h.p. Combination, late model, 3-speed, kick starter, clutch, sidecar, etc., in excellent condition; £130.—Upson Bros., The Garage, South Ascot.

dition; £150.—0.1850 1553.

DOUGLAS 2³4h.p., 1915. 2-speed, clutch, kiek start, all working parts new, accessories; bargain, &55.

Sibley, 106. Market Place, Romford. Phone: 47.
[4544]

DOUGLAS, 1916. 25, p. 2-speed, F.E., splendid on condition, very fast, footboards, long exhausts; 59 gns.-127. South St., Bishop's Stortlord, Herts. [5245]

Douglas.

19 (early) Douglas. Combination, lamps, horn, Brooks trunk, new insurance, variable jet, spares; £135.—Letters only, Hart, 58, Chancery Lane, W.C.2. [4023]

DOUGLAS 1920 4h.p., solo model, electric lighting and horn, indistinguishable from new.—Parker's, Bradshawgate, Bolton. Deansgate, Manchester (X2380

DOUGLAS 234h.p., 1916, makers' colours, lamp and pump, good tyres, thoroughly overhauled, after 6 any day; £68/10:—J., 21, Felix Av., Crouch End.

DOUGLAS, 1915, Colonial model, 3-speed, K.S., clutch, 274h.p., condition equal to new, lamps, horn, etc.; £75.—Clark, 364, Burnley Rd., Colne.

19¹⁶ 4h.p. Douglas Combination, new, sidecar bods, 3 lamps, horn, Easting wind screen, and tools; any trial; £95.—H.W., 54, Malvern Rd., Dalston, E.S. [5406]

4 h.p. Douglas Combination, 1919, mileage 2,000, condition new, speeds, complete accessories; £155.—13, Imperial Parade, Henley-on-Thames.

10 16 W.D. 23th.p. Douglas, re-enamelled, engine as new, buffer forks, very fast, ride 20 miles to purchaser; £58.—Beaulieu, Avenue Rd., St. Albans, [4669]

DOUGLAS—4h.p. Combination, disc wheels, very fast, and in beautiful condition; must sell, will accept best offer—41, Cowley Rd., Brixton, S.W.9.

19 16 Douglas 254h.p., 2 speeds, aluminium foot-boards, makers' colours, exceptionally fine con-dition; £63,—72, Longridge Rd., Earl's Court, S.W.5.

dition; £63,—72, Longridge Rd., Earl's Court, S.W.5.

D'UGLAS W.D. 23/a.p., 2-speed, uncrated land, month, done 300 miles, latest buffer fork; £68; hought cer.—129, Alexander Rd., Acock's Green. (X2591

Douglas Combination, 4h.p., 1918, lamps, horn, exchange solo and cash—141, Merton Rd., Wimbledon.

1920 Douglas Combination, brand new, all lamps, horn, and specially fitted Easting wind screen; hist price, £185 complete.—2, Nightingale Rd., Lower Clapton.

Clapton.

DOUGLAS 4h.p. Combination, 1919, unscratched, lamps, horn, tools, etc., owner going abroad; £150.

Hewin's Garages, Ltd., the Real Service Firm, Tunnan, Tun

19 20 Douglas Combination, Lucas lamps, horn, tools, etc., all as new; £160, a genuine bargain; inspection, tital any time.—Cousins, 27, Mill Lame, Wareham.

DOUGLAS 1914 23,h.p. 2-speed, Bosch mag., lamps, Stewart, speedometer, horn, etc., in good condi-tion: 55 gns.—F.L.C., Warren Honse, Bexleyheath,

19 19 4h.p. Douglas Combination, electric lighting, in splendid condition; £150.-81, Dolston Lane, London, N.

don, N.

DOUGLAS 2%b.p. W.D. model, unused; cheap.—
The Commercial Road Transport Co. (Birmingham), Ltd., 39-47, Heath Mill Lane, Deritend, Bringham [4265]

DOUGLAS 274h.p., brand new, not ridden, W.D. model, 2 speeds, spring buffers, Bosch mag, new tries, perfect; bargain, £80 cash.—Box 4,480, c/o The Micor Cycle.

4 h.p. Douglas Combination, late 1918, not W.D., 4 all in perfect condition, £125, or close offer; also sidecar, Matchless cane body, £4.—Box 4,534, c/o The Motor Cycle. [4272

DOUGLAS 4h.p. (1917) Combination, engine guaranteed as new; £115, or 100 gas cush down; satisfaction to purchaser; by appointment.—Dodd, Surrey Hall, Margatč.

19 18 4h.p. Douglas Combination, equipped lamps, horn, tools, etc., very smart outfit, almost indistingnishable from new; £110.—Brookes, 60, Barbourne Rd., Worcester.

DOUGLASES 23.h.p. always in stock at competitive prices, open till 7 p.m. week days, 5 p.m. Satur days. Smith's, 86, Chelk Farm Rd. (opposite Chalk Farm Tube Station).

10 15 25/4b.p. Douglas, overhauled and re-enamelled for quick sale. €52; also 1916, very good condition. £56.—257, Cavendish Rd., Balham, S.W. (near G.P.O., Balham). 4883

BARGAINS.—25 h.p. Donglases, completely over-handed and enamelled makers colours, guaranteed machanically perfect; £65 and £67/10.—3, Courthands Av., Lee, S.E.12.

4 h.p. Doughts Combination, 3-speed, K.S., clutch, new C.B. side-ar, tully equipped, smart outfit; 115 gns., or close offer: lightweight considered part exchange, -17, King St., Watford. [5087]

4 h.p. Douglas, 1919 model, completely equipped with horn, lamps, tools, etc., in excellent condition, enamel and plating, as new, good tyres; 2110—15, Holywell St., Oxford.



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DOUGLAS Combination, 1919 model, excellent co diftion, complete with all lamps, horn, Eastin screen, spare belt, etc.; £150; any reasonable trial give -101, Church St., Croydno.

23hp. Douglas, 2-speed, long exhanst, horn, n 4 lamps and speedometer, new mudguards, prac cally new rear tyre and tubes, footboards; £55—466 62, Holland Park Av., W.11.

Two 1916 2%b.p. Douglases, require enamelling and few ports, £26 and £28; also engines, gear boxe frames, and all 2%h.p. parts, £257, Cavendish Rd., Baham, S.W. (near G.P.O., Balham).

DOUGLAS 25(h.p., 1914, just overhauled, paramelled, and plated, makers' colours, splendicondition; 50 gns.; between 5 and 8 p.m.—2: Windsor Rd., Denmark Hill, S.E.5.

1917 4h.p. Douglas Combination, lamps, good tyre discs, makers' colours throughout, £120; 191 31/4h.p. Douglas, clutch, kick starter, new tyres, £65,-3, Courtlands Av., Lee, S.E.12. DOUGLAS 23/h p., 1914, 2-speed, Bosch, long et haust, footboards, lamps, horn, punn, good rut ning order and condition; price 255.—Been, S. Wulker, Station Rd., Birchington, Kent. [419]

4 b.p. Douglas Combination, late model, coachbut bulbous back sidecar, bood, screen, new lam speedometer, mechanical horn, in top-bole conditions, 122—Hough, 750, Holleway Rd., N.19.

C105.—4h.p. Donglas combination, 1915, 3-specturch, underslung torpedo sidecar, 3 lamps, he 2in. copper exhaust, aluminium leg and undersluic—Leach, 9a, London Rd., Bognor, Sassex. [48]

DOUGLAS Combination, late 1919, done 1,000 miles all in new condition, speedometer, lamps, screen tools, etc.: £145. — A.B., 39, Westhourne Terrae North, Paddington. Phone: Padd, 3418. [516]

DOUGLAS Combination, December, 1919; 100 mile trial, climbing and consumption tests with pleasure; guaranteed perfect throughout; £150.—His cock, 4, Harringay Gardens, Harringay, N.S. [559]

1916 Doughas 254h.p., W.D., perfect running order new P.H. lamps, mechanical born, etc., £58 another, equal new condition, 58 gns.; any evening after 7.—Entwisle, 1, Countess Rd., Kentish Town. [414]

DOUGLAS 2%h.p., military models, W.D., renovated, carefully selected and tuned up, always choice of several; price £60; seen any time.—Watson, 181, Clapham Rd., S.W. 'Phone: Brixton 2984. [435]

23h.p. Black Donglas, supplied new from maken 4 February, 1919, receipt and test card furnished privately used, mileage 1,600, splendid condition: £78 including £3 spares.—Edge, Mariborough Lodge, Harrow

DOUGLAS 1918 Combination, 4h.p., 3-speed, ki hauled, Lucas set, special outfit: 100 gns lowes after 6 o'clock.—65, Clitton Av., Wembley Hill, S.

1920 Douglas Combination, electric light, Companies, Elaxon horn, and Cameo screen siderar, insured to end of January, 1921, only run 7 miles; £175.—Woollven, 28, Portugal Place, Cambrid

T Appears Ridiculous to Advertise when you have to stock, but we are giving delivories to the entry birds. Place your order at once if you want delivery.—Eli Clark, Douglas Agent, 196, Cheltenham Rd, [0016]

DOUGLASES.—I always know of several good 25 hp. Douglases. You are safe as to date and good condition of any machine I recommend.—Robert Bamford, consulting engineer, 345, Edgware Rd. London, W.

DOUGLAS 254h.p., 3-speed, Colonial model, very fast recently overhauled and pluted, complete with good lamps, mechanical horn, and several spares, a really reliable machine; 270.—Maple Lodge, 8, Park Rd., Wee Dulwich. (Erenings.)

Dulvine. (Februages)

F.O.C.H. have a 1919 4h.p. Douglas Combination.

Intest type clutch, fully equipped, ready for the

road.—Fair Offer Car House, 5, Heath St., Hampsteed

[ar. Hampsteed Tybe Station). Phone: Hampsteed

7752. Hours 2-7, including Suburdays.

[4417]

DOUCLAS 24h. https://docs.mcm.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.new.ph.

1019 25th.p. Donglas, brand new Dec., 2-s, discs, large brass exhaust, chain case, P. H. head light, Watford speedometer with trip, chanical horn, Lucas reflector, perfect order, or going abroad; £85.—P. D. Gibson, Excelsion (Aldershot, Hants.

2015, by Wir Office Doubles, here entirely overheaded 24 tephred and connected in these work new Durion heavy tyres and Binks carburetter, practically equal to few; price 275; to save time will take 270 to anyone purchasing, unseen on my recommendation.—C. Binks, Plucinx Works, Eccles.

Harley Davidson.

Harrey-Davidson.

ARLEY-DAVIDSON 1919 Combination, wind screen, lumps, facts, tools, new sputo tyto, connas new; \$275.—Hedges, East End Farm, Primer, [451]

18 Harley-Davidson 7-9h.p., mag. model, lamps, horn, new spare cover, in splendid condition; 0, or near offer.—Hood, 32, Fullam Palace Rd., 14457

mersmith, 120 7-9h.p. Hinley-Davidson, electric model, speed-queter, specially built sideer, only done 200 3, 2225, no offers; any inspection.—Hox 824, c/o 122408

20 Harley, Combination, electrically equipped speedometer, flurest transont, 71,500 miles, currently in, in perfect condition; bargain, £220.—32, 8t. 1ew's Rd., Coventry.

15-1916 (Jurley-Davidson 7-9h.p. Combination, electric model, beautiful condition, mechanist perfect, tyres good, 2 spares, any trial; 125 gas, Little Ealing Lane, Ealing. [4906]

20 Harley Flat Twin Combination, door 822 miles, comfortable sporting sidecar, speedo-er, and full equipment, and lamp set; £180, or offer.—Grimes, 18, Bruton Place, W.1. [5554

15 Harley-Davidson Combination, khaki-colour, electric lighting, wind screen, etc., all in per-condition; £150.—The Winstan Henney Motor 63, South End, Craydon, 'Phone; 2431. [4410]

18 Harley-Davidson, plating and enamel excellent, any trial, 110 gus.; magnificent bulbons backed on, £20, optional; or exchange 1920 lower power; atter 5 p.m.—175, Camberwell Grove, S.E.5. [3998]

atter 5 p.m.—175, Usunovived traver, 5.75.5, Usaso ARLEY-DAVIDSON Combination, 1916, electric, overhanical, tecnamelled, reupholstered, accessories, es, including trye, tube; 2145; cun he seen in London, and the statuday—N.L.B., Piccoddily Hotel, London, ARLEY-DAVIDSONS—7-9-hp, mag, model, methanically perfect, ready to ride away, good tyres, 8, 290; 1919, 5100; second-hand sidecar, £20; any time.—Olph-rit, 68, Church Rd., Barnes, 15156

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6 Harley-Davidson, electric model, in new condition, speedometer, electric light and horns, g sercens, spares, etc.; £160.—A.B., 59, nest-Terrace North, Paddiugton. 'Phone: Padd [5165]

ARLEY-DAVIDSON, 1915, very little med during war, double sidecar (1919), 2 accumulators, 3 pe, apeedometer, all in excellent condition; £125; ld sell sidecar separately.—Skinuei, Oaks, Mickle-Toerk, Derby.

15 Harley-Davidson Combination, hood and wind screen, electric lighting, accumulator, 3 lamps, namelled 1919 colour; £135; seen any evening z 8, or Saturday, after 2.—11, Newnham Rd., ning Crescent, Wood Green, N. (4494

ning Crescent, Wood Ureen, A.
ARLEV-DAVIDSON 7-9h.p., 1918, purchased
February, 1919, cancelet sperting sidecar, 3de, clutch, kiek-starter, T.T. bars, aluminium discs
round, long exhaust, dynamo lighting, electric and
hanical horns, spares, any trial, would consider
i solo part; best offer.—Box 4.572, etc The Motor
le. [4610]

ARLEY-DAVIDSON 7-9h.p. Combination, 1918.
perlect condition, just overhanded and remelled; any trial and expert examination invited; so ar size electric lamp set (accumulator), mechanism, tyres perfect, price 2165, or take lower operation of the perfect perfect and the perfect perfect

don Rd. E.C.I.

**ARLEV-DAVIDSON. 1919 (daze guaranteed). 3.

**speed, clutch, kick start, perfect running order lappearance, open to any examination, complete h Fallolite (£6/10) lamp set, Lucas rear lamp, ned to February, 1921, very full tool kit, includated of three new King Dicks, many spares, new 58, new (spare) Capac carburetter, etc.; genuine 1. £125.—Hall, Cresthill Av., Grays, Essex. [4796]

Hazlewood.

AZLEWOOD, 25th.p. J.A.P., 3-speed and clatch, ready for tour; 45 gns.-4, The Square, Carson. [5384]

6h.p. Hazlewood-Jap Combination, brand new; cost \$192, accept £180, or accept 1919 or 1920 T.T countershaft sole Triumph part payment.—Box 4.486, The Motor Cycle.

AZELWOOD 5-6h.p., Sturmey-Archer 3-speed, en-gine just overhauled by makers and whole machine e up equal to new, 1916 model; £85.—Askem, Bird-Jand, Potton, Beds.

fand, Potton, Beds.

[51:
AZLEWOOD 1920 5-6h.p. Combination, J.A.
- engine; 3-speed countershaft gear, hand clute
f used for a few miles; a sound combination
right price, £186.—Elec and Co.. 15-16, Bishot
e Ax., Camomile St., E.C.3.

(At Maker's List Prices,)	
BLACKBURNE, 4 b.p., 3-speed £128	10
CLYNO, 2\h.p., 2-stroke, 2-speed, and clutch £75	0
INVICTA, 24 h.p., J.A.P., 2-speed, clutch,	
and kick-starter £81	0
LEA-FRANCIS, 31 h.p., 2-speed £130	0
METRO-TYLER, 21 b.p., 2-stroke £62	0
METRO-TYLER, 21 h.p., 2-stroke 2-speed £74	0
METRO-TYLER, 21 h.p., 2-stroke, 2-speed,	
Type S £98	0
O.KJUNIOR, 21 h.p., 2-stroke, 2-speed £65	0
ROYAL ENFIELD, 21 h.p., 2-stroke, 2-speed £73	10
VERUS, 2% h.p. Blackburne engine, z-speed clutch, and kick-starter 95 g	ns.

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W.D. ROVER Combination, 5-6 h.p. . . . £145 0 W.D. NEW IMPERIAL Combination, 8 h.p. £145 0 (These machines have J.A.P. engines, 3-speed countershaft gear box, clutch, kick-starter, all-chain drive, and are finished "Service green.")

SECOND-HAND

1919 LAMES, 21 h.p., 2-stroke, 2-speed, as	
new £65	0
1920 ROYAL RUBY, 2-stroke, lamps, and	_
boru £50	0
1920 METRO-TYLER, 2] h.p., 2-speed, all	_
accessories £70	0
1912 WULFRUNA-PRECISION, 31 h.p., lamp, and horn £38	0
1916 A.J.S. Combination, 6 h.p., lamps, and	۰
herr £155	0
1914 SUNBEAM-J.A.P., 6 h.p., 3-speed	
countershaft gear, all-chain drive,	_
windscreen, lamps, and born £130	0
1916 ARIEL Combination, 5-6 h.p., wind- screen, lamp, horu, and speedometer £130	0
	٠
rozo ALLON, 2-stroke, 2-speed, lamp, and horn, as new	0
W.D. ROVER, 6 h.p., and Millford Cor-	
vette Sidecar, lamps, and horn £135	0
1918 A.J.S., 6 h.p., and Milltord Sidecar,	
spare wheel and tyre, Lucas beadlight	

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set, rear lamp generator, and born .. £180 NEW SIDECARS

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H.II.

H B., 25th.p. Blackburne engine, 2-speed, kick starter, in stock.--Longman, Fisherton, Salisbury. [4050] 19 20 25(h.p. II.B., only used 3 weeks, clutch, K.S., condition as new; 90 gns.-113, Chestorton Ed.,

H B₂ 22/h,p. Blackburne engine, 2-speed, hand clutch, kick start, 2 lump sets, mechanical horn, tools and spares for touring, low indicage, condition as new; £90. —Birch Fairfield Bakery, Mill Place, Kingdon-on-

1932 2 Yh.p. H.B., Blackbarne engine, 2-speed, clut Pedley grips, knee pads, mudsheld, tools, and spare as new mileure 500; accept 290, or near ofter qui-side—55, Rakin Walk, Herne 10th. Thome: 652 1977

Henderson.

HENDERSON, mearly new, 10h.p., 4-ryl.: 130 gns., surfuctus.

Surfuctus.
HENDERSON Combination, electrical equipment of the Market Southern Company of the Market Southern Company of the Market Southern.

HENDERSON Combination, electrical equipment of the Market Southern Company o

Grove Ru., Spatishin, Brimingham.

HENDERSON Combinations actually in stock, from \$1180 upwards; second-hand from £110.-W. II. Grines, 18 Bruton Place, New Bond St., W. [5359]

WAUCHOPF'S, 9, Shoe Lane, London, E.C.4.—
8-101n, Henderson combination, 4-cyt. 2speed, free engine, handle start, all accessories; £125, [534]

free engine, handle start, all accessories; £125. [394]

H. ENDERSON — Immediate Delivery 1920 Brand
New Dyname Lighting Henderson Combination, only ridden 40 miles on Whit-Sunday, and to Brighton and back on Whit-Monday. The most magnificent turnout on the road. Fitted with hood, Auster Triplex screen, 4-gn. Speed Nymph, genuine clectric Klaxon. The sidear alone cost £75, receipt shown. This outfit, which with its lavish appointments could not be deplicated in the second of the control of the co

Hobart.

HOBART 1920, Villiers 2-speed: £75; exchange combination.—42, Markhouse Rd., Walthamst

HOBART 21/h.p., mudshields, footboards, noddield, Sherborne, Oldfield, Sherborne. 1930 1920 Hobart 2-stroke, 2-speed, in stock, £75, 51920 Hobart 2-stroke, T.T. model, in stock, £63/15.— Shepherd and Co., Enfield Highway. Waltham Cross 31, [5378]

HOBART-VILLIERS 1916 2½h,p. 2-stroke, 2-s; Druids, M-L. mag., Armac, footboards, la accessories, brand new condition, stored 3 years; exchange considered.—53, Solon Rd., Brixton.

HOBART-VILLIERS 2%hp. 2-stroke, 2-speed, electric and actylene lamps, Klaxon, knee grips, special Tan Sad, tool bags, legshields, tyres as new, small mileage; £60.—Hall's Garage, 37, Malden Rd., Kentish Town, London.

Humber.

HUMBER Ligntweight, Bosch, good running order; 425.—Knight, 51, High St., Reigute. 451.

21h.p. Humber, 2-speed, handle starting, Salop. (Salop. Karling), Salop. (K2480)

HUMBER Lightweight, 24h.p., good condition; £28, first cheque.—Wheeler, 62, Oakfield Ed.

19²⁶ Humber Flat Twin Combination in stock —Shepherd and Co., Enfield Highway. V Cross 31.

HUMBER 3/2h.p., 3-speed, cintch, kick-starter, just overhauled by makers; £55.—Gray, 15, Lea St., Kidderminster. [X2236]

2 1h.p. 1913 Humber, single speed, perfect condition, 2 tools, spares, accessories; £45.—Goode, 652, Abber-Ble Rd., Sheffield.

• Rd., Sheffield. [3436]
1014 3-speed K.S. 3½h.p. Humber Combination.
1101-speedometer, lamps, just renovated, as new, any trial.—44, Sun St., Waltham Abbey. [4939]

HILMBER 23, D., Grado grar, Bosch, B. and B., are Danlop belt, born, tools, spare belt, £32; after 5.-5, Hamilton Rd., Wimbledon, 23th.D. Humber, P. and M. speeds, new tyres, handled bars, midguard, wheel chair, first £38.-Edgell, Springhill, Coleford, Somerset. [500-25] bars, midguard, wheel chair, first £38.-Edgell, Springhill, Coleford, Somerset. [501-25] bars, nor feer.—56, Brockville Rd., Pulhan. [4378.]

gus., or cher.—56, Brockville Rd., Fulham. [4378]

HUMBER 1916 6hp., water-cooled, O.B. sidecar, 3speed C.S., lamps, speedometer, horn, perfect coudition; £125.—Randall, 88, Church Rd., Baross, S.W.

HUMBER, 1913 254,bp. Twin, 3 speeds, clutch, Bosch, B. and B., Druids, excellent rends, order; 40 gns.—9, Aerovills, Collindale Av., Hendon, W.W.

A.A.F. 490 East Ham "Egararco, Loadon."

Egararco, Loadon.

EARLY Delivery of the Celebrated Humber machines, and the accredited agents.—The Lankester Endinger and the accredited agents.

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MOTOR CYCLES FOR SALE. Humber.

HUMBER 31/h.p. Combination, coachbuilt sidecar, 5 speeds, kick-starter, clutch, lamps, horn, etc., in good running order; price £90.—Stocks (1920), Ltd., Lucy Tower St., Lincoln.

HUMBER Combination, 1917, water-cooled, horizontal twin, in first-class condition, owner just taken delivery of a new car; £160.—The Spalding Motor Co., Ltd., Spalding. [3466]

19 19 3½hp. Flat Twin Humber Combination, 3-speed countershaft, clutch, enamel, tyres as new, horn, tools, spares, Easting; best over £110; trial— Lines, Union House, Foleshill, Coventry. [X2522]

Indian.

19¹⁶ 7-9h.p. Indian, 3-speed model; £65.—12, Buidge St., Cambridge. [4407

INDIAN 7-9h.p., spring frame, discs. as new; £98.— 15, Enmore Rd., S. Norwood, S.E.25. [3986

LUTCH Model Indian, enamel good, goes well; offers,—Kingston, 69, Sydenham Hill. [4702 5 h.p. Indian Combination, after 7 p.m.; £75.-35, St. Winifred's Rd., Teddington, Middlesex. [4801 INDIAN 7-9h.p., 1915, clutch model, very good condition: £58.—Hosking, Westlands, Cheshunt. [4636]

THREE Indians, 7-9h.p.; to clear, £95 each; not war junk.—Grimes, 18, Bruton Place, Bond St., W. 5-6h.p. Indian, 1915, stored, under 2,000, like new; nearest £100.-Lt. Jones, Education School, Shom-[4243]

cliffe 19 20 Indians: prompt deliveries.—E. Brown, Indian Specialist, 3 and 7a, Parker Lane, Burnley. [X6264]

19²⁰ Indian 7-9h.p., dynamo lightiug, mileage 500, as new; £165.—South-House, Harborough Magna, [X2472]

INDIANS, 1918-19, Powerplus, makers' colours, as new; £125, or with sidecar.-3, Courtlands Av., Lee, S.E.12. Lee, S.E.12,

EGERTONS, Northgate, Ipswich, are booking early, delivery for Indian Scout and Powerplus models. [8157]

INDIAN Combination, C.B., 7-9h.p., 2 speeds, F.E., kick start: £85.-53, Russell Rd., South Tottenham, Loadon. [5338

1918 Iudian 7-9h.p., enamelled, plated, everything overhauled, tyres as new: £125.—W. J. Bladder, Sidbury, Worcester. [4037]

Worcester.
Indian Combination, 2-speed, clutch; £75; nange Douglas or Triumph.—98, New Town Reds. [5251] 7-9h.p. Indian of exchange Do St., Luton, Beds. INDIAN 7-9h.p., 2-speeds, spring frame combination electric lights, electric starter; £95.-103a, High St., Wandsworth. [5097

INDIAN, 3-speed K.S. gear box, carburetter, mag., chains.—Condition and price, Messenger, School Rd. East Molesev. [4221] Rd. East Molesey.

INDIAN Combination, 1914, 7-9h.p., 2-speed, spring frame, just overhabled; £95.-35, Annesley Av., The Hyde, Hendon. [5241]

19 18 7-9h.p. Powerplus Indian Combination, Easting wind screen; £130.—J. J. Dooley, 35, Killyon Rd., Clapham, S.W.8.

19 20 Powerplus Indian, solo, new May, electrical model, perfect condition; 170 gns.—Tudor Lodge The Green, Richmond. electrical

INDIAN Combination 7-9h.p., 3-speed, K.S. and clutch, special coupe C.B. sidecar, ready for tour; £125.

-4. The Square, Carchalton.

INDIAN 5-6h.p., 1915, 3-speed, K.S., foot clatch, disc wheel, new Bosch mag.; £70, or near offer.—13, Magnolia Rd., Chiswick, W.4.

INDIAN Combination, dynamo lighting, 1920, absolutely as new; 195 gps.—Longman Bres., 17.
Bond St., Ealing, Tel.: 689.

19 16 Indiar 5-6h p. T.T., 3-speed, clutch, kick start, lamps horn, fast, sporty; 485.-7. Fearon St., Loughborough, Leicester. [5024]

5-6h.p. Indian, 1916, full equipment, £90, or offers; also light sidean.—By appointment at 42, Bramham Gardens, Earl's Court. Western 1305. [4195]

1915 Indian 5-6h.p., 3 speeds and K.S., in good run-ing order, equipped with lamps, Klaxon, etc.; £59.—L. Bull, 44. Hill's Rd., Cambridge. [5307

5h.p. Indian, 1917, just rebushed, enamelled, T.T., smart looking, excellent condition; £85, offers, -Start, Fearon St., Longhboro', Leicestershire. [4940] 1920 Powerplus Indian Combination, electrically equipped, mileage 600, for G.P. Morgan.—Mullan, 21, Lever St., Pollokshields, Glasgow. [4295]

Januari, 21, here 5c., romossinens, Gissgow. (429)

JMMEDIATE Deliver 1920 Indian combination, dynamo lighting, Indians' best bulbous back side car, 65 m.p.g., Diveol., 58, Woodfield Rd, Edling, 15213

1914-15. 7h. Indian Conch Combination. 2-speed, full yequipred; 2100; lightweight part; appoint neut only, -47, Hale Lane, Faileworth, Manchester.

INDIAN 7-9h.p., new luxurious coachbuilt sidecar, saure handle-bars, lamps, horn, perfect condition; best ofter over £115.—Benfley, Wall, Lichfield, Staffs, [4136]



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JAMES, 4½ h.p., combination. LEA-FRANCIS, 3½ h.p., twin, 3-speed clutch.

L.M.C., 6 h. p. twin, 3-speed, clutch. L.M.C., 41 h.p. combination, 3-speed. clutch

SPARKBROOK, 2-stroke, 2-speed. RADCO 2-stroke.

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VELOCETTE, 2-stroke, 2-speed. SIMPLEX Motor Unit attachment fitted to both Ladies' and Gent's machine's, in stock for immediate delivery.

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FOR Sale, Indian road racer, 1914, clutch, In-Binks accessories, exceptionally fast; £65, or change lower power.—23a, Scarisbrick Av., South

7-9h.p. 1913 Indian Combination, C.B., 2-speed, starter, lamps, horn, tools, spares, good rum order; £90; offers.—Clare, Beech Hill, Wells, So

WAUCHOPE'S, 9, Shoe Lane, Loadon, E.C. 7-9h.p. Indian and sidecar, 1915, disc wh 2105; also 7-9h.p. Indian combination, 1920, as 2215.

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INDIAN 1914 C.B. Combination, 2-speed, clutch real good condition throughout; £34, or £12 solo; any trial here.—Dickinson, Lyadhurst, Orma Rd., Alotree.

19 15 7-9h.p. Indian, run 300 miles, dismar complete with lamps, gear box, etc., forks, mudguard missing; £49, offer.—9, Red Bassett, Southampton.

1915 7-9h.p. Clutch Model Indian Combinat coachbuilt toyledo sidecar, new sidecar t discs, rebushed, in good condition; 75 gns.—Ye Ro Lock Mead, Maidenhead.

TNDIAN 1914 7-9h.p. Coachbuilt Combination, 2-sp kick start, perfect condition, lamps, genera hora; #80. Saturday afternon or Sunday mornin 50a, Kirkdale, Sydenhum.

19 14 7-9h.p. Indian, 2-speed, hand clutch, plete overhaul March, Swan sidecar, sluggage grid, lamps, horn, splendid condition;—8, The Terrace, Camberley.

INDIAN 1915 7-9a.p., sporty model, hand ch discs, and long exhaust, complete with access lamps, tools, etc., excellent condition; £75.—Budd 32, Sandulands Rd., Fulbam, S.W.6.

TNDIAN Late 1919 7-9h.p. Combination, not at not run 500 miles, electric lighting, ubsolv perfect, as new; £200. Saturday afternoon or Su norning.—50a, Kirkdale, Sydenham.

1920 7-9h.p. Indian Combination, all a delivered February, policy, owner obliged to sell; £180, or net 324, Hither Green Lane, Hither Green. or near

TNDIAN 1916 5-6h.p., Henderson coachbuilt side 5-speed, foct clutch, kick start, copper exh-pipes, just overhauled, lamps, Klaxon, perfect 1 dition; \$125.—Roper, 5, Cromwell St., Ipswich, [5] INDIAN Combination, 1916, 7-9h.p. Powerplus, speeds, spring frame, discs, Cancelet sidecar, we screen, lamps, born, tools, and spares; £130, or goffer.—Lieut. Mack, Fort Blockhouse, Gosport. [4].

INDIAN 7-9h p. Clutch Model, 1915, dise wh lamps, horn, speedometer, complete tool outfit, first, spleadid condition, owner going abroad; will ac £65 for quick sale.—Harris, 60, Heacroft St., Slow

TNDIAN 7-9h.p., Powerplus model, electric light and horn, delivered April, ridden 1,000 monly condition indistinguishable from new; £172 Herbert Robinson, Ltd., 32-35, Green St., Cambridge

1916 7-9h.p. Indian Combination, spring frau eped, K.S., lighting set, spare valves, engine fect, tyres aew, receastly overhauled and enumelled pedo sidecar; £110.—Temple House, Basford, 5tok Trent.

1914-1915. Indiaa 7-9h.p. C.B. Combination, lot and runs like new, 2-speed, K.S., clutch i working, speedometer, lamps, tools, and spar Klaxon, and trial; £105 lowest.—Ford, Sotwell, Wallingdord, Berks.

19 16 7-9h.p. Indian, overhauled. 1920, new han bars, tubes, Dunlops, 3 speeds, hand and clutch, perfect; £85, or exchange with cash Triumph or Rudge.—Particulars, Grubb, 218, Will Rd., Chatham.

T.T. Indian 7-91.p., clutch model, complete shorn, head and tail lamps, spares, rear-driven so m.p.h. speedometer, engine and commelling splendid condition: £89.—Howarth, 76, Morris Glubam, Lancashire.

TNDIAN 7-9h.p., Swan sporting sidecar, 2-speed, clut dynamo lighting, etc., starter and horn, elect outfit overhauled and new accumulators, perfect chanically and appearance; 125 gus.—St. Mar Lodge, Grove Rd., Woodford, E.18.

1914 Indian, 7-9h.p. clutch 'model, professionally enamelled and renickelled, speedometer, lam Klaxon, tools, new tyres, excellent mechanical conting, easy starter, very fast, like new, ride 50 into intending purchaser; £75-237. Iffley Rd., Oxford

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[4782]

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25. Water St., Blackburn. (X2497)
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TRO TYLER, disc wheels, long exhaust, the porty bus, actually in stock.—Hewin's Garages, the Real Service Firm, Tetnes. [4175]

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i. Minerva Motor Cycle, incomplete; £4.—Seller, 15. Miner St., Walworth.
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B. and B. long exhaustride away: £19/10, ao offers.—15, Ashvale Rd.
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ng Broadway.

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DTO-REVE 21/2h.p., overhauled, splendid order, good tyres, new belt; £25.-67, Wantage Rd., ing. [X2485]

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M OTOSAC OCHE Lightweight, just been overhanded and enamelled, 'yres good, good running order; after 7 p.m.; £25.—Thorpe, Oakmere Hall, Hartford, Cheskire. New Hudson.

NEW HUDSON, 2-stroke, 2-speed, lamps, horn, and pump; £46.-Noyes, Bracknell. [4834

NEW HUDSON, 1920, unridden, 25th.p., 2-troke, 2-speed; £75.—'Phone: Hampstead 7822, [5322] NEW HUDSON Motor Cycle, 3-speed; £37/10.-W. H. Marsh, Heaton Garage, Rye Lanc, Peckham.

1917-18 New Hudson 2-speed 2-stroke, splendid order; £45.—Collis, 199, Unthank, Nowich, (4057)

NEW HUDSON, 25/h.p. J.A.P., 3-speed, clute Bosch, lamps; £50.—Virgin, Norton-sub-Hamde

NEW HUDSON Coachbuilt Combination, chulch, kick start, excellent condition; £73.—Hightown, Crewe. 1914 New Hudson 23th.p. Jap. 3 speed, clutch, new heavy Dunlop, ride away; £50.—110, Mill Jane,

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19 2° New Hudson 2-speed Lightweight, in stock;
275.—Shepherd and Co, Enfield Highway.
Waltham Cross 31.

25thp. 2-stroke, 2-speed, lungs,
horn, excellent condition; offers; Satuiday.—Chaubers, 61, Rayarfon Rd., Enfield Wash. [5312

19¹⁴ New Hudson Combination, coachbuilt, Durlops, 3-speed, clutch, trial given; £55.—Peirce 55, College St., Upper St., Islington. [516]

NEW HUDSON 21/4h.p., 1917, 2-speed, footboards, spare belt, lamps, etc., decarbonised, excellent condition; £52.-40, Drakefell Rd., New Cross. [4493

NEW HUDSON Coachbuilt Combination, 3-speeds, clutch, kick start, beautiful condition; £75.-59, Pallrey Place, Dorset Rd., Clapham Rd., S.W.8. [5252] Palfrey Place, Dorset Rd., Cuphiam Rd., School, 25-NEW HUDSON 31/2h.p. Combination, 1913-14, 3-speed, clutch, good condition; accept highest offer.—Mill Honse, Honey Lane, Waltbam Abbey, [4452]

1916 New Hudson, countershaft 2-speed, Lucas 243, near offer.—Lawrence, 2, Sunderland Rd., Forest Hill.

W HUDSON, 1915, and coachimit sidecar, hood, lamps, tools, 3 speeds, splendid condition; in, 75 gns.—Mermaid Cottage, Rye. Phone: [4474] NEW HUDSON-J.A.P. 25th.p., just overhauled by makers, re-enamelled, 3 speeds, clutch, langus, etc.; offers over \$466.—Whitaker, Thorney Bank, Norland, Sowetly Bidge.

Sowerty Etilike. [4007]

19 16 New Hudson, 2-stroke, 2-speed, 2½h.p., 2 new handed, deershebmsed, perfect coadition; 245, 2-49, Mahloa Rd., Acton, W.

NEW HUDSON 6h.p. Twio Combination de Luxe, 1917, perfect condition, beantifully enjamped, hood, speece, Tankad, speedometer, lampe, estim, capped, book, speece, Tankad, speedometer, lampe, estim, perfect, perfect to the condition of the condition

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XEW HUDSON Luxurious Combination, 6h.p. twin, 3-speed gear box, countershaft, coach underslung sidecar, not scratched, folding luggage carrier, lamps, speedometer, good tyres, the whole in new condition, not run 5,000 miles; 4110 lowest, or exchange 799, p. Swift or similar light car.—White, Englemere, S. 14895.

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Parmestale. 1a, Loddon Ed. Thanet: 91, High St
Parmestale.

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19¹⁶ New Imperial-Jap. 2-speeds, speedy; £46.-Dundee Rd., South Norwood.

19 Dundee Rd., South Burnsell 19¹⁴ Imperial, 2⁵4h.p. 2-speed J.A.P., just over-hauled; £47.—22, Victoria St., Clifton, Bristol. [4029]

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WAUCHOPE'S, 9, Shee Lane, London, E.C.4, 2) jh.p. New Imperial, new 1920 model; £74/3 NEW IMPERIAL, 1920, 25/h.p., 2-speed, kick starter; £83.—Phone: Hampstead NEW IMPERIAL Lightweight, 2-speed, late model; 48 gns.—325, Essex Rd., Islington, N.1. Pull

hell. NEW IMPERIAL-J.A.P., 1915, 2-speed countershaft, lamps, etc.; bargain, £47.—88, Kew Rd., Richmond. [4616]

10 20 New Imperial-Jap 254h.p., 2-speed, lamps, Klaxon, not done 150 miles.—17a, Richmond Rd., Ilford, Essex. [4777]

1920 8b.p. New Linpeini-Inp. brand new, and new Cannette sideen to match, not registrated; 212110.
-15, South St., Louth.
1920 Brand New Imperial, 3 speeds, twin JAAP.
Combination; immediate delivery.—Rawson, 61, 21, lanker St., Southport.

NEW IMPERIAL-J.A.P. 254h.p., 2-speed, new tyres, lamps, horn, etc., £47/10 nett.—Lloyd and Son, 29, Station St., Lewes. [4972] 1917 New Imperial-Jap 234h.p., lamps, horn, over-hauled, renewed: £57; any trial.—57, Mount Ned Rd., Streatham Hill. [4833]

NEW IMPERIAL J.A.P. 1916 23th.p. 2-speed, kick-start, lamps, complete spares; £55.—Johnson, 76. Maner Rd., Wallington, Surrey. [4769

19 15 New Imperial Jap 25th.p., 2-speed, just over-hauled, perfect condition; £50.—Claverings, Greenstead Green, Halstead, Essex. [3953

19²⁰ New Imperial Combination, 8h.p., practically pew, full equipment, specially good outfit; £160.—118, Upper Tutse Hill, S.W. [4636

10 19 8h.p. New Imperial Combination, tandem side-car, wind screen, very little used, in first-cluss condition.—Wray, Park Garage, Reigate. [4977]

NEW IMPERIAL-J.A.P. 1915 23/h.p., 2-speed, go condition, new tyre, tube, belt, just overhaul accessories; £45.—Huges, Gamlingay. [43] £42.-234h.p. New Imperial-Jap, 1914, 2-speeds, over-hauled, re-enamelled, new tyres, ride 20 miles to purchaser.—Beaulieu, Avenue Rd., St. Albans. [4650]

NEW IMPERIAL-J.A.P. 25th.p., 1916, 2-speed, new lamp, new Tan-Sad, splendid condition; by appointment; £52.—F.W.V., 129, Cator St., S.E.15.

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NEW IMPERIAL 8h.p. Combination, Dec., 1919, mileage 500 mly, electric lamps, Cowey, Smits speedometer, Tan Sad, aluminium legshields, Cameo screen, economics' fine bill climber; £165.—44, East Ludia Rd., Popl'ar, E.14.

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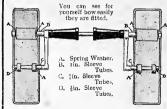
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B.R.S. 1914 Norton, Philipson, new B. and B. Dunlops, tubes, spare piston, plated ex small mileage, guaranteed; £60.—10, Farnham Seven Kings.

19 14 Norton with sidecar (C.B.), new tyres, B carburetter, S.A. 3-speed hub, powerful, with lamps, horn: £75, offers.—Richardson, 32, 1 St., Pockington, York

NORTON 1914 3½h.p., T.T., rebushed, new C.A. Amac, lamps, horn, very fast, perfect throot; any trial; seen Cambridge or district; £70, 66 — Hewitt, Hall, Mildenhall, Suffolk.

N.S.U. 31/2h.p., 2-speed; first £15 secures; sta particulars.—Tarry, Cherhill, Celne, Wilts. [4 N.S.U. 6h.p. Luxurions Coachbuilt Combination, vector, screen, speeds; £79; re-enamelled.—1, Vict. Rd., Brighton. [4

N.S.U. 25th.p. Twin, Bosch, spring frame, Br spring leaf, T.T. bars, lamps, looks smart; 1 -2, Hillside, Stonebridge Park, Harlesden.

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N.S.U. Combination, 1914, 5-6h.p., 2-speed, sr ometer, lamps, horn, Milford sidecar, in perunning order and condition; £75.—Phone: He

N.S.U. 6h.p Twin, 2-speed coachbuilt combinate recently overhauled and new back tyre, powerful; £60.—E. G. Willis and Son, 16, Norths, Highgate, N.6. 'Phone: Hornsey 457.

N.U.T., 1920 (March), Lucas mag-dynamo, Li horn, mileage 200; 140 gns.; present list p £165.-140, Horseley Fields, Wolverhampton. (X2

N.U.T.-We are sole wholesale and retail agents
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W. SPARROW, Ltd., Osborne Garage, Yeovil, of N.U.T. agents, now booking orders for early livery.—Write or Thome for particulars. Tel.: 3, 114.

NEW N.U.T., Magdynamo, horn, knee grips, in by J.A.P.'s, never ridden; price £178.—Phot Palmers Green 828. Maxwellton, Chase Side, Son gate, N. [3]

SHROPSHTRE,—N.U.T. sole agents for the could demonstration model in stock. Orders booked strict rotation for early deliveries.—James Game Church Stretton.

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N U.T. 1920 Model 3½h.p., Lucas dynamo light den gents, Vivan Hardie and Luc, Ltd., 24, Vo stock St. (of Oxford St.), Bond St., W.I. "Phone: M fair: 6555. Book now for early delivery.

O.K.

O.K. Junior, new 1920, 2-stroke, 2-speed model, stock.—Moss, Wem. [X24 19 16 O.K. Junior, 2-speed, perfect; £42, or near Balcombe, Chobham, nr. Woking, Surrey.

O.K.-UNION, 1920 model, almost new, lamp horn; £56, or nearest offer.—Day, Thorn Marden, Kent.

O.K., 1917, 2-speed, Iree, excellent condition accessories; £50; after 7 o'clock-21, C. Rd., Harringay.

O.K. 2½h.p., 1916, 2-speed, lamps, horn, pump, new; £46.—Carter, Croseways, South Hill Bromley, Keut.

O.K. 254p.p., M.A.G. engine, 2 speeds, E.I.C. ma excellent condition; £55,—Hemsley, West by ton, Aysgarth.

O.K. Junior (lightweight), 1915, 2-speed gear, cellent condition; £38.—Buckingham, Wintney, Hants.

O.K. Union and Junior, deliveries from s Hewin's Garages, Ltd., the Real Service Tannton and Totnes.

O.K.-J.A.P., 1918, 2-speed countershaft, equipped; £36; exchange for higher power, Church St., Edgware Rd., W.

O.K.-VILLIERS 234h.p., 2-speed, new model by used few miles; £60 only,—Frank Whitwork Ltd., 139, New St., Birminghans. (X24)

O.K. Union, Mark VIII., electric lighting, fully equipped, excellent numeline, almost new; as.; Tadworth.—Box 4,481, v/o The Motor Cycle. [4150]

).C.II. have a 1919 O.K. Junior, Mark V., rendy for the road.—Fair Offer Car House, 5, Heath Hampstead (nr. Hampstead Tube Station) ng: Hampstead 3752. Hours 9-7, including

Omega

,20 25th.p. Omega-Jap Model, 2-speed, at list price; just delivered,—12, Bridge St., Cambridge, [4405] dEGA-J.A.P. 25th.p., 2-speed, 1918, accessories, practically new; £49,-36, David Lane, Shadwell

dEGA, 25th.p. J.A.P., 2-speed, kick starter, with disc wheels, in stock.—Longman, Fisherton, Salis-[4049]

dEGA-J.A.P. 25,h.p., 1919, 2-speed, lamps, horm, speedometer, tools; £60.—Seen at Garage, 12, tish Town Rd, N.W. 5207
4EGA-J.A.P., 2-speed and model de luxe; at 71 and 79 gns, respectively; carly deliveries.—Lyod Son, 29, Station St., Lewes. 7506

Overstone.

19 (Sept.) Overston Villiers 2%h.p., little used, Dunlop tyres, footboards; 46 gns.—Digby, ity Hall, Cambridge. [4473]

P. and M.

and M. Combination, coachbuilt sidecar, good tyres; £70.-22, Bennett St., Blackfriars. [4379] and M., 1913, coachbuilt combination, lamps; £60 lowest.—202, Munster Rd., Fulham. [4371 and M.—Brighton, Hove and district; prompt de livery.—Turpin's, 29, Preston Rd, Brighton.

and M., 1919 model, in splendid condition : 4 The County Garage Co., Gerrards Cross, Bu 20 P. and M., just received from makers; what offers.—Jolley, Sterndale, College Rd., Maide.

and M. and Moutgomery sidecar, perfect order; 65 gns., or offers.—C. Knight, 81; King Edward, Rugby.

th.p. 1918 P. and M., thoroughly overhauled, condition guaranteed, any trial; £30.—Hudson, ok Rd., Redhill. [4684

and M. (late) 1919 Combination, splendid machine, accessories; £130; after 6.30.—19, blesdale, Streatham, S.W. [4720

)20 P. and M., latest type, brand new, and unregistered, ratchet hand brake; £130.-2, bringale Rd., Lower Clapton. [5367 and M. Reconstructed W.D.; £78.—Clifford Wilson Manufacturing Co., 70, Royal Hospital Rd., Isea, S.W.3. Keusington 7113. [3606]

) 20 P. and M., mechanical oil pump, etc., brand new and unridden; offers over list price (£115), 'oodward, Tower Rd., Heswall, Cheshire. (4980)

20 3½h.p. P. and M. absolutely new, machanical lubrication, Kempshalle, all accessories, fully red; best over £130.—2. Kestrel Av., Herne Hill.

[5310 HELON and Moore, ex-military stores, overhanked and sent on approval, \$78; complete with B.S.A 2 sideenr. \$115; trade supplied.—Mandes', 100 Portland St., London. Also Paris St., Exeter.

) 20 P. and M. Latest Combination, ridden 25500 miles only, delivered last 3 weeks; list price; Lucas lamps, genuine Klaxon, sparce, etc., below; Lancashire central.—Box 4,599, c/o The Motor fe.

and M., 1919-20, not done 200 miles, finished black and green, not a W.D., discs, lamps, pillion ; speedometer, electric horn and bully, will take ar anywhere: £85.—61, School Rd., Woking, (4797)

1970.

1915. dh.p., 1919 gent. vres shnost sew, excel2015. dh.p., 1919 gent. vres shnost sew, excel2006 tion, sidecar coachbuilt, roomy, well spring,
ier; photograph on application.—Mignon, DurringWorthing:
A and M. Combination, 1920, automatic lubrication, hand brake, luxuriously fitted, Cowey
dometer and horn, Lucas lamps, aluminium footidts, step, and number plates, legshields, petrol can
2017 carrier, makers' receipts and insurance policy
2018 red, and vial, test offer accepted.—25, Loca3, Sq., Barosbury St., Upper St., Islington, 24807

P. and S.

and S. nearly brand new, 1920, 2-speed, Cowey hord, 2 lamp sets, perfect; £77/10.-3, Courtlands, Lee, S.E.12.

7AUCHOPE'S, 9, Shoe Lane, Fleet St., London.-- P. and S. 2-stroke, 2-speed model, Villers the, £69/15; kick start and clutch models, 7/10; from stock. [6858

and S. 2-stroke, clutch model, brand new. Jor immediate delivery.—The Commercial Road asport Co. (Birmingham). Ltd., 39-47, Heath Mill ie, Deritend, Birmingham. [4262]

Avoid the increased fare by purchasing your motor cycle at

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1920 CLYNO 23 h.p.,

2-speed. 1920 RUDGE 31/2

h.p. 1920 O.K.-UNION, 2-speed, 21 h.p.

1920 NEW IMPERIAL 6 h.p. solo

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1920 B.S.A. and Sidecar, all-

chain and access. 1920 B.S.A. and Sidecar, allchain and access.

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1917 LEVIS single-speed. 1919 QUADRANT 41 F.p.

1916 HARLEY-DAVIDSON and Sidecar.

1915 HARLEY-DAVIDSON, Electric, and Sporting Sidecar. 1915 ZENITH - GRADUA 3½ h.p.

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151, High St., Walthamstow.

'Fhone: Walthamstow 169.
'Grams: "Cyclotomo, Phone, London."

50, High Rd., Wood Green.

387, Euston Rd., N.W.1. 'Phone: - - Museum 4978.

MOTOR CYCLES FOR SALE.

Peugeot

7-9h.p. Pengeot C.B. Combination, thoroughly over hauled, Bosch, lamps, horn, new tyres, tubes, 2-speed hub gear, spare whiel; £60.-4, Blenheim Rd., lpswich.

7 - 3h.p. Pengou Coachbuilt Combination, over-speed, 2 speed kick start, Book, B. and B. speedneter, 5 speed by the speedness of the speedness of the cover, accessories; £60, or offer; ne's away, or se-change lower power, solo and cash.—41, Arngask Rd, Cattord, 8-E.

7-9h.p. Pope, overhead valves, clutch, spring frame; best over £60, or lower power machine part ex-change; appointment only.—Hickman, 24, Micheldever Rd., Lee, 8.E.12. [4890

Precision

PRECISION 31/3h.p. 2-stroke, 1920; £40.—141, Merton Rd., Wimbledon, [4820] PRECISION, 445h.p., Bosch, great bargain, perfect condition;£35; ride away.-11, Marlborough Crescent, Bedford Park, W. [5168]

Crescent, Bedford Park, W.

PRECISION 3½h.p., Bosch, R. and B., good twee,
excellent condition throughout, lumps, tools: £39,
-Thornley, Warwick Rd., Solidad, near Brunnsham,
Continued to the Continued Cont

PRECISION 1914 3-speed C.B. Combination, clutch, kick start, Bosch waterproof, all on, in excellent condition; must sell; 260.—Tagg, 32, Caldew St., Camberwell, London. (4778

PRECISION 4h.p. Combination, 1914, C.B., variable scar, mechanical horn, lamps, spaces, condition, tyres excellent; trial Sussex; cash offers.-73, Ringmore Rd., Shaldon, Teigamonth. [4134]

Premier.

PREMIER Lightweight, single speed, good condition: \$27/10.-C. F. Wood, Steyning.

PREMIER 1913 394b.p., Armstrong sidecar, speedometer, horn: \$55; after 7 p.m., side door.—194, Southgate Rd., N.1.

FOR Sale, Premier 1914 2\%h.p., Albion 2-speed, B. and B., Bosch, new tyres, just overhanded; £40.—R. Lawrence, 18, Strand, Walmer. [4083]

PREMIER 3½h.p., 2-speed and clutch, Bosch, tools, etc., tyres and torpedo wicker sidecar; £48; no offers.—Russell, 25, Linom Rd., Clapham. [4311 PREMIER Coachbuilt Combination, 3-speed, cluboseh, B. and B.; exchange lightweight and cornell £65.—L. Hanlston, 560, King's Rd., Fulham elutch

PREMIER, 3½ or 4h.p., Bosch, new Dunlop heavy back cover, engine running splendid, absolutely A1, £35; sidecar complete, £10/10.—251, Rye Lane, Peckham, S.E. [4885]

2 3h.p. Premier, 120 m.p.g., in very fine condition 4 and absolutely sound, Brampton gear; £37.—4t J. S. Jayes, 9, Princess Mews, Belsize Crescent, [5130]

PREMIER 35h.p., helieved 1914, engine No. 6164, 242, or offer for quick sale,—Hackney, Leicester Grange Farm, near Hinckley. (X2473

Farm, near Hinckley. (X24*

19 15 Premier Coachbuilt Combination. 3-spe countershaft, clutch, kick start, excellent runing order and condition: £68; bargain.—436, Whitherse Rd., Thoraton Heath, S.E. 3-speed

Quadrant.

QUADRANT, 4h.p., lamps, etc., solo, good condition; accept £26; hargain.—H. Loose, Elm, Wisbech. [4933]

hech.

2 1h.p. Quadrant, N.S.U. 2-speed, F.E., good run2 ning order; £30.—Mac, 13, Victoria Rd., Upper
Norwood, S.E. [4323

QUADRANT 31/4h.p., Rosch mag., single geat, original enamel perfect; £25.-534, Fulham Rd., Walham Green. Basement. [4254

WAUCHOPE'S, 9, Shoe Quadraot combinations and solo-machines, 4½h.p., 5.speed, clutch and K.S. models, all-chain drive, 1920 models; book now; deliveries in 10 days.

QUADRANT 1920 Models at List Prices, best de-liveries; solo, £105; combination, £135. Order from the firm who have been connected with the re-turne, and back up the sale by the highly specialised ervice we ofter. The Quadrant is of Rell-Hoyse quality at Ford price.—Chiford Wilson Manufacturing Co., 70, Hoyal Hospital Rd., Chelse, S.W.3. Kensiagton [1560]

Radco.

RADCO 2¹4h.p. 1917 2-stroke, lamps, mechanical horn, new tyres, excellent condition; £32.—Scott, 75. Richmond Rd., Barnsbury, N. [4689]

RADCO 27th.p., 1919, done 100 miles only, fully equipped, like new, unscratched; £53/10.—Sibley, 106, Market Place, Romford. 'Phone: 47. [4546]

Radco.

19²⁰ 2½h.p. Radco, 2-speed, lamps, etc., spare tyre and tube, new, condition excellent; nearest £60.—Cliff, Maplehurst, Brimscombe, Glos. [3982] E60.—Ciff. Maplehurst, Brimscomue, Clos.

RADCO 2:4h.p., 1915, plating and enamelling good, ready to ride away; £32/10, or near offer.—Mimosa, Chestnut Rd., Eofield Wash, Middlesex.

Reading-Standard.

Reading-Nandaryu.
TWO Reading-Standaris; to clear, £90 each—
Grimes, 18, Bruton Place, W.1. [5355]
19 15 Reading Standard 10h.p., good tyres, Bosch
Clarks, Charles over £70.—195, Stonbouse St.,

19¹⁶ 10h.p. Reading-Standard Combination, fully equipped, condition as new, insured, only done 100 miles; £160.—109, Forest Rd., Walthamstow.

READING-STANDARD 10h.p., just received, milegre nil, Canoelet sidecur, electric light, horn, magnificent outfit; owner purchased car while waiting: £245.

-Lait, Oak Terrace, Burnt Tree, Tipton. [X2417]

19 16 10h.p. Reading-Standard Combination, 2speed, kick start, clutch, good tyres, Empire
coachbuilt sidecar, wiod screen; £100; after 6Smith, Iona, Mayfield Av., Woodford Green. [3956] 19 20 Brand New Reading Standard Motor Cycle Combination, 10h.p., electric model; best offers wanted, or exchange (adjustment) for a car; seen after 2 aoy day.—8, Brackley Rd., Beckenham (half hour from London Bridge).

Regal. 4 h.p. Regal-Precision Countershaft 2-speed Combina-tion, water-cooled, Bosch, new C.B. sidecar; any trial.—44a, Wakeman Rd., Keosal Rise. [5247

Regent.

SEND Postcard for particulars of Regent 5-7h.p. flat twin to us. We can give earliest deliveries of these machines.—Elliott Bros. and Stevens, Cambuslang, Lanarkshire agents. [0124

REGENT 5-7h.p. Flat Twin; earliest deliveries.—Full particulars from The Lancaster Motor Co., 158, Norwood Rd., West Norwood, S.E., distributing agents for South-east London.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.—6h.p. Rex and sidecar, 1912; £80. [8460

REX 5-6h.p. Coachbuilt Combination, 2-speed, just been overhauled; £85.—Gillman, Eastry, Kent. [4288] Rh.p. Rex C.B. Combination, 3 speeds, clutch, kick 6 h.p. Rex C.B. Combination, 3 speeds, clutch, latert; £40.-58, Tustin St., Old Kent Rd. S.E.

REX 6h.p. Combination, needs slight repair; S.W. offer over £30.-85, The Ridgway, Wimble

REX 3½h.p., B. and B., Brooks, clutch, O.K.; first cheque secures, £26.—102, Kenyon St., Fulham, S.W.6.

REX 5-6h.p. Combination, C.B., 2 speeds, F.E., Tottenham. Loudon.

5 h.p. Rex Combination, C.B. sidecar, electric horn and lamps, good running condition; £55.—64, Park Rd. W., Lutoa, Beds.

REX 5-6h.p., F.E. clutch, sidecar, just overhauled, good condition; £42.—Robinson, 404, Uxbridge Rd., Shepherd's Bush. [4773]

R EX Twin 5-6h.p. Combination, handle start, B mag., 2-speed, lamps, horn, ride away; £70.-Ambleside Rd., Willesden. [4500

Bosch

REX Combination, 1913, 41/4h.p., 2-speed, free engine, lamps, horn, new Douglas sidecar; £55. Phone: Hampstead 7822.

REX 31/4 p., Bosch, B. and B., spring forks, new tyres, long exhaust pipe, lamps, fast, and sporty bargaic, 22.8-152, Camberwell Grove, Cambervell Toxor, Cambervell Crove, Ca

PEX Motor Cycle, 1916 model, 6h.p., twin-cyl., free engine; price £45, or offer.—Write, Box 1,557, c/o A. J. Wilson and Co., Ltd., 154, Clerkeawell Rd., E.C.1.

REX 3½h.p., clutch, Philipson gear, Bosch, B. and B. variable jet, stored during war, good reliable machine; £42, or nearest.—Beamoud, Blossomfield, Salthull Solibull [X2233

19 15 6-8h.p. Rex Combination, 2-speed, handle start, perfect condition, £85; also C.B. sidecar body only, £3/15.—W.P., 87, Greyswood St., Mitcham Lane, Streatham.

REX 1914 8h.p. Combination, clutch model, 2-speed gear, wind screen, 3 lamps, luggage grid, very powerful; £82; exchange solo, cash adjustment.-8, Effra Parade, Brixton. [5270

REX, 1916, 6h.p., 2-speed, with handsome coach-built sidear, completely equipped with all acces-sories, any examination, privately owned; 100 gns.-Crown Garage, Chingford. 'Phone: 182. [5175

REX 6h.p. Twin Coach Combination, 2-speed, free engine, handle start, Bosch waterproof, good tyres, lamps, spare belt, spare cover; trial; 272.—Bootniaker, 82, Godetone Rd., Whyteleafe, Surrey. [4655]



MOTOR CYCLES FOR SALE.

5 -6h.p. Rex, dropped frame, Bosch mag, amodel, spring forks, spring seat, and fitted the following, all new few weeks ago: B. and B buretter, tyres, tubes, handle-hars, Pedley grips, guards, quick starter, and can he ridden away large for owner; price £40.—Spacie, Todwick, Str.

4 h.p. Roc Combination, 2 speeds, free engine overhauled, eplendid tyres; sacrifice £35, o separate.—71, London Rd., Marlborough, Wilts.

Rover.

SPECIAL T.T. Rover, 3-speed, K.S., etc.; £80 trial; 1915.—44, Sun St., Waltham Abbey. R OVER, 1915, 3-speed, clutch model, new confirst cheque £60 secures.—H. Hall, Gambir

19 20 Rover 31/h.p., 3 speeds, clutch, and unridden; £137.-134, Bridge St., Warri

19 20 3½h.p. Countershaft 3-speed Rover, a price; just delivered.—12, Bridge St., Camb ROVER 1914 Combination, 3-speed, lamps, ham.

19²⁰ Rover 31/h.p. Combination, delivered 7th; £170 lowest.—Tomkinson, Appleton, rington.

ROVER 31/2h.p., 1915, 3-speed coachbuilt si engine new; best offer £95.—Nix, Brisley, ham, Norfolk.

19 Rover 31/h.p., 3-speed, K.S. model; 5 Batev, North Cottage, Adderstone Crescent, castle-on-Tyne.

R OVER 31/h.p., countershaft, 1916, speedometer usual equipment; £79.—Brown, 5, Green Chingford, E.4.

19 16 Rover Combination, 31/2h.p., C.A.V. light new Cameo wind screen, etc.; £115.—374, Green Rd., Leytonstone.

R OVER 31/sh.p., T.T., new February, 1920, F son, knee grips, lamps, horn, fully insured; -13, Bushmead Av., Bedford. 19 13 Free Engine Rover, in splendid going reliable, fast, and good climber; price Viggers, 43, North Bar, Banbury.

19 18 T.T. Rover, condition and appearance new, lamps, tools, etc.; £75, or near Stratton Rd., Shirley, Southampton.

ROVER 5-6h.p. Twin, latest 3-speed model, drive, brand new; £155; immediate deliv Eagles and Co., 275, High St., Acton, W.3.

ROVER 3½h.p., Druid spring forks, Bosch mat and B. carburetter, overhauled; ride away; nearest offer.—Miller, Broadway, Haywards Heath. ROVER Late 1916 31/h.p., T.T., Philipson, 1 etc., excellent condition, very fast; £75, or offer.—Edwards, Zermatt, Stapenhill, Burton-on-Tr

ROVER 3½h.p., 1920, 3-speed, K.S., del February, little used, unscratched: £120 reasonable offer refused.—17, Esplanade Av., W. Bay.

R OVER Combination, 1916, carefully used, tools, lamps, spares, etc., excellent cothroughout; £108.—L. Cantrill, 172, Cross Rd

21h p. Rover, 3-speed Sturmey hub, overhaud makers, not used since machine thoroughly hauled and re-enamelled; £60.—Williams, Hoath, bridge. 19 13 31/2h.p. Rover, 3 speeds, clutch, Bosch, used during war, overhauled, good cond £55; exchange lighter machine.—68, Chnrch

ROVER 1919 5-6h.p. Combination, 3-speed, drive, complete with accessories, and in sploorder; £175.—Elce and Co., 15-16, Bishopsgate Camomile St., E.C.3.

ROVER 1912, 3-speed, clutch, wicker sidecar, s 5 years, thoroughly overhauled, perfect throughout; £60; by appointment.—Pendennis, O Cirole, Farnbonough, Hants.

10 18 3½hp. T.T. Rover, Philipson pulley, letc., knee grips, speedometer, spare bolt fast, guaranteed perfect throughout; £88.—O. 134, Lincoln Rd., Peterboro'.

P OVER Combination, 5-6h.p. (April, 1920), Lower speedometer, horn, lamps, all access hardly soiled; best offer over £200.—Tarpey, 23, mead Rd., St. Margaret's, Twickenham.

19 14 Rover 3½h,p., semi-T.T., frame re-enam tyres as new, reliable, fast unchine; 50 call or 'phone rifer 6 p.m.—Rock, 10, Oakwood Beckeuhau.' 'Phone: Bromley 1838.

R OVER 3%h.p., T.T., 1915, h.b.c. Philipeon, fast, climb anywhere, tyres as new, very used, just overhauled, lamps, tools, fine bargain, -Payne, 27, Lyndon Rd., Sutton Coldfield.

1919 Rover T.T. Model, very fast, head and splendid condition; seen any time; price 285, no e-Driver, Cottage, Upper Brighton Rd., Surbiton, I

Rover.

19 Rover Combination, 3½h.p., 3-speed, clutch, kirk statt, lamps, hora, splendid condition, vory med, new Rover siderar, unseratcher; noarest £150.—J. A. McNeil, George St., Aminister. [4982]

i.p. 1914 Rover and Sidecur, 3-speed clutch, now tyres numerous accessories, perfect condition ghout; what offers "—The Coumércial Road quort Co. (Birmingham), Ltd., 39-47, Heath Mill Derlitend, Birmingham)

VER, 1914, 3°2,h.p., 3-speed, clutch, decompressor, Bosch, B. and B., new extra heavy Dundamps, accessories, tools, stored 3½ years, hrand condition, perfect: £75; exchange high tweight mabination.—63, Solon Rd., Brixton.

19 (November) T.T. Rover, mileage under 1,500, F.R.S. large lead and rear, kneegrips, Pedley r grips, mechanical horn, spare new helt, long f exhaust, fast, and in new condition; 295, or near see Exchange—Bomford, Marthield, Beoley, Red-(X254)

VER 1918 3½b, p., Philipson, fitted with new accessories costing 418, Miller lamps, Cower speed-rand born, uluminium discs, long copper exhaust, first-class condition and appearance; only wants ; offers.—Clarke, 23, Wolverton Rd., Stony Strat-Sports

WER.—I have tested, and can recommend a 5-6 hp. Rover-Jap as a reliable machine, complete lumps, Easting screen, Klaxon, and Rover side-£155; no dealers.—Write in first instance to rt Bamlord, Consulting Engineer, 345, Edgware London, W. [4163

London, W. VER, magnificent T.T. model, late 1918, condition ns new, hand and feot-controlled Pbilipson, tainim discs, special low riding postition, completely sped, lamps, mechanical horn, etc., tyres heavy ize [as new]: bargain, g-90—Hubert Turocr and 4-5, Crawford Passage, Ray St., Farringdon Rd., [4624]

Royal Ruby.

YAL RUBY 2-stroke, reliable; £38.-16, St. Mary Abbott's Terrace, Kensington. [4111 PYAL RUBY 21/3h.p. 2-stroke, fine running order; £35.-103a, High St., Wandsworth. [5098]

20 Rayal Ruby, spring frome, 3h.p.; list price.— Clifford Motories, Eastwood, Notts. [4614

YAL RUBY, new tyres and belt, lumps, horn; £39,-167, Fallsbrook Rd., Streatham. [5120] 239.-167, Fallsbrook Ru., Straubert RUBY.-District agents; 3h.p. model in stock; list price.-Turnill and North, Peter-[4156]

FYAL RUBY 2½b.p., fitted with lamps, Klaxon horn, machine in new condition; £45.-43, Eltistv., Cambridge.

NAL RUBY 254h.p., purchased new Nov., Bobjon lan.p set, Klaxon; £45.—H. Marks, n Lane, Chiswick.

NYAL RUBY, Villiers, appearance good, condition excellent, all on; £38; after 6 p.m.—100, Inch-Rd., Catlord, S.E. [4705]

AUCHOPE'S, S, Shoe Lane, London E.C.4.— 8h.p Royal Ruby and sidecar, late 1919, fully oped, all best accessories; offers. [3170]

19 Royal Ruby Combination, Lucas and Klaxon horos, 3 lamps, long exhaust; £150, no offers.—
1837, 28, Groutchester St., Cambridge. [5202] NAI RUBY 1919-20 Sh.p. Combination, 3-speed, kick starter, smart turnout, almost new; £165. agton 2, King Edward Parade, Norburry, S.W. [3978]

20 Royal Ruby 3h.p., 2-speeds and clutch, spring frame, due from works this week, accept £110; Millford sidecar, £22.—Young, Misterton, Somer-

VAL RUBY 8h.p. Combination, 1920 model de luxe, dynamo lighting, spring frame, £5 deposit first on agent's list; £10 secures transfer.—Box L, clo The Motor Cycle. [4215]

Rudge. JDGES.—Early delivery of all models.—Bedford Garage, Walsall. 'Phone: 270. [5309] DGE Multi, 1916, wicker sidecor; £80, or solo.—6, Kimberley Rd., Stockwell. JDGE 31/h.p., clutch model, overhauled and per-fect.—Model Farm, Delph, Oldbam. [4477 AUCHOPE'S, 9, Shoe Lane, London, 31/2h.p. I.O.M. Rudge, 1919, £105. [6865 Lp. Rudge Multi, 1914; £60; overhauled, plated Feb.-55, St. James' Rd., Bermondsey. [5314 IDGE I.O.M. Multi, in stock; list price.-7 hibition Rd., South Kensington, S.W.7. 20 (April) 7-9h.p. Rudge Multwin and Sidecar; £170.—Philpotts, Sapperton, Circucester, Glos. h.p. Rudge, h.b.c. clutch, fast, reliable, over-hauled; £40.-41, Neuadd St., Abertillery, [4800] DGE Multi 3½h.p., 1915, clutch nomber (4800)

-G. Howe, 30, Addington Sq., Camberwell, S.E.

DGE Multi. 1914, fast, sporty, overbauled, perfect; £62, or near offer.—Bouroe, c/o Dabby, ford.



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ENFIELD, 04 h.p., 2-stroke, 2-speed. HARLEY-DAVIDSON, 1920, 4 h.p. hori-

HARLEY-DAVIDSON, 1920. 4 h.p. horizontal twin, acetylene lighting set, speed-meter, and horn.
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CALTHORPE, 2 h.p., 2-speed gear.

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USED MACHINES.

UMPH, 1917, and Sidecar, USA lighting (accumulator), Klaxon horn £120

RUGGE-MULTI, 1919, 3th.p., with Swan sidecar, acetylene lighting... \$110 SINGER, 10 h.p., light car, late model dynamo, lighting, speedometer, spare wheel and tyre, too's, very nice condition Painted buff, with 1918-19 M AJS. Combination, 6 h.p., fitted with electric dynamo lighting set, electric horn, and Klaxon extra

set electric horn, and Klaxon extra

set, electric horn, and Klaxon extra air adjustment, hood; side curtains, storm proof apron. spare wheel and tyre, Tan-sad, an excellent supply of spare oarts \$220 4 h.p. TRUMPH, W.D.B. (type,H.), reno-vated by and carrying the Triumph Co's guarantee to repair and make good the essentia lworking par's. Limited numbr only to offer. \$31

SIDECARS.

Watsonian, R.34, Menarch, and Model H, Millford, Skiff, and Monitor, Cancelct, B.S.A., and Swan Sporting ype.

Taylor's Coach-builf Body £11 11s. All Sidecars supplied at List Price, plus carriage from works.

H. TAYLOR & Co., Ltd.

SLowrooms: 21a, STORE ST., W.C.1, 52-S3, SUSSEX PLACE, S.W. Waolesale: 38, ALFRED PLACE, W.C.1.

Garage-Tottenham Court Road. Phones: Museum 1240; Kensington 7250. Telegram: "Dynametro, Westcent, London."

MOTOR CYCLES FOR SALE.

Rudge.

R UDGE. District agents, best deliveries; second-hand machines in stock.—Turnill and North,
Peterborough. [4153]

RUDGE Multi, I.O.M., 1916, all on, tyres practically new, splendid goer; £75.—Thone: Hamp-stend 7822.

stend 7822. [5320]

R UBGE Multi 1917 3½/h.p., lamps, horn, hand clutch, any trial; £66; nearest.—36, St. Thomss Rd, Hackney 1916 3½/h.p. T.T. Model, excellent Public Browley, Kent. [4233]

1976. Redge Multi, 1.0 M., replated and enamelled, empletely overhauled; £70.-374, Grove Green Rd., Leytonstone. [3739]

RUGGE Multi 5-6h.p. Combination (1915), good uning order; £82.-Dodd, Park Rd., Skir Quarter, Boston. 15209

19 20 31/h.p. Rudge Multi, L.O.M., Henderson coach-built suderar, unused; £135,—294, Kennington Park Rd., S.E.11. 31h.p. T.T. Rudge, long exhaust pipe, good tyres and belt, lamps, etc.; rule away: ±37 cash.—45, Highefield Rd., Dartiord. [5029]

RUDGE Multi, I.O.M. Model, brand new, in slist price. — Longman Bros., 17, Bond Ealing, Tel.: 689.

Ealing, Tel.: 659. Multi, I.O.M., not done 100 miles, 17. 1920 Rudge Multi, I.O.M., not done 100 miles, 1930 Holloway Rd., N.19. (4015) Holloway Rd., N.19. (4015) RUJGE 1913 T.T., 35h.n., new heavy lumbres, acceptable Rd., Groys, Essex. (4208

dule Rd., Grays, Essex. [4208]

R UIGE Milti, 1919 (Nov.), 3½h.p., 2 lamps, 2 generators, Kluxon, leg-shields, tools; 297.—H. M. Cottee, High St., Epping.

1920 3½h.p. LO.M. Rudge Milti, latest model, Hendron coachbuilt sidecait, unused; £135.—294. Kennington Park Rd., S.E.11.

R UDGE Multi 3½hp., new, Incas lamps, Cowe speedometer, horn, and accessories; £120.—Bra la, Larkhall Lane, Stockwell. Cowey

RUDGE Multi, 1918, 31/2h.p., lamps, horn, of lent condition; any trial; £84.-7, Milner Merton, S.W., nr. The Grove.

19²⁰ I.O.M. Rudge Multi, all on, unscratched; £110; with conchbuilt sidecar £125.—Madgwick, Bilt-more, Portsmouth Rd., Hindhead. [4098]

19¹⁹ 3½h.p. Rudge Multi, Cowey horn, speedometer, lamps, and all accessories; £85.—F3, Whewells Court, Trinity College, Cambridge. [X2457]

R UDGE 1.0.M. 1920, lamps and horo; £112/10.-Newsham Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 80. [5069 RUDGE Multi, 3½h.p. 1916, canoelet light sidecar, overhauled by makers February; £85.—Clay-ton, 36, Blenheifn Crescent, W.11. [5181

RUDGE Multi, 1915, clutch, disc wheels, land, horn, tools, and spares, good running order; 57 gns.—43, Guilford Av., Surbiton.

19 Rudge Multi Combination, hood, screen, disc wheels, hora, lumps, and tools: £125.—Seen at St. Pancras Garage, Judd St., King's Cross. [4006]

19 (April) 3½h.p. I.O.M. T.T. Rudge Multi, Lucas lamps, Klaxon horo, knee-grips, fully insured; £125.—" Eversleigh," Wellington, Salop. [4055]

R UDGE Multi 5-6h:p. Combinations, excellent condition; £30 and £90 respectively.—Longman Bros., 17, Bond St., Ealing. Tel.: 689. [4786]

RUDGE Multi 5-6h.p. 1916 Combination, perfect condition, accessories; any trial; 95 gns.—Sibley, 106, Market Place, Romford. 'Phone: 47. [4545]

R UDGE 3½h.p., clutch model, excellent condition, adjustable pulley, lamps, etc.; best offer accepted. -122a, Kichmond Rd., Wimbledon, Surrey. [5067

RUDGE Multi Combination, clutch, good engine, 1917, good twees and helt, lamp, pump, tools: £96.—Moreton, The Grove, Leadon, N.3. [4465]

RUIGE 1914 3½h.p., Brooklands model, very fast; 238; money returned if not satisfactory.—E. W. Miles, 11. Chichester Rd., Klüburn, N.W. 6. [4560]
RUIGE Multi 5-8h.p., Combination, just overhauled, in perfect condition, coachbuilt sidecar, lands, horn; £85.—Turail!, North, Peterborough. [4150]

RUDGE 3½h.p., clutch, T.T., overhauled and rebushed, good tyres and belt, accessories, fast; trial; £55, offers.—303, Folkestone Rd., Dover. [4364 RUDGE, clutch model, 1912. Lucas lamps, horn, speedometer, tools, excellent condition; nearest £50.—Hill, 10, Busby Place, Camden Rd., N.W.5. [4038] DUDGE Multi 1914 31/hp. Combination, hand clutch, full equipment, excellent condition: 85 gns.-Kington, 2, King Edward Parade, Norbury, S.W. [3979

RUDGE Multi 5-6h.p., sidecar, lamps, speedometer, tools, spares, etc., just overhauled; £140; any evening after 6 p.m.-140 Camileo St., London, N.W.1.

19 14 5-6h.p. Rudge Multi and Mills-Fulford coach-built sidecar, in good condition throughout, any trial; £70; no offers.—H. Wright, Arlesey, Beds.

MOTOR CYCLES FOR SALE. Rudge.

R UDGE Multi, 1913-14, engine No. 08574, lamps, good tyres, overlap can, mechanically perfect; any trial; 250.—Brister, St. Margare's, Enigawood, Surrey, 1915, and Lamps, epace Multi and Cloria sidecar, P. and Wun. Massey, 2, Bythe St., Wombwelh, mer Enigary, 1916, and 1917, 2637.

19 20 Rudge Multwin, actual Show model, Mont-carrier, Lucas; £160; must sell.—9, Enton Rd., Cov-cutty.

RUDGE Multi, 1920 1.0.M., specially tuned for speed, numerous accessories and spares, perfect condition, 500 miles only; 105 gas.—Bomford, Suttey.

RUDGE 1914 314h.p., single-speed, adjustable pullers overhauled and re-enamelled, new tyres and tubes, fast, reliable; £50.—Goodeve, Reigate Dairy, Reigate.

RUDGE Multi 5-6h.p. Combination, 1917, in All condition, any inspection and trial; £100, or mear offer.—Mimosa, Chestnut Rd., Enfield Wash, Middlesex.

RUDGE Multi Combination, 1916, 31/4h.p., Canoelet sidecar, lamps, horn, tools, etc.; £75; first-class condition.—Hewin's Garages, Ltd., the Real Service condition.—Hewire Garages, Lon, the acts of Film, Totace, Film, Totac, Film, Totac, The Market Multi 5-6h, p. Combination, just overlet condition, go anywhere; £105.—Turnill, North, Peterborough.

7-9h.p. 1920 Rudge Multi, beautiful combination, run carefully lew miles, guaranteed as new, Bon-niksen, Klaxon; best over £170.—Blencathra, Maid-stone Rd., Chatham.

stone Rd., Chatham.

NEW I.O.M. Radge, special bars, long exhaust, knee grips, fitted electric light; price £127.

Ph. Roce grips, fitted electric light; price £127.

Ph. Roce grips, fitted electric light; price £127.

Side, Southage, N. Green. Mawellton, Garden & 2.

2 new bett, excellent condition throughout, suptrial; £67, hargain—I., Cloucester Villas, North Farnborough, Hauts.

Parmborough, Hants.

DUDGE Multi 1920 5-6h.p. Model, lamps, Klaxoo Noro, perfect condition, mileage 500, inspection invited; owner buying lighter machine; £112.—But 4,584, c/o The Motor Cycle.

DUDGE Multi, 1915, 5-6h.p., sidecar optional, more weight, cash adjustment, or sell; appointment.—Rugge, 13, Flamborough St., Steppey, more half (subt).

R UDGE Multi, 1920, only a month old, faultless condition, unscratched; £120; complete with lamp and horo; a real bargain—Hewio's Garages, Ltd., the real service firm, Tanoton. [5402

I.O.M. T.T. Rudge Multi Combination, brand new, unridden, Cancelet hammeck sporting sidecar, speedometer, knee grips, Lucas horo, etc.; £150.--6, Churchways Crescent, Horfield, Bristol. [4735]

T.T. Rudge, 1916, multi gear and clutch, letc., discs, copper exhaust, overhauled enamelled; best offer, no reserve; ower fe England.—147, Greafell Rd., Maidenhead. owner leav

1920 T.T. I.O.M. Rudge Multi, lamps, Klaxon, knee grips, 110 gms.; also brand new specially built sports sidecar to snit, £28.—8a. Blue Ball Yard, St. James St., Piccadilly, W. Gerrard 6536. [4487] Dames St., Piccaonly, W. Gerrard obsol. (4467)

RUGGE Multi, 1914, clutch, K.S., and Milliord 1918
coachbuilt sidecar, recently overhauled and renamelled, lamps, sparse, etc.; 70 gas.; take Douglas part exchange; evenings only.—Melhuish, Whetstone, N. (4508)

Oh.p. Rudge Multi and coachbuilt sideor, easile P2 thoroughly overhauled, frame and tank rechambled, excellent coadition, looks like new, spares, lumps, accessories; £90.—42, Freegrove Rd., Holloway, N.7.

10 o Rudge, T.T. I.O.M., done nader 200 nules, effective lights, Cowey, koe-sqins, full kit, Klaxon, cully insured M.U., 2 spare helts; 2155.—Bolton, 154, Chase Side, Southgote, London, N.14. 'Phone: Polnier's Green 4.

Fro.C.H. have a Rudge Multi, fully equipped, ready for the road.—Fair Offer Car House, 5, Heath Station.—Phone: Hampstead for Tube Station.

30 Handays. 10.M. Rudge Multi, just been over-banded by makers, new cylinders, piston, rods, silencers, tank, gear franges, all rest enamelied and plated, absolutely like new; £92/10.—Rudge, 60, Cactle St, Trowbridge.

1915 5-6h.p. Rudge Multi Combination, lamps, etc., fitted with new engine and new tyres, mechanically perfect, paintwork shabby; a bargain, 287/10.—The Winstan Henney Motor Co., 63, South End, Croydon. Phone: 2431.

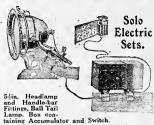
con. Proof.: 2491.

F.O.C.II. have a 1919 Rudge Multi and Coachbuilt Sidecar, fully equipped, ready for the road.—Fair Offer Car House, 5, Heath St., Hampstead (nr. Hampstead Tuhe Station). Phote: Hampstead 3752.

Hours 97, including Saturdays.

Saltley.

I MMEDIATE delivery of Saltley-Villiers 2-stroke, single-epeed £56, 2-speed £66.—London concessionnaires, Lancaster Motor Co., West Norwood. A lew agencies available.



F.R.S. Famous Beam Gas Lamps. MAJOR, 6" lens, 1,200ft, beam, 108/-1,000ft. 5" 99/-JUNIOR, 4" 600ft. 72/6

HII Complete £8 0s. If with 7in. Headlamp ... 5 £9 3s. Sidecar "Egg" Lamp ... 23/6.

All Complete

Handle-bar fittings of highest type-all ebonised EVERY FIRST-CLASS black fin sh (not enamel); GARAGE HAS NOW RECEIVED STOCK.



HORNS.

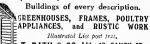
We have acquired the business and premises of Messrs. GISBORNE, the world wide musical instrument makers, and are now able to offer the public the finest sonorous bulb borns in the world

> No. 00 Single Twist 22/6 No. 0 Double Twist 35/-

Highest type of ebony black finish, Best class adjustable bandle-bar clips,

F.R.S. LAMPS, "Beam Works." Pershore Street, BIRMINGHAM.

Wood, Iron, and Asbestos



T. BATH & CO. Ltd.; 18; SAVOY ST.,

MOTOR CYCLES FOR SALE.

Sarolea.

6 h.p. V. Twin Sarolen, 2 speeds, F.E. (N.S.U.), Bc.
B.B., footboards, excellent condition; bargests; approval.—Gibbs, 58, Ashdown Rd., Worthin

Scale.

NEW SCALE, 31/h.p. Precision engine, clutch, kick-starter; £91/10.—Hewin's Garages, Ltd. real service firm, Taunton.

19 20 New Scale, 31/h.p. Precision engine, 2-str 2-speed, clutch, kick start; £85; immediate liveries.—The Rochester Auto and Supply Co., Roc

SCOTT Combination, 2-speed, all on; £70.-16, Mary Abbott's Terrace, Kensington.

19 16 Scott Combination, beautiful condition; 23 offer.—Jones, 46, Wyle Cop, Shrewsbury. SCOTT Coachbuilt Combination (late), 2-stroke, 2 kick start, perfect; 95 gns.-88, Kew Rd.,

SCOTT Combination, just delivered; 155 gns., no minus.—Hewin's Garages, Ltd., the Real Se

SCOTT Combination, 1915, enamelled green; or near offer.--6, Langley Rd., Elmers Beckenham.

1 920 Scott Combination, absolutely as new, spare, new plugs; any trial; £160,-152, N. Rd., St. Heleas.

SCOTT, 1920, brand uew, unregistered, sol combination; list prices,-W. Pepper, Mallill, Royston, Herts.

19 15 Scott and Coachbuilt Sidecar, in exection accessories, lamp, horn; £100 Castle Av., Highams Park.

SCOTT 33to, 11, 11, 120, very special machine.—News Motor Co., 223, Hammersmith Rd., 'Phone: Hammersmith 80.

19 (December) Scott Combination, discs, ele lighting, Klaxon, Easting wind screen, per -Widdowson, Radcliffe-on-Trent, Notts.

SCOTT Combination, 3%h.p., just been ovens guaranteed complete with all accessories, us100 gns.; aay trial.—4, The Square, Carshelton. [

100 gns.; any trial.—4. The Square, variety of SCOTT 1915 Combination, excellent condition, choins, extra beavy Dualop, lamps, horn, set spare chains; £87/10.—37, Balvernie Grove, S.

SCOTT, T.T., good-running order, B.B. carbur, Bosch, and Lloyd lubricator, Jones speedom £55.—S., 5, Worland Rd., Vicarage Lane, Strat E.15.

10 15 Scott and Sidecar, complete with lamps, sp. meter, born, spare set of chains, etc., excecondition: £85.—Purvis, Holly Cottage, Hayes, Middlesex. SCOTT, April (1920), standard, perfect, Cowey Bounikseo, makers' guarantee, mileage 300; o uaval man drafted affoat; best offer.—Hopkins, M Kingselere, North Hampshire.

19 11 Scott, twin-cyl., 3%hrp., nearly all parts and servicenble, cogine shaft require pert assembling, few uninor parts missing; £25.—The Bridge St., High Wycombe, Bucks.

F. O.C.H. have a late 1919 Scott T.T. extra oil in fully equipped, excellent—Fair Offer Car H. S. Heath St., Haunstead (near Hampstead Tube Stat Phone: Hampstead 3752. Hours 9-7, including S.

days. SCOTT Combination, 1915, 2-cyl., 2 speeds, lamps, and horn, just been overhouled, new chains, radiator, new Palmer tyres, excellent coand spare parts; 250.—J.C., 389, Yorks Rd., worth. (Thursday or Sunday.)

Sept., 1919, Scott, in perfect order, good as a sprocket for sidear, small mileage, spare chain spare tube kit of tools, trial of any hill; price 2.—Lovell, Criadan, Newport, Mon.

-Lovell, Ulldau, Newport, Mon. (22 SCOTT 35/h.p., 1918, earlie No. 3413, with his beauth of the property of the superior of the supplied of the superior of th

SCOTT, December, 1919, cogine No. 3814, latest Scott in the control of the contro

SINGER 314h.p., clutch model, good condition; trial; £38; after 7.-69a, Hambalt Rd., Clapb Common.

SINGER 25th.p., 1914, free engine, new tyres, lar ctc.; £35.—Sibley, 106, Market Place, Romi Phone: 47.

SINGER 21/2h.p., new piston, good mag., new bin good running order; £27.+Anderson, 35, Hr Station Rd., Colchester.

A36 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Sparkbrook. 9 20 Sparkbrook 21/h.p., 2 speeds, flywheel, mag.; £75,-134, Bridge St., Warrington. [X2558]

National, man becreamin.

PARKBROM Combination, 5-6h.p. twin J.A.P. engine, 2-speed, clutch, kick start, Bosch, in d condition, lamps, bon, speedom-ter, mechanily perfect, recently overhauled; any trial; £150. lear offer—13, Henrietta Rd., Bath.

h.p. Sparkbrook 2-struke, single and 2-speed noicle in stuck at makers' list price for cash, on extended payments 4% extra-llarrods' Motor owrocms, 116-118, Brompton Rd. (Opposite Main ldting), London, S.W.1.

Sun.

UN-VILLIERS, 254h.p., 1915, excellent condition, powerful lamps, horn; £37.-92, Fellows Rd., W.3.

W.3. [5169] UN-VILLIERS, 1915, overhauled, excellent condi-tion throughout; £35.-28, Goldsmith Av., Manor rk, E. [5150]

UN Vitesse, new 1920, 2-stroke, 2-speed, clutch, kick start, inspection invited; £70.-H. Balder, South Kelsey, Lincoln, [4480] UN-VILLIERS, 1914, excellent condition, fast, tyres, belt, good, lamps, etc.; £34. After 6.—
t, Norbury Crescent, Norbury. [4707]

UN-VITESSE, 1919, engine D76, Albion 2-speed, excellent condition, P. and H. lumps, horn, tools, gives the tower 50 gns.; after 6.—97, Birkbeck Rd., kenham. Kent.

Sunbeam.

CTUAL London-Land's End Gold Medal Sunbeam, 1920, sporting model, perfect, Also

20 8h.p. Sunbeam Combination, hood, seren, spare wheel, mileage under 1,000; wint offers t list?—Capt. Brittain, Orient Lodge, Buxton.

Lh.p. Sunbeam Combination, just delivered new 2 oters.—Box 4,600, clo The Motor Cycle. [5502]
TNBEAM Combination, 3½,hp., brand new; best offer over £210.—Norman Whitehnuse, Brigtown, (X250,

20 Sunbeam Combination, just delivered; naregistered; £215, or hest offer.—Woodrow, Common m, Ely, Cambs. [9017]

m, Ely, Cambs. [4017] INBEAM Combination, 313 p., 1920, mileage under 80; £215; Yorkshire district.—Box 4,601, c/o Motor Cycle. [5503]

14 23th.p. Sunhcam, 2-speed, C.S., kick start, hand clutch, new tyres, accessories; £56.—Payue, West z, Broad St., Ludlow. [X2537]

"MBEAM 254, https://dx.doi.org/10.100/mbeam.254.html. 1915. and concluding sideenr, spare cover, lamps, tools, speedometer; £110.—Christchurch Rd., Winchester. [4118.
"MBEAM Combination, 3½hp., (late 1914), little used, perfect condition; any thail, lamps, etc.; 1,—Poole, 44, Bridge St., Evesham.

1.—Poore, 41, Bridge 51, Evesamin.

20 Sunheam 3½h.p., mileage 500, Lucas lamps, Cower speedometer, mechanical horn, Tan-Sad, £168.—14, Morton St., Gloucester. [X2487] O Premium Secures 1920 8h.p. Sunheam combina-tion; deposit £20 paid last September; delivery 1.—36, Lyndhurst St., Burslem, Staffs. [X2267]

NBEAM 3½h.p., 1914, lamps, horn, tools, Bosch, perfect mechanical condition; trial; offers over—Miller, Magdalene College, Cambridge. [4914] h.p. Sunheam Combination, 3-speed, hand clutch, kick-starter, in perfect condition; £145. Allan, ey district.—Box 4,490, c/o The Motor Cycle. [3988]

NBEAM 4h.p., 1919, and sidecar, electric lighting, disc wheels: £175.—Newnham Motor Co., 223, numersmith Rd., W.6.—Phone: Hammersmith 80, [5073]

1)18 Black and Gold Sunbeam 3h.p. Combination, done up as new throughout, hond, screen, sts, fully equipped; £190.—18, Hestercombe Av., unam. [5158

JTE 1919 31-b.p. Sunbeam Combination, splendid condition, Lucas electric lamps, horn, mirror, mileage, offers over £185.—Box 4,577, c/o The Cycle.

20 31%h.p. T.T. Sunheam, with Sunbeam sidecar, Lucas lamps, mileage 350, splendid outfit: £200, sarest; buying car.—Sayer, Hill Crest, James St., 4-00-Trent. [X2259]

h.p. Black and Gold Sunbeam, delivered Nov., 1919, not ridden 500 miles, runs better than 1920, not offer over 140 gns.—Rich, Aldsworth, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1920, 1

ALLEN-BENNETT MOTOR' Co

New 1920 Models in Stock for Immediate Delivery.

1920 HENDERSON, 8-10 h.p., 4-cylinder, 3-speed countershaft, and Swan sport-ing Sidecar dynamo lighting, polished aluminium dise wheeks; leng nickel exhaust pipe, run under 800 miles, unscratched, and indistinguishable from new

enamelled and plated, in splendid condition £125 0

1919 NEW HUDSON 4 h.p. Combination, all lamps, mileage very small, and in new condition £135 0

1919 RUDGE I.O.M. 33 h.p. Multi and sporting coachbuilt cigar-shape Side-

sporting coachbuilt cigar-shape Side-car, disc wheels, long exhaust, new condition. 2137 10 1919 NEW IMPERIAL 8 h.p. Combination, P. and H. lamps, etc., in splendid condition. 2155 0 1918 HARLEY-DAVIDSON, 7-9 h.p., fitted with either sporting or coachbuilt Sidecar. 2145 0 ROVER 3-6 h.p. Combination, W.D. model,

ROVER 5-6 h.p. Combination, W.D. model, in very good condition, very small mileage, Lucas lamp and horn 144 0 1919 DOUGLAS, 4 h.p., W.O. model mileage, Lucas lamp and horn 1510 0 1510 TRIUMPH h.p., 3-speed countershaft, thoroughly overhauled, in splendid condition 92 10 1916 DOUGLAS, 2 | h.p., 2-speed, thoroughly overhauled, and in splendid condition 2 270 1916 INDIAN Powerplus 7-9 h.p. Combination, all lamps, horn, speedometr

1916 INDIAN Powerplus and Swaa sports
Sidecar, disc wheels, electric sighting,
Tr. bars, very fast and sporting outfit £147 10
1917 ENFIELD 6 h.p. Combination, splend
de condition, fitted with hood and
screen, all lamps, and horn£155
1916 SUNBEAM, 3½ h.p., thoroughly overhauled, re-enamelled, and plated, fitted

Allen-Bennett Motor Co.

9, 10, 11, Royal Parade, West Croydon. 'Phone: 'Grams:

"Track, Crovdon." Croydon 2450.

MOTOR CYCLES FOR SALE. Sunbenn

19 14 Sumbeam 25thm, albehain drive, hand clutch, hick start, 2-speed, Tan-Sad, lamps, horn, mirror, pump, etc., stored 4 years, and as new; 285.—Sumbeam, 60, Castle St., Trowbrudge. [X2260

LATE 1918 8h.p. Sunbeam Combination, perfect condition, disc wheels and spare, all accessories; £195; seen any time; must realise. - H. Rice (Cains), 12, Mill Jane, Cambridge. [4916]

SUNBAM 25(h.p. 2 speeds, K.S., Lucas lamps, 2 Shotas, complete equipment, tools, spare rathuletter, takes two anywhete; £76; going abroad; evenings,—331, Hertford Rd., Ponders End. [4779]

1938.—531, Retitori Rd., Panders End. [4779]

1 20 81h.p. Sunbeam Combination, Lacas dynamo lighting set, electric horn, Triplex glass winderseren, lugage grid, petrol carrier, as new; £255.—Dixon, 51, Storer Rd., Longhborough. [4290]

1 31, Storer Rd., Longhborough [4290]

1 41, Storer Rd., Longhborough [4290]

1 51, Storer Rd., Mitcham, Surrey, [4197]

1 52, Sandown Villas, Grove Rd., Mitcham, Surrey, [4197]

19 18 (October) 3½b, B. Sunbeam, just overhauled, new cylinder, piston, valves, solo and sideen sprockets, new light C.B. sideean, lamps, etc.; solo £115, or with sideear £140; Coventry district,—Box 590, c/o The Motor Cycle.

motor Cycte. [0189]
10 9 3½h.p. Sunbeam Combination, black and gold, cancelet sporting sidecar, discs, long exhaust, electric and Lucas lamps, knee-grips, horn, etc.; £170, or near offer.—Taylor, 65, Altenburg Guideos, Clambam Common.

ham Common. [2200]

19 [Oge.] Sh.p. Sunbeam Combination, hood, screen, spare wheel, Klaxon horn, Cowey speedometer, Lineas lighting, little used, new combination; hurning car; £250, no offers.—Langham, Norma House, 11, Sunnybank, South Norwood.

1915 6h.p. Sunbeam Comhination, black and gold, spare wheel, hood, screen, grid, all lamps, tools, Lucas horn, new Watdord, mirror, shields, spares, overhauled March, condition excellent; £190; Kent.—Box 4,555. c/o The Motor Cycle.

SUNBEAM 1919 8h.p., Sunbeam de Luxe sidecăr, S. Lacas dynamo lighting, electric florn, speedometer, hood, sereco, spate wheel, luggage grid, luximuso suifit, unscratched, oliginal tyres, very low mileuge: £235-1 140, Horseley Fields, Worerhampton.

S UNBEAM.—We are Wolverhampton agents; spare parts-in stock; repairs, overhauls, re-enamelling and plating under the supervision of Mr. T. C. de la Hay 'late Sunbeanland).—The Molineux Garage Co., Ltd. Wolverhampton. Tel.: 1160. [3438

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32 h.p. Sunheam and Sidecar, tyres nearly new, 22 speciforneter, lamps took, road of the tent of the control of

Sumbeam black and gold Combination, late 1919, Street with Sanheam leg shields, large Lucas head, sidecar, and tail lamps (separate generator to each), Cowey horn, cameo screen and knee grips, the whole outh in faultiess condition, and appearance almost like new £185.—Hitchings, 7, Smith St., Habley, Stalls.

Hanley, Staffs. [4580]

2 h.p., Sunbeam, 3 speeds, sporting Canoelet, scutte,

2 Triplex aero screen, back rest, 4 electric lamps
and horn, complete emergency acetylene, Lucas bush
hurn, speedometer, polished aluminium discs, leg
shields, and unique cowling, enclosing engine, perfect
throughout; 2175—Lieut. Nichols, 95, Cheritum Rd.,
Folketone. [4928]

Swift

SWIFT 315h.p., clutch, perfect order, lamps, bern; £55.-39, South Parade, Oxford. [4812]

T.D.C.

L IGHTWEIGHT 2½h.p. T.D.C., footboards, si machine; any trial; £33.-67, Wakeman Kensal Rise.

19 20 T.D.C., 23(h.p. 2-stroke, 2-speed countershaft, with lamps, horn, tools, mileage under 200; £58.

-Proctor. Pickforton, Tatpurley, Cheshire. [4087]

19 20 T.D.C. de Luve, 2-speed, clutch, kick starter, lamps and horn, nearly new; £60; bargain, or exchange with eash for higher power.—20, Derby Rd., Croydon.

14812 140.p. T.D.C. Coachbuilt Combination, 3 speeds, 2 clutei, Dunlops, B. and B. Bosch, Saxon forks, lamps, accessories; £60.—28, Helena Rd., Wal-thamstow, E.17.

T.D.C. de Luxe 2½h.p., Amac, Dixie, Druids, in perfect mechanical order, unpunctured tyres and tubes back and front, new Dunlop belt; £28,—54, Hermitage Rå., Westelift. [4688]

Hermitage Rå. Westelift.

19 15 T.D. Cross de Luxe 21/h.p. 2-strake. Bosch
mag., perfect running order, excellent tyres,
and accessories; seen any time: £30.—Dumbelton.
Organ Hall, Borsham Wood, Herts.
[4297]

Triumph.

TRIUMPH, new; £110.-198, Sheen Lane, S.W.14. [X2249

Triumph. 3 1 h.p. Tri Triumph; £60, or uearest.-16, Barofield Rd., inc. W 5. [4124 TRIUMPH and C.B. Sidecar, new; £135.-198, Sheen [X2245] TRIUMPH, 1919, 4h.p., countershaft; nearest £95.— Bazeley, 24, Marriott Rd., Barnet. [4724 TRIUMPH Junier, brand new; £76, or nearest offer. S. Day, Brock House, Marden, Kent. [4945] 31h.p. Triumph Motor Cycle, 3-speed, free engine; trial; £50.—Rogerson, Newtown, Wigan. [X2500 TYRIUMPH 4h.p., 3 speeds, as new, guaranteed perfect; 280.-79, Westbourne Gardens, Hove. [4805 JUNIOR Triumph, delivered this week, spotless; £80. -Powell, Chaudos, Much Marcle, Gloncester. [4101 TRIUMPH, 1916, and £30 C.B. sidecar, very fast, perfect: £125.—198, Sheen Lane, S.W.14. [X2244]

TRIUMPH T.T., very fast and reliable, lamps, etc.; £45.—Dowell, Byfleet, Surrey. [5090 1911 Triumph, perfect except helt; ride away: £36, -75, St. Dunstao's Crescent, Worcester. [X2258] 1912 3/5, p. T.T. Triumph, excellent condition; £43, or near offer.-94, High St., Mortlake, S.W. [5210]

TRIUMPH T.T. Model, Philipson pulley, fast reliable; £55.-103a, High St., Waodsworth TRIUMPH, 1917, conotershaft; £83, or offer; evenings—Hazeldene, Ullathoroe Rd., Streatham. 10 13 Triumph Coachbuilt Combination, 3½h.p., 3-speed; £76.—105, Elmers End Rd., Anerley.

19 11 Triumph 31/2h.p., overhauled, good running order; £31; offers.—Collett, Waterstock, Oxfor 10 12 31/2h.p. Triumph, Bosch, first-class order; £3. Turner, Forest Honse, Summerseat, Manchest

TRIUMPH 3½h.p., 2-speed gear box, recently renovated; £50.-Northeast, 12, The Lanes, Brighton.

1913 T.T. Triumph, very fast and powerful, all on, good condition—I, The Rise, Crayford, Kent.

1013 Triumph Motor Cycle clutch model. 19 13 Triumph Motor Cycle, clutch model, in York.

TRIUMPH 31/h.p., good condition, long exhaust; £52.—Apply, Brimley, Woodcote Rd., Walling-NEW 1920 Model H Triumph, delivery within 2 few days; offers wanted.—Box 4,586, c/o The Motor [5288]

Cycle. [5288]

19 20 Triumph (standard), countershaft and hand clutch, unregistered; £135.—Woodrow, Common Farm, Ely. [5273]

TRIUMPH 4h.p., good tyres, mechanically perfect, bargain; £45; after 4 o'clock.—8, Shalimar Rd., Acton. 18677

Acton.

1920 Junior Trinmph, 2-speed, just delivered from makers; £72.—Baruett, 69, King Edward Rd., [4469]

TRIUMPH 1920 Countershaft Model, new, ridden a few miles.-134, Westfield Rd., King's Heath, Birmingham. [4633 TRIUMPH, 3½h.p., F.E., clutch, tools, etc., excel-lent condition; £55.—Warner, 20, Kingston Rd.

COUNTERSHAFT Triumph, late model, new tyres; nearest £90 secures.—374, Grove Green Rd., Leytonstone.—[3733

BABY Triumph, 1918, 2-speed, full equipment, spares, ride away; £60.—Hanning, Doddington, Nantwich. [5017]

TRIUMPH, single-speed, excellent condition smart, all accessories; £48.—Reeves, 18, High Dorking.

WAUCHOFE'S, 9, Shoe Lans, London, E.C.4
Triumph Junior, 1914, £60; also 4h.p. Trium E.C.4.-

TRIUMPH 4h.p., constershaft, 1916, Cancelet six car; £110.—Moffat, Town Hall Ganage, Yeov Phone: 50.

4.22.

4.D. Triumph, 3-speed, countershaft, clutch, ki statter, lamps, horo, etc.; £75.—3, Foxler R. Kennington.

10 20 4h.p. Countershaft Triumph, just received, unsed; offers.—Garrington, 16, Neva Rd., Westonsper-Mare. TRIUMPH 254h.p., 2-stroke, 2-speed, late model, ready to go anywhere; £57/10.—103a, High St., Waodsworth. [5094]

4 h.p. Countershaft Triumph, splendid condition; any trail; 85 gas.; Aldershot.—Box 4,578, c/o The Motor Cycle. [5279]

1920 21/h.p. Baby Triumph, 2 speeds, brand new, never ridden; best offers.—Box 831, c/o The Movor Cycle. (X2471

10 20 4h.p. Triumph, 3 speeds, just delivered new, unregistered; what offers.—Box 830, c/o The Cycle. [X2470]

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Triumph.

TRIUMPH, 3½h.p., Bosch, horn, 2 speeds, ne slight repair; first cheque £26.—A. J. Wilkins Borden, Hants. [47]

Bordon, Hasts.

COUNTERSHAFT Triumph, with nearly new M Rd. Glord sidecar; £95; no difers.—Millard, Glib Rd., Belvedore.

1017-18 4h.p. Countershaft Triumph, excellent r ning order; any trial; £87.—62, New St., Vobridge, Suffolk.

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THREE Triumphs, all countershaft, very good dition; £225 the lot; no offers.—Hole, 129, Lane, Carshalton.

TRIUMPH 3½h.p., Bosch, B. and B., Grado wicker sidecar, ride away; 30 gns.—95, 3 shaw Rd., West Ealing.

TRIUMPH Combination, C.B., countershaft, 4-speed Jardine, any trial; 275.—Tyler, 8, 8 Rd., Plaistow, E.13.

19 18 Triumph Combination, C.B., new. enamel and plated; £98.—19, Wilcox Rd., South Labeth, London, S.W.8. 1920 Junior Triumph, just received; catalog price; exchange entertained.—Bunting's Mott Wealdstone, Harrow. [4]

FOR Sale, 1914 Triumph, 4h.p., 3-speed and chut Bosch mog., and tools, splendid condition; £ -Cohden House, Welshpool.

TRIUMPH 4h.p., conntershaft, late model, p coach sidecar; £125.—Halifax Motor Exchan Union St. South, Halifax. [44

TRIUMPH, 1914, 3-speed hub, clutch, Bosch, d frame, good condition; £58.—Box 510, Mc Advertising Agency, Hull.

1920 4h.p. Countershaft Triumph, brand new nearly new Millford sidecar; what offers Eastwood Mt., Rotherham.

TRIUMPH 4h.p. 3-speed Countershaft; £85.-ham Motor Co., 223, Hammersmith Rd., 'Phone: Hammersmith 80.

TRIUMPH 31/2h.p., clutch model, dropped re-enamelled, new tyres, ride away; & St. Thomas Rd., Hackney.

19 19 T.T. Triumph, 4h.p., single speed, lamps, he speedometer, excellent condition; 95 gns.—Ch 50, Whitley Rd., Eastbourne.

TRIUMPH, 3½h.p., 3-speed Sturmey-Archer, P. H. lamp set, and accessories, perfect order; £6 365, King St., Hammersmith. TRIUMPH 31/h.p., recently overhauled and et elled, policy, any trial, ride away; £45 Harold Rd., Upper Nerwood.

TRIUMPH, 1912, 31/2h.p., clutch model, good two splendid conditions lamps, etc., complete: 250 Clarke, 8, Fairfield Av., Staines.

TRIUMPH 4h.p., 1914, 3-speed combination, Mil Fulford sidecar, all accessories, perfect; 275 1, Townley Rd., East Dulwich. [43]

TRIUMPH Standard Combination, Gloria man sidecar, run few miles ouly; £165.-7, Exhibit Rd., South Kensington; S.W.7.

TRIUMPH 1911, N.S.U. 2-speed, clutch, spare tyre, tube, thoroughly overhauled; £45. House, Stockbury, Sittingbourne.

TRIUMPH, countershalt, 3 speeds, clutch, start, with new sidecar; £100, or would separ-Hole, 129, Park Lane, Carshalton.

TRIUMPH 1914 4h.p., 3-speed, Bosch, lamps, ho etc., complete, spleadid condition: £60.—Kii mao, Lilleyputts, Hornchurch, Essex. £60.

COUNTERSHAFT Triumphs. - Several complete overhauled, makers' colours, incubanically perfected. 3, Courtlands Av., Lee, S.E.12.

TRIUMPH 4h.p., 3-speed clutch, renovated Triumph Co., splendid condition; £65. Leith House, Carshalton Rd., Sutton.

TRIUMPH 4h.p. 1915 Countershaft Medel, someter, electric lighting, disc wheels; £80.
Brow, Ethelbert Rd., Bromley, Keat.

TRIUMPH, 4h.p., countershaft 3-speed, kick statement of new coachbuilt sidecar, complete with all spare 105 gns.—Dowell, High Rd., Byfleet.

19 17 Countershaft Triumph Combination, new Migns.—53, Thomas St., Wellingtorough. 122

TRIUMPH 1910 T.T. 3½h.p., Dunlops, lamps, for 50-6235.—Stock, High Easter, Chelmsford. (42)

19¹⁴ Triumph 4h.p. Combination, 3-speed and electric lamps, sound condition, £85.—Gallipoli, King's Ride, Camberley, Surrey.

31h.p. Triumph Combination, clutch model, N.S. 22 speedometer, lamps, coach sidecar; £75. Dewey, 89, Putney Bridge Rd., S.W.15. [X25] TRIUMPH, 1915, 3-speed, T.T., aluminium dis-dition.—149, Rosondale Rd., West Dulwich. [42]

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The Junior T.T.

EFORE our next issue is published the Junior Tourist Trophy will be run and over. Those who are really interested in the future of the light motor cycle will be busy absorbing the lessons of the race, and the attention of the public will be transferred

to the Senior event.

Undoubtedly the future of lightweight motor cycles is rosy, for there is an enormous and ever-growing public which will absorb as many first-class lightweights as can be produced in this country. There are two main stages in the development of the ideal lightweight for popular use: first, the evolution of a small engine with suitable transmission capable of withstanding heavy duty over prolonged periods; secondly, the adaptation of this unit to simple production methods and its installation to a light, weather-proof two-wheeler of a popular price. It is an incident in the first stage which is attracting so much interest at the present moment, for, though enormous progress has been made during the past few years, the public have yet to witness a demonstration of really high-speed work over long distances by the latest designs.

Junior v. Senior.

It has already been prophesied that the speeds of the winning Junior will be within measurable distance of the best Senior times, and one firm has very sportingly entered the Senior event with a Junior machine which will provide the public with a means of comparison of the performances of engines of 350 c.c. and 500 c.c. capacity racing on equal terms.

The long-distance speed event for 250 c.c. engines is a novelty designed to encourage genuine lightweight machines, and The Motor Cycle Cup for the best performance by a 250 c.c. machine makes a third trophy in the races. Incidentally, keen competition is promised for this trophy by riders of machines of different types, i.e., two-strokes and four-strokes, and undoubtedly much valuable data will be obtained which will have great influence upon the development of the miniature motor cycle for the million. The racing machine of to-day is the parent of the touring machine of to-morrow.

Where are the Scooters?

QUESTION frequently asked is the above. Let us admit it—the scooter has hitherto proved a disappointing proposition. Past history has shown us that premature booming of any untried design is bound eventually to react to its disadvantage. We have the case of the cycle car fresh in our memories. A year ago we were told that scooters would revolutionise power-propelled bicycles. They were to be produced and sold in thousands at £25. The Motor Cycle was not led away by false optimism to join the throng, but, instead, personally tested the various examples produced, and found them wanting. Believing a comfortable seat to be a sine qua non of any mount intended for general use, and feeling that a satisfactory and practical miniature motor cycle might be developed from the scooter, we inaugurated a campaign in favour of a seat and the development of a lightweight motor cycle. We still feel that there are great possibilities in this direction, and the small class in the Junior T.T. Race will assist in producing the ideal design. Manufacturers, particularly those firms new to the industry, will be well advised to cultivate the genuine miniature motor cycle (preferably with an open frame to render it suitable for the use of ladies or gentlemen), having a comfortable seat to enable reasonably long distances to be covered, and preferably with an emergency gear for slow hill-climbing. A general utility machine of light weight, at a low cost, is the desire of thousands of potential buyers among the ranks of cyclists who find pedalling too hard. Speed in this case is not desired.



HO will win the first post-war Junior T.T.? With only thirty-two entries, it would appear to be an easy matter to get reasonably near the mark in prophecy, but when one starts to analyse the entries the task becomes more difficult.

the task becomes more diment.

Michael Kirk, who usually acts as the motor cyclists' tipster, considers that a forecast of the Senior event will keep him sufficiently busy this year, and his effort will appear in next week's issue; consequently the Editor has commissioned the writer to pick the winner. "You have seen the machines, you know the men, you have followed the speed events since the war—get busy," he said, and left hurriedly to catch the boat train to the Isle of Man.

I am told by friends who follow horse-racing that the only sure way to pick the winner is to back all the starters; but by examining the list of entries for the Junior T.T. one naturally fancies men with T.T. experience and machines known to be good for the distance, and especially a combination of the two.

The Race for "The Motor Cycle" Cup.

It is rather disappointing that more firms have not entered in the 250 c.c. class, but the two who are competing. i.e., the makers of the Diamond and Levis machines, are "all out" to win The Motor Cycle Cup. It will be a race between two-stroke and four-stroke, and both firms are confident of success. Representative machines of both-makes have appeared in speed trials. Milner, who is entered on one of the larger Diamonds, rode a 250 c.c. model at Storeton on the 15th life and attained a good of the Storeton on the 15th ult., and attained a speed of over 65 m.p.h.; while Pugh gave the new Levis engine a try-out at Weston-super-Mare two weeks previously. The engine had only been put in the frame the evening before, and, so far as the public is concerned, very little is known of the new engine. Without doubt it is considerably faster than anything the Levis factory has ever turned out, and, what

is more, it seems impossible to dry it up.

The Diamond four-strokes have overhead valves, and Milner proved that they are faster than any engine of the Affiner proved that they are faster than any engine of the size that has appeared in public competition. Speed is not everything, however, and, other things being equal, I would rather place my money on an engine that has the fewer parts when it comes to a T.T. race.

As for the competitors, well we have experienced T.T. riders on both makes. In the last Junior both Milner and plike yells Lavis mosphing. Lavislantilly, Wilner's weeking.

Pike rode Levis machines. Incidentally, Milner's machine weighed 188 lb. complete—the lightest mount in the race. He failed to finish, but Pike finished thirteenth, his fastest lap being 49.32 m.p.h., and his average over the race was 39.9 m.p.h., as against 45.6 m.p.h. of the winner. This year both are riding Diamonds. The D.F. and M. Co. with Pike and another good rider up should stand a chance, provided the machines can stay the course.

reviewed.

of the Levis team, I favour Kuhn, although he has previously competed in a T.T. He is as hard as na and is of a temperament that makes for success in a test endurance. R. O. Clark, who is riding a similar machishould not be overlooked. He is an experienced rider,

should not be overlooked. He is an experienced rider, a in 1913 he broke nine long-distance records in the 275 class, five of which stand to-day. Any man who can me a little four-stroke single for six hours and average 4 m.p.h. should prove a formidable competitor.

Who will win The Motor Cycle Cup then? In the write opinion, the decision will rest between Pike (Diamon Kuhn (Levis), and Clark (Levis). Personally, I far Kuhn, because mechanically the chances are in his favo as it must always be in favour of the man riding a mach with only three moving parts in his engine. But, on other hand, should the Diamond win, it would show t the small o.h.v. engine has reached a degree of perfect which few people at the moment appreciate.

The 350 c.c. Class.

That speeds very near those of the Senior event will attained in the Junior race is a foregone conclusion, a among the riders of 350 c.c. machines there are particula "hot-stuff" T.T. men. These include T. H. Hadda (A.J.S.), H. R. Davies (A.J.S.), Eric Williams (A.J.S.) J. S. Holroyd (Blackburne), A. H. Alexander (Dougla on Friel London (Director)) and Eric Longden (Dot-Jap).

Now, Haddock has had a fall in the practising, and it doubtful whether he will ride. H. R. Davies tied second place in the last Senior event, when his speed only 1.10 m.p.h. slower than the winner; while E Williams is the present holder of the Junior Trophy. The two riders are first favourites for the Junior race.

J. S. Holrovd is an old Motosacoche rider and knows t course, although on previous form the little Blackburn are more likely to distinguish themselves by a faggregate performance than by sensational speed work. fact, it is not improbable that an effort will be made secure the team prize as a proof of reliability.

A. H. Alexander was third in the 1913 Senior event, a is probably one of the most experienced riders on tocourse; while Eric Longden rode, a Douglas in the le Junior race.

Now, in addition to old T.T. riders, there are many w have proved that they can use their heads, but, consider n conjunction with their machines, it is difficult to spot

likely winner amongst them.

For example, the Wooler by its recent twelve how records has proved its ability to "stick the distance"; t new Ivy two-stroke is reputed to be particularly good f the job; while the Douglas machines, although not official entered, are not to be overlooked, since in 1912 they to first and second place, and in 1913 second place, and ha always been well in the running. There are some da horses in the new Diamond machines. This concern h four types of engines in use, and the practising will be form of elimination to find the best. These types inclu-both single and twin engines, but all are fitted with over head valves in one form or another. All the same, I thi if I were betting on the Junior T.T. I should only hesita when it came to choosing between Eric Williams and H. I

To summarise, then, I favour a Levis for the 250 c. and an A.J.S. for the 350 c.c. classes respectively.



THE MAKE-UP OF

By "ROAD RIDER." A T.T. RIDER.

The Physical and Temperamental Composition of a Tourist Trophy Winner.

In the early days the T.T. might be won—and sometimes was won—by a rider of quite ordinary calibre. Few machines were entered, and fewer still finished. The great thing was to get hold of a mount which was staunch enough to finish. If it could cover the course without giving its jockey any trouble, it need not be ridden so very fast to win outright. The taking of fiendish risks round corners, and the attainment of track speeds on rough roads of no great straightness, were not essential unless a few petty stops had cost the rider much valuable time; indeed, it was a strategic blunder to drive the machine hard, for it could not stick the pace.

In most of the earlier races we regularly saw a few dashing youngsters put up a meteoric display in the first lap, or possibly the first two laps. Then they disappeared from the race. Either the machine had collapsed beneath them, or a control had failed them in a critical emergency. "Ca campy" was the passport to victory so far as the opening stages were concerned, though a fierce tussle occasionally developed in the closing laps, if two or three steady goers found themselves running neck and neck on time.

All that is altered now. The T.T. bicycle is a fundamentally different proposition from its ancestors. To commence with, it is a great deal too fast for the course; many of the entrants could probably do their seventy miles in the hour on Brooklands, but an average of fifty is good enough to win in the Island. Secondly, about a half of the entry will hope to accomplish non-stops, except for the inevitable replenishment stops. Provided a rider has readied his machine with meticulous care, he need hardly fear any stoppages except punctures; and the special tyres which the manufacturers turn out for the T.T. do not often let the riders down. Trouble en route is generally the result of carelessness in preparation; or of a petty crash in the race; or of a momentary carelessness in lubrication; or of a clumsy gear change in a moment of paralysing dread or intoxicating excitement. Half the entry can count with tolerable confidence on a no-trouble race.

The Importance of the Jockey.

It follows from all this that each year sees the importance of a first-class jockey overshadow the intrinsic excellence of the machine. Given perfect handling, several makes of motor cycle are capable of registering the speed demanded for victory. The racing managers of most teams can be trusted to produce a bicycle which can win. Their main anxiety is to discover a jockey who will enable the machine to give of its best.

Oddly enough, pluck is not the first requisite in the make-up of a T.T. winner, perilous as the game is. There is a certain intoxication about speed. It

turns you "fey," as the Scotch put it. Start scrapping with a few clubmates, and you will feel windy at the first corner or two, but within ten minutes you will forget to be frightened. In the T.T. the magic of the occasion, and the zest of the race, banish the icy tremors of the wait at the start almost as soon as your engine fires; and fear promptly disappears until an impending crash or sheer weariness restores the sensation. If you feel any fear after the first mile has been covered, you are too old for the job. The first requisite, therefore, is not to feel too "fey." Bits of the course which look straight at touring speeds assume a fearful resemblance to a corkscrew when the 'bus is "beating fifty." A dust-cloud behind and a roar astern urge you on. The tendency is to fling sense and caution to the winds, to become literally drunk with the champagne of the occasion, and the delirium of speed. Either you will tackle a corner too fast, or you will rack the machine by exaggerated brakework.

Judgment and Nerve.

Excitement is heady stuff as long as the body is fresh. Caution, rather than dash, is the prime need in the opening lap. If the man is made for the job, and is trained to the hour, a quarter of a lap will clear his brain and steady his nerves. After a mile or two he will be driving subconsciously, taking every corner better than he ever did it in practice, timing his accelerations and his brakework to a hair, and all without any perceptible thought or mental effort, just as George Duncan golfs or McCudden fought on one of his golden days. No sensation is more glorious; but in motor racing it comes only to the young, and not to them unless they are in perfect physical tune.

The second lap may threaten to impair the perfect harmony between brain and body; the third lap will almost certainly disturb it. Fifty miles an hour over rough and dangerous roads, accompanied by intense mental effort, is inconceivably exhausting. The youngster may last three laps without having to pull himself together; the veteran will generally face his bad time towards the middle or end of the second lap. This does not mean that his riding will necessarily fall off in quality. It means that the conscious effort will grow increasingly pronounced. With some men the change is evident in a spice of carelessness—their line at corners is less certain, their grip on the steering tends to relax, their brakework is less perfectly timed and more abrupt, and their acceleration is rougher or later.

With another man fear begins to reassert itself. He grows timid, and has to press himself to keep the speed as high as it was in the opening laps. He may grow worried and irritable, especially if slower

The Make-up of a T.T. Rider .-

and clumsier reen baulk him; and temper is a rare disruptive of that perfect internal concord which alone renders maximum speed possible on such a course. All these possibilities are a question of stamina, which is temperamental as well as physical. It is here that the sprint-merchant lets his stable down. If I see a man going great guns at the half-distance and particularly if he is perfectly genial while some duffer slows him down at such a corner as the Ramsey hairpin, I know he is going to show up well.

In the concluding laps comes the supreme test of all. The dud machines and the dud riders have already been weeded out. The tension on brain and body has reached its zenith, for the first three laps imply a nervous output sufficient to exhaust anybody but an athlete in the very pink of training. Now that rivalry has touched its summit, and the rider feels more like bed than anything else, the signals of his helpers tell him where he stands, and call upon him

for gigantic efforts.

The Last Lap.

At this stage there may be some lucky man who has already established a commanding lead; it is signified to him that he has five minutes in hand of the field. Fools envy him. Wise men pity him. His hearts' desire is within his grasp, and the tiniest error of judgment, the pettiest caprice of the fickle goddess of fortune may rob him of his dream.

He has to steel his nerves against a sickening anxiety which can easily make him corner like an elderly novice on a baby two-stroke. Or, alternatively, the wine of success may mount to his head and betray him into taking all sorts of illegitimate risks. Never in the race was it more essential that he should display an inspired blend of dash and coolness. Iced champagne should be the beverage suggested by his roadwork from now onwards to the finish.

An even sterner task lies on the little clump of men who are a few minutes behind the leader. Just when they are wearying to the point of exhaustion, numbed wrists, aching back, smarting eyes, and tired brain, comes the summons to dig up a little more speed from somewhere. Already they have been cornering as fast as they dare. Already they have been humming down the slopes and the straights as if hell were behind them. Their exact position they do not know. But the signals seemed to say that if the last two laps could be reeled off just a few minutes faster, victory might yet be the prize. Three minutes per lap seems a triffe. Just you try it. It means snatching a second by piling on pace and shutting the throttle a second later in the approach to each of the several corners. It means adding five miles an hour to the speed down every fast bit.

Trifles, you think? This last desperate appeal to a tired man is asking much. Probably, too, the 'bus tiself is beginning to feel the strain. You cannot trust it after this frightful four hours of bucketing as you could trust it in the first lap. The 'bus smells of heat. There are audible loosenesses and rattles about it. The very brakes feel sloppy—will it save time to night the 'bus and tighten anything up? The man who rides a stern chase to triumph in the last two laps

is the finest fellow of them all,

TYPES OF ENGINES IN THE T.T. RACES.

A LTHOUGH there is the possibility of changes being made at the last moment, the types of engines specified on the official list of starters (given on page 638) provided matter for an interesting analysis. According to these figures only one V twin is in the Junior—the Dot, which is fitted with a new 350 c.c. twin of J.A.P. design—an overhead valve engine embodying several novel features. It is quite possible that this engine may also be used by another firm who have entered singles.

In the Senior event five V twins are entered—i.e., the Indian Scouts—and in view of past victories of this type of engine and the solitary win (1914) of the single, it is perhaps surprising that the former has apparently

lost its popularity with T.T. aspirants.

The Singles.

In both Junior and Senior races single-cylinder fourstrokes predominate, there being sixteen out of thirtytwo in the Junior event, and twenty-one out of twentynine in the Senior. These include the following makes:

JUNIOR: A.J.S., 8; Blackburne, 3; Diamond, 5. SENIOR: Norton, 14; Sunbeam, 5; A.J.S., 1; Duzmo. 1.

The last-mentioned machine is the only four-stroke single in the Senior event with an outside flywheel.

Two-strokes.

This year there are no two-strokes in the Senior race. Despite the past successes of the Scott, there have been no private riders forthcoming to represent this mount when the makers decided not to race.

In the Junior race, however, there are eight twostrokes: four Levis, one Ivy, one New Comet, and two Aurora; the last-named machines are fitted with Dalm engines, and the New Comet has a Climax power plant—a newcomer to the two-stroke world.

Flat Twins.

In view of the Wooler's recent successes in long-distance record breaking, it is not surprising to find several machines of this make in the Junior race, while, despite the decision of Douglas Motors, Ltd., not to compete, there are several of the famous Bristol machines entered by individuals. The following are the flat twins in the Junior: Wooler three, Douglas four. In the Senior one of the new 3½ h.p. Douglases will compete, as will two A.B.C.'s. From the above, it will be seen that the racing will have four-aspects of interest: (1) the races themselves for the blue ribands of the motor cycle world; (2) type against type; (3) competition between rivals on identical machines; and (4) machines of similar types against each other. In the latter connection, it is interesting to group the rival machines as under:

Two-strokes in the Junior: Levis, Ivy, Dalm, and Climax.

FOUR-STROKE SINGLES IN THE JUNIOR: A.J.S., Diamond, and Blackburne.

FLAT TWINS IN THE JUNIOR: Wooler and Douglas. SINGLES IN THE SENIOR: Sunbeam, Norton, Duzmo, and the little A.J.S.

FLAT TWINS IN THE SENIOR: Douglas and A.B.C.

Useful Information for the T.T. Visitor.

Sailing Arrangements, Customs, Fares and Garage Facilities for Visitors to the LO.M.

Sailing Arrangements.

OR the benefit of readers visiting the Isle of Man for the races, we repeat the sailing arrangements given in last week's issue. The sailings are as follow:

FROM LIVERPOOL.

To-day (Thursday, June 10th) and Friday, June 11th, 11.30 a.m.

Saturday, June 12th, to Wednesday, June 30th, 10.30 a.m.

and 3 p.m.
Extras. Thursday, June 17th, 1 a.m.
Saturdays. June 12th 4.5

26th, 12.50 night.

RETURN SAILINGS FROM DOUGLAS,

To-day (Thursday, June 10th) and Friday, June 11th, 9 a.m.

Saturday, June 12th, to Wednesday, June 30th, 9 a.m. and 4 p.m.

Extras. Thursday, June

Extras, Inursuay, June 17th, 12.30 night, Mondays, June 21st and 28th, 12.30 (Sunday miduight).

- 'Customs.

So far as Customs are concerned, the I.O.M. is considered by Great Britain as a foreign country, and a permit to ship must be obtained by every motor cyclist who desires to bring his machine back to England. This is merely a means of identification by which the Customs official at Liverpool may see that the machine has only been taken into the Island quite recently.

The procedure is quite simple in the case of Britishmade motor cycles, but foreign-made motor cycles entail further complication. A form prior to departure on form prior to departure on the home journey should be taken to the local consul of the A.C.U., Mr. G. J. A. Brown. 39, York Road. Douglas. During the race week, the form should be taken to the offices of the A.C.U., Athol Hall, Athol Street, Douglas, I.O.M.

Fares for Man and Motor Cycle to Douglas I.O.M.

The following fares for passengers and their machines between Liverpool and Douglas, I.O.M., will be of interest to our readers : Single saloon 14s., steerage 7s. 6d.; return for six months, saloon 20s., steerage 12s. 6d.

The fare for a motor bicycle accompanied by passenger is 4s. 6d.; a motor bicycle with two seats, 5s. 6d.; a motor bicycle and sidecar accom-panied by_passenger, 7s. 6d.; a motor tricycle with passen-ger, 7s. 6d.; 2s. 6d. per seat extra if more than one seat is fitted.

Sidecars must be detached from motor bieveles when conveyed by passenger steamer and in charge of the owner,

At Liverpool.

For members of the A.C.U. taking their machines to the Island, arrangements have been made with J. Blake and Co., of Liverpool, who will be in attendance on the landing stage to empty tanks. Receipts for the amount will be given, and tanks will be refilled on return. If desired, machines can be left at the A.C.U. garage, the Drill Hall, on the corner of Lawrence Road and Wellington Road, Liverpool.



AN IMPRESSION OF SPEED ON THE T.T. COURSE. The greatest speeds are obtainable on the mountain road. 70 m.p.h. is frequently attained during the Tourist Trophy Races.



ANNOUNCING THE T.T. RESULTS.

"The Motor Cycle" Telegram Service from the Course to the Centres of Motor Cycledom.

As in former years, The Motor Cycle has arranged for telegrams from the course to be exhibited at the different important centres throughout the These wires will give the order country. at the end of each lap-a method which has proved most popular in previous T.T. races.

Below we give a list of points at which

the telegrams may be seen

the telegrams may be seen:
Birmingham.—Amac. Ltd., Aston Cross; Colmore Depot. Colmore Row; H. Cutler and Son, 247, Soho Road, Handswith: J. Frans, 31, 247, Soho Road, Handswith: J. Frans, 31, Carett, Mad-Cycle Co., 50, George Street, Balsall Iteath; The Premier Motor Co., Aston, Road, Rournemouth.—P. W. Surplice, Poole Hill.
Berdgend (Glam.).—John Lewis, 35, Caroline

treet. Bristol.—Eli Clark, 196, Chelteaham Road; J. . Willway and Sons, Ltd., St. Augustine's Bridge. Birkenhead.—Oxton Cycle and Motor Works, a. Village Road, Oxton; R. Tyrie, junr., 21, Rose

Bedford .- J. Crawley and Sons, 4, St. Mary's

neuiord.—J. Crawiey and Sods, 4, St. Mary's Steek. hurn (Lancs.).—Slater's, 83, King Street. Brecon.—Fryer Bros. and Co. Brecon.—Fryer Bros. and Co. Burn (Lancs.).—Jack Pilling, 1, Rock Street. Carmarthen.—Carmarthen Motor Cycle and Cheitenham (Spa).—A. Williams and Co., 19, rottland Street; H. E. Steel, Ltd., High Street. Cardiff.—Kingsway Motors, Ltd., 8, Kingsway, Coventry.—The Moor Cycle. Heritord Street.—Doncaster.—J. H. Williamson, 19, Silver Street. Edinburgh.—Alexander and Co., 113, Lothian Coad; Andrew Downie, 19, Haymarker Terrace.—Edinburgh.—Alexander and Co., 288, Maxell Road.—Adam, Small and Co., 288, Maxell Road.—The Premier Motor Garage, 25a.

Gravesend,—The Premier Motor Garage, 25a, one Street.

Gloucester.-W. B. Gibb, Worcester Parade. Hull.-W. L. Thompson, Ltd., 83, Anlaby Road.

Service from the Course to the

Hereford.—Fryer, Ltd., No. 2 Garage, Commercial Road.

Hereford.—Fryer, Ltd., No. 2 Garage, Commercial Road.

Hereford.—Egerbons, Northgate Street.

Ipswich.—Egerbons, Northgate Street.

Ipswich.—Egerbons, Northgate Street.

London.—A.A. and M.U. 2 Baranu Hausten,

London.—A.A. and M. 2 Baranu Hausten,

Londo

Idd., 44 Boll Street; Meal Cyte Co., 11, Falsdian Communication of Wells, -Tom Norton, Ltd. Limitally, -Thomas and Co., 40, Stepney Street, Leicester,-Tom Can, Ltd., 83, Wordgate; Colmore Depot. 62, High Street; T. H. Wathes and Co., Ltd., 86, High Street, Maldon (Essex).—H. P. Girling, Electricity Works.

Manchester.-The Brook Motor and Eng. Co. Mer.), Ltd., 308, Deansgate; Colmore Depôt, 200,

eansgate. Middlesbrough.—Fred W. Dixon, Park Gar-ge, Liuthorpe Road. Maidstone.—Rootes, Ltd., Len Engmeering

Maidatone. Rootes, Ltd., Len Enguneering Works.
Newcastle-on-Tyrne.—The Percy Motor Co., Ltd., 68, Northumberland Street.
Norwich.—R. O. Clark, 2a, Upper King Street.
Norwich.—B. O. Clark, 2a, Upper King Street.
Norwich.—Bett Houlding, Marks and Rigby, Ltd., 215, Lancaster Road.
Perth.—Bett Houlding, Marks and Rigby, Ltd., 215, Lancaster Road.
Perth.—Bett Houlding, Marks and Rigby, Ltd., 215, Lancaster Road.
Rending.—The Hamilton Road Motor Works.
Wokingham Road; Julian's, 34, Broad Street.
Risca (Mon.).—J. Marsh, 131, Commercial Street, Portymister, Risca, and Donovan, Union Charles, Physmister, Risca, Ltd., Bitlon Road.
Street, Portymister, Risca, Ltd., Bitlon Road.
Strevenspury.—J. C. Pickering, 49, Mardol.
Stevensge (Herts).—Lall's Garage, Ltd.
Stevensge (Herts).—Hall's Garage, Ltd.
Stevensge (Herts).—Chodon Road;
T. H. V. Jackson, 635, Ecclesail Road, Hunter's Bar; Frank R. Roper, 166, London Road;
St. Ives (Hunts).—Parker and Soo, Station Road Garage.
St. Albans (Herts).—Clarke's, 98, London Road, St. Ives (Hunts).—Parker and Soo, Station Road Garage.

Sherborne (Dorset),—Dyer's Motor and Cycle Works, The Parade. Tadcaster.—Fred Soape, Motor Cycle Engineer, Bridge Street.
Torquay.—Nunn. Farmer and Co., 73, Union Street.

Tunbridge Wells.-Reid Bros., 4, Goods Station Road Taunton.—Hewin's Garages and Eng. Co., Ltd., Corporation Street. Wolverhampton.—Cyril Williams, Chapel Ash

Worcester.-W. J. Bladder, 52, Sidbury; Eric Williams, The Motor Cycle Depôt, Lowesthoor.

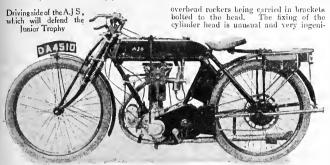
ENTRIES AND DETAILS OF MACHINES IN THE JUNIOR T.T. RACE.

32 Machines Entered, comprising 8 Two-strokes, 16 Four-stroke Singles, 7 Flat Twins, and I V Twin.

	Entrant, Make, and H.P.	No. of Cyls	Bore and Stroke.	Cubic Capa- city.	Driver.	Make of Driving Chain or Belt.	Make of Magneto.	Size of Tyres.	Make of Tyres,	Make of Car- buretter.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	A. H. Haden (2 ½ New Comet) A. J. Stevens & Co., Ltd. (2 Å A.J.S.) A. J. Stevens & Co., Ltd. (2 Å A.J.S.) A. J. Stevens & Co., Ltd. (2 Å J.S.) A. J. Stevens & Co., Ltd. (2 Å J.S.) A. J. Stevens & Co., Ltd. (2 Å A.J.S.) A. J. Stevens & Co., Ltd. (2 Å A.J.S.) A. J. Stevens & Co., Ltd. (2 Å J.S.) S. A. Newman, I. d (3 Ivy) Wooler Motor Cycle Co., Ltd. (2 Wooler) A. E. Wils (2 Douglas) Wooler Motor Cycle Co., Ltd. (2 Wooler) A. E. Wils (2 Douglas) Butterfields, Ltd. (2 Levis) Butterfields, Ltd. (2 Levis) Butterfields, Edachburne (2 Blackburne) Burney & Blackburne (2 Blackburne) Burney & Blackburne (2 Blackburne)	1 1 1 2 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1	70 × 76 71 × 81 74 × 81 74 × 81 74 × 81 74 × 81 74 × 81 75 × 79 60 5 × 60 60 5 × 60 60 × 60 67 × 70 71 × 88 71 × 88 71 × 88	293 349 349 349 349 349 349 350 350 247 247 247 348 348	J. A. Watson-Bourne P. J. Enticknapp J. S. Holroyd	Perry chain, Dunlop belt Renold chain Coverty chain John Bail belt John Bail belt John Bail belt Renold chain, Dunlop belt	TB. TB. TB. TB. TB. TB. TB. TB. CB. TB. E.I.C. C.A.V. E.I.C. E.I.C. TB. TB. TB.	26 × × × × × × × × × × × × × × × × × × ×	Dunlon Dunlop Dunlop Dunlop Dunlop Dunlop Dunlop Dunlop Dunlop Palmer Palmer Palmer Hutchinson Hutchinson Dunlop Dunlop Dunlop Dunlop Dunlop Dunlop	Amac Amac Amac Amac Amac Amac Amac Amac
18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	N. C. Selater, Junr. (3 Aurora) Bert Houlding, Marks, & Rigby, Ltd. (27 Diamond) H. V. Prescott (27 Å.1.S.) D.F. & M. Eng. Co., Ltd. (27) Diamond) D.F. & M. Eng. Co., Ltd. (27) Diamond) D.F. & M. Eng. Co., Ltd. (27) Diamond D.F. & M. Carlotte D.F. & M. Eng. Co., Ltd. (27) Douglas J. W. Cates (3 Aurora) A. H. Alexander & Co. (27) Douglas E. Greenwood (27) Douglas) E. Greenwood (27) Douglas) J. C. Layton (24) Wooler) T. F. Lewis (24) Levis Eric Longelen (27) Dot-Jap)	1 1 1 1 2 2 2 2 1	73 × 76 75 × 79 74 × 81 75 × 79 65 × 75 65 × 75 67 × 70 73 × 76 60 × 60 60 · 5 × 60 60 · 5 × 60 60 · 5 × 60 60 · 5 × 60 60 × 60 · 60 60 × 60 · 60	349 348 349 249 247 318 350 350 350 211 348	Entrant S. A. Marks Entrant Albert Milner Debriding P. Pike P. J. Price Entrant Entrant Entrant Entrant A. H. Alexander Entrant	Renold chain, Pedley belt Renold chain, Dunlop belt Renold chain, Pedley belt Renold chain, Wood - Milne belt John Bull belt Renold chain Renold chain Renold chain	Runbaken C.A.V C.A.V C.A.V E.I.C E.I.C E.I.C	26 × 2‡ 26 × 2‡	Pedley Dunlop Dunlop Dunlop Dunlop Dunlop Dunlop Hutchinson Pedley Clincher Wood-Milne Paimer Hutchiuson Dunlop	Amac Amac Amac Amac Amac Amac B. & B. Amac B. & B. Amac

A.J.S. MACHINES FOR THE T.T.

Four-speed Gears applied to Sturdy Machines having High Efficiency Single-cylinder Engines.



CONSIDERABLE interest will be taken in A.J.S. machines which bearing in A.J.S. machines, which, besides defending their title in the Junior Race next Tuesday are the only 350 c.c. engines entered for the Senior event.

Frame, gear box, forks, and brakes, are A.J.S. standard practice, but the engine and certain features of the transmission are new. The single-cylinder engine has a bore and stroke of 74 × 81 mm. respec-tively. To all intents and purposes the crank case is standard, but steel flywheels are used and the cast iron cylinder has a detachable hemispherical head in which overhead valves are mounted inclined from the centre line at approximately 45°.

These valves are operated through standard timing gear and long push rods,

The cylinder head of the A.J.S. is held down by a steel strap,

and oil is supplied by a handle-bar controlled pump from a tank behind the saddle tube.

ous, as it is held down by a flexible steel strap passing over the head of the engine and tightened by turnbuckles on either side of the crank case.

Unorthodox Transmission.

A very light steel piston is employed A very light steel piston is employed having two rings at the top and a series of oil grooves, the lower part of the skirt is copiously drilled. The transmission from the engine-shaft to the gear box is some—what unusual, two equal sized sprockets are machined on the clutch ring, and mounted loosely on an extension of the crankshaft are two sprockets which differ slightly in size. Either of these sprockets may be dogged to the shaft at will, a control being operated from the handle-

perated from the handle-bar. When the smaller of these sprockets is being utilised for the drive, the normal high and low gear are ob-tained by means of the countershaft gear box, but the larger sprocket can be used for long descents, and gives slightly higher ratios so as to prevent over-runing the engine. The saddle tank contains two gallons of petrol, and the entire oil supply is carried in a tank behind the saddle tube. A somewhat unusual method of filling this tank is employed, since a large diameter pipe is carried upwards through the petrol tank so as to bring the filler cap into a normal and easily ac-

bar, the flow being reguthe race

From the illustrations, it will be noticed that the cylinder is stayed to the front down tube. The machine is fitted from down tune. The machine is likely with Brooks saddle, Amac carburetter, Hans Renold chains, Dunlop tyres, and Thomson-Bennett large size magneto. It is a most workmanlike mount, which

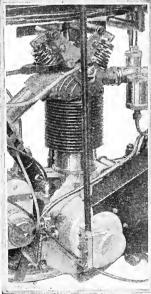
has been designed rather with the idea of a high efficiency machine which will stand up to the work than with the idea of saving weight.

A Sporting Chance.

There is no doubt that the A.J.S. stands an excellent chance of retaining its title, since there are few machines which have been so thoughtfully designed and well-constructed. It is unfortunate, therefore, that T. H. Haddock and N. C. Heath—two of the T.T. riders of this model should have suffered accidents during Whether these preliminary practice. Whether these accidents will prevent their riding in the race is not certain, but we understand the A.J.S. firm have other good riders in reserve.

. That one of these machines has been entered in the Senior event gives the A.J.S. a sporting chance of winning both events; in any case, its performance in competition with machines of 30% larger capacity will be watched with great interest

cessible position. Lubrication is effected by a spring pump con-trolled from the handlelated by a sight feed drip. It is just possible, however, that this drip will not be used during



Driving side of the T.T. A.J.S., showing the housing for the engine shaft gear and the inclined overhead valves.



At first glance the Redrup is not unlike a rotary engine that appeared a decade ago.

In the early part of this year (to be exact, in our issue of February 5th, 1920), we gave a fully illustrated and exclusive description of the Redrup Radial engine. At the time of our inspection of the engine, a machine was not available, but a test model has now been assembled and a prolonged road trial carried out. Our readers will no doubt remember that the engine is manufactured by Messrs. Boyle and Redrup, of Leeds, and considerable numbers have already been used for stationary work, such as driving pumps, electric lighting installations, and blowers.

We need not describe again the construction of the engine, but we may briefly remind the reader that three cylinders, disposed at 120° angle, are used, and a single-throw crankshaft, aluminium pistons, mechanical lubrication, and completely enclosed valves and valve gear are incorporated.

The machine which we tested was not specially prepared for us, and it had just returned from a 500 mile trip into Wales, after which it was placed in our hands without any adjustments being made.

At the outset we were favourably impressed by the manner in which the engine responded to a single depression of the kick starter. Although the machine had been standing all night in a very exposed place, and despite the fact that the morning was wet and cold, the engine fired at once, and after a few minutes' running, it became absolutely

R_{oad} Tests of the Redrup Three-cylinder Engine Described.

A Vibrationless, Easy Starting, and Flexible Power Unit for Motor Cycles.

controllable—ticking over as slowly as desired or responding to full throttle without hesitation; it was noticed, however, that until a few miles had been covered the full power was not developed, and it seemed necessary that the engine should reach a certain temperature before pulling its best.

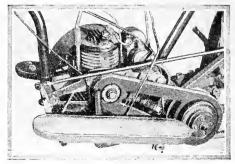
Before starting on the journey from Leeds' to Coventry, a hill of 1 in 7, a hundred yards in length, was climbed on low gear of 11 to 1 with a passenger on the carrier, the total weight being 21 stone. This is an excellent performance for a machine of only 309 c.c. capacity. Features particularly noticed while handling the machine were its continuous torque and absence of vbration.

Smoothness of Running.

Without desiring to appear unguardedly eulogistic, we may truthfully say that the writer has never ridden any motor cycle which so nearly gave the impression of continuous free-wheeling on a pedal cycle. The engine was remarkably silent, as, owing to the valves and valve gear being completely enclosed in the cylinders, no noise from these parts could be heard; the exhaust gave a regular and subdued note. The most prominent sound associated with the engine was a continuous and even ringing of the steel-fly-wheel; this, however, was not at all objectionable.

During the day 130 miles were covered, but no

attempt was made to do the distance in any set time. Over given stretches of road, however, timing was carried out, and it was found that on the level 40 to 45 m.p.h. could easily be reached. Thirty miles per hour could be maintained indefinitely, and on one deserted stretch of the Great North Road ten miles were done in exactly. nineteen minutes. Immediately after this, the low gear was engaged, and one mile covered at half throttle, the speed being in the neighbourhood of 20 m.p.h. Despite this ill-



Transmission side of the Redrup power un.t. The engine is secured in the frame by light steel bearer plates, and can be tempored completely by the withdrawal of two bolts

A Radial on the Road .-

treatment, however, the engine showed no signs of drying up, and it then accepted the high gear without any evidence of distress.

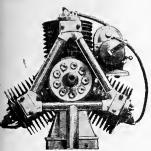
Since our previous description of the engine, a few modifications have been made; for instance, a separate Best and Lloyd lubricator has been titted, which feeds oil directly to the crank and big end bearings, while the mechanical pumps in the timing gear on each side of the engine maintain constant lubrication of all the parts. . The speed of the magneto has also been reduced to threequarter engine speed by introducing another roller in the "sun and planet" form of high-tension distributer, and the magneto. transmission is now taken from a sprocket fixed behind the fan flywheel.

Reliability and Economy.

Throughout the entire run the only involuntary stop was due to the carburetter having become choked with aluminium paint washed out of the tank, which was a new one. As the carburetter can be dismantled by the withdrawal of four screws and a union, the delay was only of a few minutes' duration: otherwise, in every respect, the machine ran faultlessly.

The petrol consumption worked out at 100 m.p.g., but there is reason to believe that this could have been improved upon, as the mix-

ture appeared to be rather rich; no doubt a smaller jet would have improved matters. Altogether we were very much impressed by the performance of the machine. The Motor Cycle has advocated the adoption of the radial principle many times in the past, and it was with considerable interest that we availed ourselves of a long run on the machine, and our belief in the possibilities of the type has been greatly enhanced by the satisfactory running of this particular engine. It would appear to be capable of great degrees the satisfactory running of the property of the satisfactory running of the satisf



The 3 h.p. (309 c.c.) Redrup three-cylinder radial engine



At the end of a 130 mile test, during which the engine ran almost faultlessly.

velopment, especially in the . direction increased size. The complete absence vibration, the silent running, and smooth torque should do much to extend the popularity of the motor cycle.
The even torque especially should

go far towards the elimination of tyre and transmission troubles; indeed, as far as chains are concerned, these, if properly enclosed, should last indefinitely, as the inevitable snatching associated with most other types of engines is entirely absent in this particular instance.

Some Details of the Machine.

Although Messrs. Boyle and Redrup are concentrating on the manufacture of engines, and do not propose to build a motor cycle, some details of the machine we tried must be given.

The frame is a standard one, which has been slightly altered to carry the Redrup engine. It is fitted with Saxon spring forks (which, incidentally, are decidedly efficient), and a Burman two-speed gear box with clutch and kick starter. The engine is carried between light steel plates, much in the same way as radial aero engines are supported.

The magneto is mounted on a bracket behind the vertical cylinder, and a similar bracket at the front of the crank case will conveniently accommodate a small lighting dynamo, if such is required.

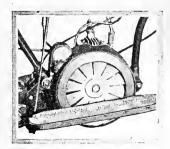
The two lower cylinders are somewhat exposed to mud splashes from the road, but owing to the cooling effect of the fan flywheel with its cowl, an undershield can be fitted without causing overheating. The float chamber of the carburetter is

bolted on to the crank case immediately below the driving sprocket, and the jet, choke tube, and throttle are surrounded by the oil sump, which is quite warm and consequently conducive to good carburation.

Unlike many ultra-modern engines, the Redrup Radial does not appear to be hard on plugs, while the extremely light valves and springs should also give long service, especially when it is recollected that not a single portion of the valve mechanism is exposed to the dust-laden atmosphere.

The makers have very great faith in the engine, and this has been justified so far by the fact that throughout the tests which have been, carried out, no spares have been carried nor have any as yet been

called for.



Fan-flywheel and cowl, which almost completely concea. the cylinders.



Spring Frames v. Rigid.

THEN you are well accustomed to spring frames, it is apparently difficult to do them justice. Ownership of the new A.B.C. is rather a nuisance in one way, as everybody one meets begs a ride; no doubt other owners of new machines just commencing production experience a similar sehwärmerei as the Hun calls it. Yesterday I gave trial trips to a couple of old hands, neither of whom had ever. tried either a spring frame, or the next best thing, viz., a combination of a good fork with 3in. tyres, and an XI-all saddle. I expected these two practical men to enlarge on the gear or the engine. ignored both, and went into ecstasies about the suspension. After a short pillion ride, the driver said the machine was easier to steer with two up than his own 'bus was solo, and the passenger (who had straddled the naked carrier bars) remarked that a cushion was not called for. To others in the like position I commend a triple experiment, namely, that they should cover a roughish bit of road three times:

> Once on their own rigid framed machines. Once on a Scott (3in. tyres, splendid fork, good

Once on a spring frame.

After this experiment they will be in a position to help in stamping the industry down one of the two paths, which it must follow if it wants to make really good.

Brake Control.

TITHOUT desiring to define a motor cycle as a vehicle which is doomed to sustain tumbles, every owner and repairer knows that the average machine takes a mild toss periodically. Such tosses very seldom inflict any serious damage. But for the last twenty years they have normally occasioned the rider concern on two principal counts. The first is where to stow his feet when his footrests are pointing to twenty-five minutes past six. The second is whether it is safe to continue a journey with only the front brake in action. Design has certainly been veneered up a little in both respects. For example, I own a machine the footrests of which are quite usable within five minutes of a real bad crash, since they are friction-held on a vertical tube, and merely need kicking back round it, but the brake pedal of this mount must invariably go west in a tumble. The majority of machines are similar. A ray of hope is dawning on the horizon. I see no reason why Bowden control should not be quite good enough for the internal expanding brakes which are now commencing to appear, and such a good judge as the A.J.S. designer agrees with me. Bowden control will permit of a main brake operated by hand or thigh or knee.

Given a kick-straight type of footrest, no tumble would then disorganise the nether portions of a machine. No, thank you, I have not had a tumble lately, but Ihave seen a few machines which have been doing slides.

Some Chain Notes.

all the chain supplies which I personally require. My first chain note is intended for trade and buyers alike. On some makes of machine the chain is given a very bare clearance along its free top and bottom runs. Thanks to the shortage of spring link clips, some manufacturers have unearthed stocks of the old-fashioned bolt joint links, and are fitting these instead. I hear of several cases in which machines have been delivered with these links, and the tip of the bolt fouled some projection on the machine. Apart from the chance of damage if the engine-is rashly started up, this blunder creates an impression that the machine has never been tested, although in all probability it was tested with an old chain at the works. Secondly, have you ever watched your back chain when you are driving fast? The other night I was fleeing homewards with a setting sun behind and on one flank. I happened to cock my eye at my shadow, which was pursuing me along a bank, and $\hat{\mathbf{I}}$ dismounted in a hurry, for $\hat{\mathbf{I}}$ saw the shadow of my back chain waying like a flag in a gale. I could hardly believe my fingers when a feel showed that the chain had no more than the legitimate half-inch up-anddown sag. But if a properly adjusted chain can waggle like that at high speed under load, I shall be jolly careful never to run my chains slack again. It looked in the shadow picture as if it would fly off at any moment.

Where are the Scooters?

WILL somebody tell a humble provincial what has happened to the scooter? In the teeth of much obloquy The Motor Cycle asserted last year that there was a disposition in sundry quarters to exaggerate its public appeal, and that the average male would, as a rule, find a lightweight motor bicycle better suited for short-distance work. Critical as my own attitude was to the newcomer in its early days, I must say I thought it would catch on fairly well with the fair sex. Scooters generally seem to excite as much amusement as genuine interest in the minds of a sceptical populace. I was told by men who should have known that there would be 100,000 of them on the road by June, 1920, and was looking forward to cadging joy-rides on each make in turn; but they don't seem to be as thick as leaves in Vallombrosa yet. Where are they all?



A SIX DAYS TRIAL IN THE ALPS.

The Mountainous Routes of the French International Six Days Trial in July.

ALTHOUGH termed a six days trial, the French international event, which will take place from July 26th to August 1st, will actually absorb seven days, one of which will be a "rest day" (during which the machines will be exhibited to the public), and two others will be occupied in the homeward run to Paris. The four days in the constitute the real tests, and particulars of the routes on these days are given here, each point being one of the controls, which are approximately 25 miles apart :

r irst Day, Monday, July 26th.— Grenoble, Pent de la Goule Noire, Leoncel, Saillans (replenishment and lunch), Col du Rousset, Pont de la Goule Noire Grenoble. Total, 158.3 miles.

SECOND DAY, TUESDAY, JULY 27TH.— Grenoble, Pierre Chatel, Corps (replenishment), Gap (replenishment and lunch), La Faurie, near Clelles, Grenoble. Total, 145.5 miles.

THIRD DAY, WEDNESDAY, JULY 28TH.—Grenoble, Les Echelles, Le Bourget Annecy (replenishment and lunch), Les Deserts, Chambéry (replenishment), Le Touvet, Grenoble, Total, 153.4 miles. FOURTH DAY, THURSDAY, JULY 29TH.— Grenoble, Les Grands Sables, fork on

road to Galibier, St. Michel de Maurienne (replenishment and lunch), Les Grands Sables, Grenoble.

Entries for the trial close on Tuesday Entries for the trial close on Tuesday next, the 15th, and particulars may be obtained from the Secretary of l'Union Motocycliste de France. 8, Place de la Concorde, Paris, the A.C.U. of France, and should not be confused with the organisers of the "Paris-Nice."





SCENES IN THE DISTRICT WHERE SOME OF THE FINEST MOUNTAIN ROADS ARE TO BE FOUND.

The chief attraction the motor cycle holds for some riders is that it enables him to explore new routes and districts. To those who are ever on the quest for fields and pastures new, the International Six Days Course will make tremendous appeal. The photographs depict—Top-(1) La Grave; (2) Route du Desert; (3) Pont en Royans. Bottom: (4) Col du Lautaret and Rue sur le Galibier; (5) Corges de la Bourne (6) La Chartreuse, Route du Desert,

SILENCE WITHOUT BACK PRESSURE.

IN the issue of The Motor Cycle dated January 29th (page 131), we described at some length a silencer of promising design manufactured by Messrs. Robinson and McNeil, of Napier Road, Wolverhampton.

It may be remembered that the main feature of this silencer is the spiral passage for the exhaust gases to the atmo-sphere, great care having been exercised

to ensure that this passage is of a continually increasing area.

For some weeks past we have been running a $3\frac{1}{2}$ h.p. single-cylinder motor cycle of reputable make, fitted with one of these silencers, and although many speed bursts have been indulged in, together with much full throttle, low gear work, no symptoms of those evils attendant upon the existence of back pressure were

apparent. A noticeable feature was that the engine ran much cooler than when fitted with the silencer originally supplied.

On the silencer tested the exhaust pipes were of copper, which had the effect of effacing that objectionable "ringing" too often heard. We understand that the manufacturers are now in a position immediately to supply silencers to fit all machines



RIM AND TYRE SIZES.



The Old Confusion Remedied by the Adoption of New Standards.

THERE has been in the past a very puzzling lack of uniformity in the matter of the sizes of motor cycle rims and tyres. The sizes marked upon the tyres were only nominal, and varied considerably in the tyres of different manufacturers. Moreover, the tolerances were uniduly large. For instance, as much as a quarter of an inch was allowed between the maximum and minimum circumference of what purported to be the correct rim for a 26in × 2in. tyre. In the more general size of 26in, × 2in, tyre. In the more general size of 26in, × 2in, tyre. In the difference was also ¼in, and the two rims followed one another, as it were, in size, the largest allowable dimensions of the one being equal to the smallest size of the other, the 26in, × 2in, rim varying from 70½in, to 71½in, and the 26in, × 2¼in, rim varying from 71½in, and the 26in, × 2¼in, rim varying from 71½in, they to either of them. Thus, for the same tyres, which, of course, themselves varied to some extent in size, rims differing by as much as ½in, were provided. Small wonder, then, was it that some tyres were so tight that they could hardly be placed on the rims while others were a sloppy fit.

Observation of these figures also brings to light another anomaly. The 2½in. rim was on the average a ½in. larger than the 2in. rim, whereas, if the correct over-all measurements were to be maintained, it should have been 1½in. smaller. Later, 26in. × 2½in. tyres, and even 26in. × 2½in. were made to fit these same rims, and this, naturally, gave a still larger complete wheel. At the same time there existed a 26in. × 2½in. rim measuring from 66½in. to 66¾in. in circumference. If the tyres for this rim were not undersized, a true 26in. wheel would result, but a tyre of 2½in. section made to fit a 26in. × 2½in. rim would be nearly 5in. larger in circumference.

The troubles of the speedometer makers are then easy to imagine, if they were anxious to produce really accurate instruments, as undoubtedly some of them were.

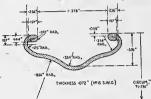
The 1915 Standards.

In April, 1915, the Engineering Standards Committee (Sectional Committee on Automobile Parts), under the chairmanship of Col. H. C. L. Holden, C.B., R.A., produced a new set of standard rims for cars, light cars, motor cycles, and cycles which were in every way reasonable, and contained none of the absurdities to which we have already referred. The motor cycle rims are those which chiefly concern us, though some sidecar outfits and powerful machines are fitted with the light car rims and tyres—a very desirable invocation.

very desirable innovation.

It was no longer suggested that a tyre of 2in, section should be placed on the same rim as one jim, larger, but a special rim having tuhular heads was adopted to

suit it. This, for 26in. tyres, was known as Rim No. C2, and was 71.3125in. in circumference at the bead. For tyres of larger section, 2½in., 2¾in., and 2½in., a rim having turned-over edges and 71.261in. in circumference (22.683in. in diameter) was chosen. This rim is known as No. D2, and has become deservedly popular,

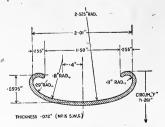


The D2 rim, standardised since 1915 by many manufacturers for $2\frac{1}{4}$ in., $2\frac{4}{5}$ in., and " $2\frac{1}{5}$ in. for $2\frac{1}{4}$ in." tyres.

though, of course, the full diameter of wheels having identical rims and fitted with tyres of different section must vary to some extent.

Unfortunately, however, owing to the war, these standards did not come into general use in the way they would have done in happier circumstances, and many machines fitted with rims and tyres of the old standards are still upon the roads, causing riders to wonder why, when two tyres are marked as being the same size, one will fit a rim snugly, while the other is far too big or too small as the case may be.

Further, a 650 × 65 mm, tyre, though practically identical in size with a 26in. × 2½in. tyre, will not fit the same rim, owing to the size and shape of the bead and rice versa. An explanation of this (with sketches) can be found in "Motor Cycles and How to Manage Them," published from these offices.



A new rim, No. B.B., suitable for $26\text{in}. \times 2\frac{1}{2}\text{in}.$, $26\text{in}. \times 2\frac{1}{2}\text{in}.$, and 659×65 nm. tyres. This is recommended as a standard, and may possibly come into general use.

The Latest Standards.

Later, the urgent need of reducing the large number of sizes of tyres in use on automobiles of all kinds was recognised by the British Rubber Tyre Manufac turers' Association, and a scheme was suggested by them and submitted to the British Engineering Standards Association for consideration. This scheme, with certain modifications, and after consultation with the American Society of Automotive Engineers, has been adopted, and thus a further step has been taken in the direction of Anglo-American cooperation.

(N.B.—The tyre sizes given hereafted.)

(N.B.—The tyre sizes given hereafter are nominal, while the dimensions of the

rims are actual.)
For motof cycles 2in. section tyres are no longer taken into account. 24in. ×24in or 600 × 65 mm. tyres require a No. DI rim, which is identical with the similarly named rim of the 1915 Standards. It is recommended that 26in. × 24in., 26in. × 24in., and 650 × 65 mm. tyres should be fitted to rim No. BB. This is of the same circumference as a No. D2, but slightly wider. It is a round base rim similar to

those used on light cars. When these new standards are generally adopted the motor cyclist will be in no doubt as to what tyres he should buy to fit his rims, and this is all to the good; but it will be realised that, so long as tyres of different section are made to fit the same rims, the over-all dimensions of the wheels must vary to some extent, and that speedometers, if they are to be accurate, must be made accordingly. Actual measurement on a machine shows a 26in. × 2in. Palmer Cord tyre to have a diameter of 27in.

THE LENGTH & BREADTH OF THE LAND.

A collection of routes throughout Britain, with interesting wayside notes thereon, gathered together in an improved edition of "The Motor Cycle" Route Book.

The latest addition to the books issued by our publishers, and which form a motor cyclist's library, is the new and entirely revised edition of "The Motor Cygte Route Book." It is a departure from the average road book, for, in addition to main road routes between populous centres, linking up routes, and a useful set of coloured maps covering England, Wales, and Scotlanid in atlass form, items of interest on the main routes are described by the well-known authority on roads, Mr. Chas. G. Harper. A list of ferries (with their charges for motor cycles and cars) and speed limits are also included. The price is 5s. net, of direct from Messrs. Iliffe and Sons Ltd., 20, Tudor Street, London, E.C.4, 5s. 4d.





Times to Light Lamps.

June	10th	 	9.43	p.m.	
June	10th	 	9.43	D.m.	
,,	14th	 	9.46		
11	16th	 	9.46	2.9	
,,	10011	 •••	3.40	22	

Next Week.

The annual T.T. and Summer Number of The Motor Cycle.

The Senior T.T. Guide.

Just as this week's issue is a guide to the Junior T.T. Race, so will next week's T.T. and Summer Number he a guide to the Senior event.

New Distinguishing Marks.

Additional index marks have been assigned as follow: TA to the county of Devon, NK to the county of Hertford, ME to the county of Middlesex, and OH to the county borough of Birmingham.

T.T. Fees.

Jack Haslam, the ex-T.T. rider, of Sheffield, writes that he considers the high entry fee is responsible for the comparatively few entries for the T.T. He states that several Sheffield riders would have entered on machines not represented in the T.T. had not the fee been double it was in 1914,

An A.C.U. Yorkshire Centre.

A meeting of prominent North-country motor cyclists was held at York on the 51st ult., at which it was unanimously decided to establish a centre of the A.C.U. in Yorkshire. Up to the present time this section of the country has been looked after by the East Midland Centre of the A.C.U., and Yorkshire motor cyclists have been extremely grateful for the work done. The East Midland Centre will, in fact, carry on till the end of this year, and the Yorkshire Centre will come into being in 1921.

It is interesting to have to record that the misunderstanding which was the subject of the discussion at a recent meeting at Sheffield has now been largely removed, and it was made evident that the A.C.U. had no intention whatever of neglecting the provinces. On the contrary, the A.C.U. Committee were greatly looking forward to the time when the whole country would be divided into centres which would look after the interests of local motor cyclists under the

guiding hand of the ruling body.

Among those present at the metings were Mr. Quinton Xicol, Mr. S. W. Philpott (who successfully established the North-western centre), and Mr. T. W. Loughborough, secretary of the Auto

Cycle Union.

Eye Troubles in the London-Edinburgh.

J. H. Place, who competed in the London-Edinburgh, rode a Dot, not an Indian as stated. He retired at Patterdale, due to trouble with his eyes. Incidentally, eye troubles were not so prevalent this year.

The Flying Kilometre.

When will some of the short distance figures be changed? At present the highest speeds in the various classes stand to the credit of the following riders:

C.C.	Rider and Machine.	M.P.H.	Date.
250	W. A. Jacobs (Singer)	57.65	Apr. 14, 191
275	H. Martin (Martin-lap)	66.42	Ang. 26, 101
350	S. L. Bailey (Donglas)	72.63	Dec. 19, 191
500	D. R. O'Donovan		
	(Norton)	82.85	June 14, 191
750	D. R. O'Donovan		
4	S. George (Indian)	82.85	June 14, 191
000,	S. George (Indian)	93.48	May 2, 1914

A Disclaimer.

The Acetylene Arc Co., Ltd., inform us that we were incorrect in describing their generator as the Fallolite. This was done because we were told that the lamp and generator were made by agreement with M. L. Fallot, of Courbevoie (Scine), France, under his French and English patents, and that the lamp was of his special design. The lamp and generator of the Acetylene Arc Co., Ltd., will be known as the Acetylene Arc.

Second-hand Prices.

In order that readers may be able to follow the general trend of the secondhand market, a summary, showing the lowest and highest prices asked by adver-tisers, appears in these columns every

Special Features. JUNIOR T.T. PROSPECTS. PRACTISING IN THE I.O.M. A RADIAL ON THE ROAD.

Amulree the Venue of Hill-climb.

The Glasgow club are holding a hillclimb on Amulree on the 26th.

Long Distance Records.

No fewer than thirty long distance records were taken during the month of May.

A Royal Motor Cyclist.

H.R.H. Prince Albert appears to be taking a keen interest in motor cycle matters, which perhaps is natural, since he is himself a motor cyclist. He is patron of the A.C.U. and a member of the A.A. and M.U.

Another Reunion.

Reunions of old comrades are the order of the day. Among others a dinner will be held in the autumn for ex-members of No. 2 Squadron R.A.F., the hon. sec. for which is Mr. John O. Comber, Ashenhurst, Guildford.

A Czechoslovakian Show.

The chief Automobile Club of Prague are organising a motor show, to take place July 17th to 25th. It will be the first exhibition to be held in this young Republic. The address of the secretary is the Czechoslovak Automobile Club, 1, Obenci Dum, Prague.

The Scottish Six Days.

It is rumoured that the route for the fourth and fifth days of the Scottish Six Days Trial, which is now only just over three weeks ahead, will have to be altered, owing to the difficulty of finding accommodation for the competitors at Grantown. It is probable that the alteration will not make any difference as regards observed hills. Campbell Mc-Gregor, the erstwhile secretary, is riding

a single geared clutch model Brough.

The most southerly point of the trial is reached on the sixth day, when Talla Hill, lying just off the main road between Edinburgh and Dumfries, is to be nego-Leaving the main road from tiated. Edinburgh the route branches to the left at Tweedsmuir, and thence leads over the heights via Talla to St. Mary's Loch. There are indications that a number of English motor cyclists propose visiting this hill to observe the performances of the competitors.



The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Hertford Street, Coventry, and must be accompanied by the writer's name and address.

REUNION OF EX-D.R.'S.

Sir,—I was pleased to read in *The Motor Cycle* that Capt. Schofield was endeavouring to arrange a reunion of ex-D.R.'s. Personally, I should very much like to meet some of my old pals. Many of them will recognise the old nickname of "Sampson." C. E. COX (late Sgt. D.R., R.E.).

PRICES IN EGYPT.

Sir,—I notice that a correspondent, writing from Buenos Aires, says that a Harley-Davidson costs just under £100. I was in Cairo recently, and inquired from a motor cycle firm how much the Harley-Davidsons were. They had about ten brand new 1920 models. Without looking in the least hit perturbed, the gentleman who answered my enquiry said 150 Egyptian pounds, that is, about 154 British pounds. I cannot imagine him selling many.

R. M. V. HOFFORD, 1st/17th Infantry, E.E.F.

PRICE OF PETROL TINS.

Sir,—To the buyers of petrol and benzole (beginners particularly) who are returning empty cans, I would say: Make sure of the price that has been paid for the can, or in the journey from shop to store the can is apt to drop a shilling in value.

I returned an empty two-gallon can, and asked for a full one. After taking the empty to his store, the shopman said: "The can you returned was a 3s. one; this is a 4s." Later I returned an empty, and was told it was a 2s.

Salisbury. RETLAW.

DRY BATTERIES.

Sir,—Referring to "Ixion's" remarks, regarding dry hatteries for lighting purposes on motor cycles and sidecars, it may interest him to know that I am obtaining very satisfactory results from such batteries. I consider that for side and rear lighting there is nothing to equal them for convenience.

The head light is the stumbling-block, as a fairly high current consumption is necessary to obtain a satisfactory light, and, of course, dry batteries do not give economical lighting at a high rate of discharge. To overcome this, to a certain extent, it is necessary to take advantage of the efficiency of the metal filament lamp, which is enhanced by over-running it to a certain extent. This, of course, is not recommended by the makers of the bulbs, as it undoubtedly shortens the life of the latter. It must be borne in mind, however, that the initial voltage of a dry battery is not maintained when passing a current to the lamp, but will fall to quite an appreciable extent during discharge. This fact makes it necessary carefully to select suitable bulbs, so that a satisfactory light is obtained, even when the P.D. of the battery has failen considerably. The user must be prepared to stand the extra cost of a bulb or so, in order to obtain the increased efficiency in lighting.

The sidecar and rear lamps are, of course, a simple proposition, and I am surprised that dry batteries are not more universally used, even though an acetylene head lamp is retained. I used such an outift in the last London-Exeter, and a complete dry battery set in the following Land's End Trial, without experiencing any lighting troubles whatever. The batteries for the side and rear lights were used in both events, and are still in use. They are quite small, the side lamp battery weighing about four pounds, and the rear lamp battery but a lew ounces, the latter being accommo-

dated in the carrier tool bag. I have obtained eighty hours light from each battery, tested under proper conditions for periods of two hours daily. The test being stopped when the light was considered to have depreciated about 50%. Even then, the illumination was quite good and would satisfy most people.

It is absolutely necessary to use good dry batteries, otherwise unsatisfactory results are almost certain to follow.

E. ATKINS.

THE LONDON-EDINBURGH.

Sir,-Four things connected with my experiences in the London-Edinburgh run remain in my memory. They are as follow:

(1.) The appalling state of the roads in Yorkshire, and, on the return journey, the dust and inconvenience caused by the heavy char-a-banc traffic here and in the Lake District.

(2.) The annoyance brought about by a section of trade riders, eight in number, who repeatedly stopped by the wayside and afterwards "hooted" their way past the other competitors, blinding them with dust, in order to regain their wonted positions according to numbers.

wonted positions according to numbers.

(3.) The fact that in a Northern town, on the return trip, I was charged 1s. 6d. for a 7½ in. bolt, 1½ in. long, which fell out again five miles further on, and was then found to be a very slack fit, indeed no fit at all. This was an old bolt taken off the bench; and—

(4.) That a village blacksmith, between Moffat and Lockerbie, made a new bolt of the right length that fitted to a nicety, and has not budged after 300 miles or more, and somewhat apologetically asked a shilling for his trouble.

These are more or less trivial incidents perhaps, to set against the great enjoyments of the trip, but they stand out nevertheless as reminders of the "contra" side of the great ride so far as they affected it.

PB 6.

Bedford.

Sir,—I believe that the entrance fee in the London-Edinhurgh run should be not less than £5, so that it will keep the number of entrants down, as if there are more than 400 competitors the run will be spoilt, and probably stopped. Another suggestion is that competitors should not be allowed to enter later than the beginning of the year. Spalding. ONE WHO DOES NOT LIKE A CRUSH.

THE REAR SPRINGING PROBLEM.

Sir,—Replying to "Progress's" letter in your issue dated April 29th (page 485), this is easily beaten in every respect, except that the same spring cannot carry 30 stone; that can only take, say, 12 stone. The extra weight is not 2 lb, and the extra cost is really quite trivial in production. Pleasing design and appearance; practically facsimile to any ordinary motor cycle. I have ridden such a motor cycle and sidecar over 5,000 miles.

Forest Gate, E.

MOTOR (YCLE T.T. & SUMMER NUMBER

NEXT WEEK'S ISSUE will be much enlarged and contain special articles and illustrations of worldwide interest. Order now to prevent disappointment. THURSDAY, JUNE 17th. 43d.

ROADSIDE COURTESY.

Sir,—Reading the article by "Chinook" on readside courtesy, a suggestion occurs to me that any motor cyclist who is hung up on the read and wishes assistance should simply the a handkerchief to the handle-bars. Then any passing motor cyclists would see the signal, and, Explose in the contraction of the contraction o give assistance.

Sir,-After a short spin of about seventy miles on Whit-Tuesday I felt much inclined to write you in almost identical strain as "Chinook." Like him, I passed many breakdowns,

stram as "Chinook." Lake him, I passed many breakdowns, but, unlike him, my four enquiries received what can only be described as disgusting responses.

I ride-a 1919 Triamph, which from experience does not belie its description of "trusty" (disclaimer), and I am therefore in the same position as "Chinook"—ready to give without much possibility of receipt. The sconer it becomes recognised that the obligation is to seek and not to proffer assistance, the better.

Blackwood.

TAXATION AND REGISTRATION.

Sir,-One wenders whether the Taxation Committee are aware of the methods employed in other countries.

Quite apart from the amount of the tax to be levied on various types of machines, the system employed in Switzerland strikes one as being so simple and effective that it could be employed with advantage to both the tax-payers

and tax-collectors in this country.

The system referred to is as follows:

On January 1st of each year every owner appears at the nearest "gendarmerie," and on payment of a lump sum (15 frs. in the case of a motor cycle) receives an official number plate, with the arms of the Canton and the number on it. The sum paid includes the tax for the current year, and registration fee for the same period. Until this plate has been fitted it is quite unsafe to use the machine, as a different series of numbers, or combination of letters and

unterent series of numbers, or combination of letters and numbers, is used each year, and the user of a last year's number plate is "spotted" by the first gendarme he meets. When a machine changes hands, the number plate is removed, and kept by the original owner (I have one I keep as a souvenir), and will be fitted by him to any machine he may buy during the year. Second-hand machines for sale in a garage are always numberless.

It is not an uncommon sight to see a vider with his number.

It is not an uncommon sight to see a rider with his number tied round his waist with a piece of string, and hanging at his back: he is probably to be envied, as it is likely that he owns more than one machine, since the authorities have sufficient intelligence to realise that it is almost impossible to ride more than one machine at the same time, and the one number suffices for any number of machines belonging to the same owner.

This system obviates the expense of the many men employed in this country to chase up offenders who have not paid their annual tax or who are using faked numbers, besides saying the motorist himself the inconveniences of our present

system.

As the whole question of motor taxation is being revised at the present time, would it not be possible to adopt some such arrangement to come into force next January? SO SIMPLE.

Sir,-Like the majority of motor cyclists, I am by no means satisfied with the Government's proposed form of taxation, although admitting that a heavier tax should be imposed on highpowered machines and cars, provided, of course, that the revenue so obtained is expended on the repair of reads.

Since the Government is averse to taxing motor spirit, it appears to me a compromise could be made whereby motor cycles and cars would pay on a h.p. weight basis. Thus, if a pay on a n.p.-weight basis. If ns, it a tax of 5s. per 100 c.c. and 5s. per cwt was placed on all motor vehicles a sliding scale would be in force, whereby a lightweight motor cycle would pay less than a medium weight, and so on.

I enclose a schedule showing how such a tax would work out. It should not be a very difficult task for the authorities to obtain the cubic capacity of engines and weights (unladen) of vehicles, while with a scheme such as this, if taxation should ever be reduced, a reduction under each of the headings would meet the case.

SCHEDULE SHOWING TAX LIBBLE TO BE PAID ON A BASIS TAX OF 5/7 PER 100 CC. AND 5/7 PER CWT.

	MOLOK	CY	CLES,					
Engine.	Weight, Cwts.		7axc 5/+ per 100 c.c.	tion. 5 /- per Cwt.	P	Tota Innual	re1	
150 C.C. 250 C.C. 350 C.C. 550 C.C. 550 C.C. 650 C.C. 650 C.C. 650 C.C. 750 C.C.	31		10 - 15 - 20 - 25 - 25 - 30 - 40 - 40 - 50 -	5		15 1 10 1 13 2 5 2 10 2 15 3 5 3 15	00000000000	
1100 c.c., with sidecar	41		551-	25/-		4 0	0	

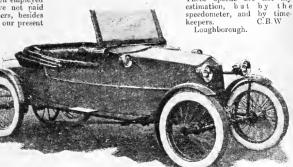
The above weights are only approximate. It will be seen that only in exceptional cases would the proposed annual tax of £4 for sidecar machines be reached. CHEQUERS. Welverhampten.

Sir,—Re H. C Wyley's letter in The Motor Cycle of May 13th. Evidently Mr. Wyley speaks only for his own circle, and can afford any sum for taxation. Here is my case. Nearly satty, pensioned on 25s. per week 1912. Bought Chater frame 1913, new engine 1914, and Clyno heavy sidecar for 25 1915. Put the lot together myself, and run half petrol and half paraffin. Cannot ride in cold weather owing to health. According to Mr. Wyley, I am to be denied any pleasure, as I cannot afford the railway fares now charged. I do all repairs myself, or I could not afford to keep the machine. to keep the machine. Essex.

SPEEDS.

Sir,-I have seen several letters in your columns of late about speed, and some of the writers seem to think that, it is quite impossible to attain speeds of 60 and 70 m.p.h. on the road. To think that is absolutely wrong. Anybody can the road. To think that is absolutely wrong. Any body can attain speeds on the road exceeding 75 and touching 80 m.p.h., provided he has the experience and the nerve, and also is in possession of a machine that will do the speed.

I, myself, have exceeded 70 m.p.h. on a 1919 7-9 Indian on several occasions, and once even with a friend on the carrier. I have also done speeds up to 68 m.p.h. on a 3½ h.p. Norton, 8 h.p. Zenith, and 7.9 h.p. Harley-Davidson. These speeds are not my



A light cycle car built by the Aero Motor Co., 21, Hope Crescent, Leith Wak, Edinburgh the second produced by this firm to special orders. It is fitted with an Eh.p. air-cooled engine, Sturmey-Archer gear box, and final drive by single V belt to live axle. $700 \times 100 \text{ mm}$ Rudge-Whitworth wheels and irreversible steering are included in a very complete equipment

CLUB NEWS.

Sheffield and Hallamshire M.C.C.

Owing to a bad thunderstorm, the competition fixed for the 29th ult. was postponed to a later date.

Leeds and Dist. M.C.C.

On the 13th inst, the club will hold a ladies' reliability trial, starting from the Roundhay Clock at 2.30 p.m.

Helensburgh M.C.C.

The results of the flexibility trial held on the 26th ult. were as follow: 1, A. M. Duncan (3³/₄ Scott); 2, J. McIntyr (4 Triumph); 3, W. Colvin (2³/₄ Diamond

Sutton M.C.C.

Starting from the Ridgway, the opening run on the 30th ult. took the form of a social picnic tour round the countryside. Lunch was taken at the top of Bury Hill, after which several members demonstrated the climbing abilities of their machines.

. Luton and South Beds A.C.

Despite a heavy thunderstorm, which raged during the early afternoon, the hillaged during the early alternoon, the fill-climb recently held at Kop Hill proved a big success, and some good performances were witnessed. The results were as follow: 350 c.c. class: L. Kell (24 New Hudson), 600 c.c. class: J. Hill (34 New Hudson). Rudge Multi). Unlimited solo: F. Child (23 Douglas). Unlimited sidecar: Capt. Cooke (5-6 James sc.) Light cars and cars: B. S. Marshall (8 Mathis).

Bristol M.C.C.

The following awards were made in the recent reliability trial to Land's End and recent reliability trial to Land's End and back: Gold medals: P. King Smith (Harley-Davidson sc.), F. Buchill (Donglas sc.), C. W. Rankin (Sunbeam sc.), W. W. Moore (A.B.C. sc.), A. W. Dyer (Donglas sc.), A. King Smith (Harley sc.), Eli Clarke, jun. (Donglas sc.), E. J. Clarke (Douglas sc.), S. Hodges (A.B.C.), and A. F. Smith (Norton sc.) Silver medal: D. G. Hepburn (Triumph

Bedford and District M.C. and L.C.C.

Members joining in the ladies' surprise day on the 20th inst. will meet in Elstow village, near Bedford, at 2 p.m. A secret sports programme has been arranged by the lady members, and an enjoyable afternoon's fun is anticipated.

Burton-on-Trent and District M.C.C.

In conjunction with the Loughborough M.C.C., a social run was made to Abbots Bromley and Lichfield. A stop was made at the "Goat's Head," Abbots Bromley, for tea, after which the results of the last trial were announced. First, N. A. Findlay (56 Rover sc.); second, A. Somerfield (4 Triumph sc.); third, F. Read (4 B.S.A. sc.).

Week-end Club Events,

June 13.—Luton and S. Beds. A.C. Reliability Trial. June 13.—Basingstoke M.C.C. P. ial.

Basingstoke M.C.C. Run to Lee-on-the-

June 13.—Basingstoke M.C.C. Run to Lec-on-tne-June 13.—Basingstoke M.C.C. Run to Lec-on-tne-June 14.—Staten M.C.C. Run to Goildord. June 13.—Banbury and District M.C.C. Surprise Tisl.—June 13.—N.M.C.F.U. (Eccels). Run to Scor-June 13.—N.M.C.F.U. (Eccels). Run to Scor-June 13.—Reading and District M.C. and L.C.C. Run to Ashford Hill. June 13.—Parrington M.C. Run to Rudyard Lake. June 13.—Eastbourne and District M.C.C. Com-mittion.

petition.

June 13.—Wakefield and District M.C.C. Run to Ingleton.

June 13.—Eastern Counties M.C. Run to Brad-well-on-Sea.

June 13.—Doncaster and District M.C.C. Run to Dukeries.

June 13,-Sheffield and Hallamshire M.C.C. Speed Judging.

Judging,
June 13.—Middleser M.C.C. Pienie,
June 13.—Oxford University M.C.C. Hill-climb.
June 14.—Dunkeved (Lounceston) and District
M.C. Hill-climb.
JUNE 15.—JUNIOR TOURIST TROPHY RACE,
1.O.M.
June 16.—York and District M.C. York Gala,
June 16.—W. Hilts M.C. and L.C.C. Run to AshJune 16.—W. Filts M.C. and L.C.C. Run to AshJune 16.—Reputable M.C.C. Papersone.

ton Kepnes.

June 16.—Bosingstoke M.C.C. Paperchase.

JUNE I.—ENIOR TOURIST TROPHY RACE,

June 1.—Donnaster and District M.C. Paperchase,

June 1.—Seddord and District M.C. and L.C.C.

Club Run.

Worcester and District M.C.C.

The results of the recent half-day trial Held by this club are as follow: 1, H. Moule (3½ Rudge); 2, C. H. Lewis (3½. Ariel); 3, J. A. Chadwick (2¾ Diamond).

Hastings, St. Leonards, Bexhill, and District M.C.C.

Some good performances were made on Winchelsea Hill on the occasion of the hill-climb recently held by this club-Eighteen competitors took part.

Neath and District M.C.

At a most successful dinner held recently, a collection was made in aid of St. Dunstan's Hospital, with particular reference to the D.R.'s blinded in the war, and a sum of £1 17s. 6d. was collected.

Marlow and District M.C.C.

Two classes, solo and sidecar, were run in the hill-climb held at Alms Hill, Henley, on the 31st ult. Both were won by J. P. Hodgson, riding a 3½ Hobday J.A.P.

Cork and District M.C.C.

The results of the Irish open trial, published last week, have now been con-firmed with one alteration. A Healy (4 Blackburne) has been awarded a silver medal in place of a bronze.

Sheffield and South Yorkshire M.C.C.

This recently formed club held its open ing run on the 30th ult. The event was a trial for the James cup. The winner proved to be R. Searle (4 Triumph), with P. Moon (3½ Rudge) second.

Helensburgh M.C.C.

Starting from Colquhoun Square at 3 p.m., the four hours reliability trial for the Prosser Cup, over a course of about eighty miles, will be held on the 19th inst. All classes of motor cycles, sidecars, and cycle cars up to 1,000 c.c. will be allowed to compete. Full particulars can be obtained from J. F. ticulars can be obtained from J. F. Fulton, trials sec., Findhorn, Helens-

THE ARBUTHNOT TROPHY TRIAL.

The Only Competition confined to Naval Officers. To be held in the Home Counties.

THE Arbuthnot Trophy trial is to be held on Wednesday and Thursday, July 7th and 8th, and as entries close on the 21st inst., those who intend to take part should write at once to the Auto-Cycle Union, 83, Pall Mall, London. S.W.1.

An announcement of the trial appears in Admiralty Orders, thus showing it has the official sanction of the powers that be. the official sanction of the powers that be.
Instituted in 1919, the event perpetuates the memory of the late Rear Admiral Sir R. K. Arbuthnot, Bt., and is open to any officer or midshipman in H.M. Navy, the Royal Naval Reserve, or the Royal Naval Volunteer Reserve on the active list on the date on which entries close. Entrants must compete on solo motor cycles, which may be of any type or power.

The trial will extend over two days, and the course will be between 103 and 150 miles each day. No adjustments, repairs, cleaning, or replenishments, in-cluding repairs to or changes of tyres, will be permitted. Oil, pefrol and water may be taken on board during the luncheon stop. A novelty has been introduced this year in the form of a non-stop speed trial at Brooklands at the end of the road test. This speed trial will be divided into standard classes, namely: 250 c.c., 350 c.c., 500 c.c., 750 c.c., and 1,000 c.c.

The Knock-out Principle.

Competitors making the fastest time in their class will again race, and the competitor who, in the opinion of the judges, makes the best performance in the speed trial will be adjudged the winner of the Trophy. If no competitor succeeds in completing the road part of the trial according to the regulations, the competitor who makes the fewest number of involuntary stops will hold the Trophy

for the ensuing year.

The present holder of the Arbuthnot Trophy is Lieutenant E. S. K. Evans Greaves, R.N. Unfortunately, Mr. Evans Greaves cannot compete this year, though he has sportingly decided to send a donation to the A.C.U. to help with the expenses of the trial.

For the 1920 event the following en-

tries have already been received: Sub-Lieutenant Thornton-Jones, R.N., 4 h.p. Donglas; Lieutenant G. P. Gleu Kidston, R.N., 3½ h.p. Sunbeam; Sub-Lieutenant C. Plumer, R.N., 6 h.p. Zenith.



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," ao, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d, stamped addressed envelope for regly. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for case of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Wind Waggons.

I read, with great interest, the recent article in The Motor Cycle on wind waggons. I have decided to build one, but, am at a loss for necessary data. Could you tell me the h.p. required per unit of weight, using a 4ft. 6in. diameter propeller? Also would the revs. be very excessive?—INTERESTED. There are so many factors involved in the question you raise that it is impossible for us to deal adequately with it, without having more particulars of the engine you propose using and also the type of propeller. Your best course would be to obtain from the engine makers a power curve and submit this to the propeller manufacturers. The latter would then be able to design a propeller to suit your purposes.

Balancing a Two-stroke.

I am a constant reader of The Motor Cycle, and shall be much obliged if you will tell me the correct way to balance a single-cylinder two-stroke. Should the balance weights of crauk exactly counterbalance weight of piston, connecting rad, gudgeon pin, etc., if the crank is put between lathe centres.—H.H.

The balance weights should equal half the weight of the reciprocating masses pus the weight of the big end and crank pin. The customary method is to take half the weight of the piston, gudgeon pin, and top half of the connecting rod and add this to the weight of the lower part of the connecting rod with big end and crank.

Misfiring.

I shall be glad if you can enlighten me as to the cause of my 2½ h.p. two-stroke periodically missing (about one in every eight or nine). The machine was running well up to a short time ago, but on starting up one morning, recently, I found the above trouble. I may say that I have tried different plugs, taken down carburetter, and fitted smaller and larger jets, examined magneto, and checked timing, but the missing still continues. The machine has only done about 200 miles since being decarbonised.—G.P.

As everything appears to be in order, it is very difficult to diagnose the trouble without an actual inspection of the machine. The following might be triedenew the sparking plug, clean the carbon brush and slip-ring of the mag-

neto, and make certain that the carburetter is not flooding. The last named trouble might be caused by the adjustment of the needle having altered, or it night be due to the float being cracked and weighted down by petrol which has entered.

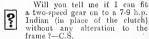
Tuning for Speed. I wish to get the greatest

amount of speed possible out of my engine. Would you advise me to (1) drill the piston or have a lighter one fitted (2) or balance the flywheels? (3.) Will you give me the most efficient timing? What h.p. does my engine develop? it has a bore of 2½in. and stroke of 3½in., (5.) The magneto misses very badly at high speeds. Should I fit a low tension magneto, or what is the fault with the present one?—S.B.

(1.) You might try the effect of drilling the piston or fitting a lighter one of steel or aluminium. (2.) If any difference is made to the weight of the piston it will be necessary to rebalance the engine. (3.) The most efficient timing varies so nuch

and is dependent on so many differences of engine design that we cannot give you an exact timing without knowing the engine you are using. (4.) The dimensions of your engine are 76×85 mm. bore and stroke = 385 c.c. Such an engine would be rated at 3 h.p., and would probably give about 4½ b.h.p. at normal revolutions. (5.) Low-tension magnetos are not used nowadays; we cannot tell the cause of the trouble with your present magneto without having further details. The misfiring at high speeds may be due to a faulty sparking plug. Consult "Motor Cycles and How to Manage Them."

Gears for a Clutch Model.



We do not know of any two-speed gear which you could fit to your 7-9 h.p. clutch model Indian, without structural alterations to the frame.



A BUSY BROOKLANDS SIDESHOW.

Apart from the racing, quite an interesting hour could have been spent at the last motor cycle Brooklands meeting examining the many and various machines that were to be seen.

READERS' REPLIES.

Adjusting Scott Chains.

I see "W.E.N." asks about tightening the high gear chain on a Scott, when the low gear chain is still tight. I think my method will possibly be of assistance. My low gear chain is in two parts, one of which is the length of the high gear chain, and when the high gear chain gets stretched, I exchange it for the unstretched piece of low gear chain, when the high will be found to be tight and the low slack, and later on, when the high is again slack they are both slack enough to be taken up without affecting the alignment.—D. G. TAYLOR.

Benzole and the Scott.

"M.W.W." in your issue of May 13th complains of the effect of benzole on the rubber cylinder base rings of his Scott. There must be something wrong here. Since January last I have run my 1920 Scott exclusively on benzole. Its mileage to date is about 2,800. The machine has not yet been down, and there are no indications that such a course is necessary. No alterations of any kind (other than jet No alterations of any kind (other than jet adjustments) have been made to the makers' finished turnout. So far as I am concerned, I find the machine to be "everything, and more than the makers' claim."—A.A. 282343.

Slipping of Roc High Gear.

Re the trouble experienced by "H.S." with the high gear band slipping on his 1912 Roc gear. When this happens most riders suspect wear on the lining of the band. If adjusting the band so that a free engine is still obtainable will not cure the trouble, the cause is nearly always to be found in the wedge and push pins. I recently cured a most persistent and exasperating case of high gear slip in a Humber Roc gear by renewing these pins. There is now no trouble at all; the gear will hold an outfit on the stiffest hills without a suspicion of slip. Owners of Roc gears should look out for this wear, for if it becomes considerable the wedge pin will one day get right under the push rod and jam there, even when the pedal is released. If the low gear is then brought into operation both gears will be in use simultaneously, with disastrous consequences to the pinions. Any tendency of the wedge pin to go further into the axle than usual should be immediately investigated .- G.A.

RECOMMENDED ROUTES.

LEICESTER TO SPALDING .- L.B.

Leicester, Thurnby, Skeffington, Uppingham, Luffenham, Stamford, Uffington, Market Deeping, Spalding.

LOUTH (LINCS.) TO HARROGATE (YORKS).

-C.W. Louth, Ludford, Market Rasen, Rasen, Gainsborough, Beckingham, Everton, Bawtry, Doncaster; Wentbridge, Ferrybridge, Brotherton, Aberford, Bramham, Wetherby, Spofforth, Harrogate.,

NEWCASTLE TO SOUTHAMPTON .- W. L.

Newcastle, Chester-le-Street, Durham, Croxdale, Ferryhill, Aycliffe, Darlington, Barton, Scotch Corner, Catterick

Bridge, Leeming Bar, Boroughbridge, Wetherby, Aberford, Micklefield, Ferry-bridge, Doncaster, Worksop, Notting-ham, Leicester, Aylestone, Blaby, Lutter-worth, Cottesbach, Watling Street, Kilsby, Daventry, Byfield, Banbury, Diddigton, Oxford, Abjurden, Descriptor Diddington, Oxford, Abingdon, Drayton, E. Ilsley, Newbury, Whitchurch, Sutton Scotney, Winchester, Twyford, Eastleigh, Southampton.

LEICESTER TO SOUTHPORT .- G. H. K.

Leicester, Loughborough, Derby, Leek, Warrington, Prescot, Knowsley, Kirkby, Ormskirk, Southport.

BIRMINGHAM TO BOURNEMOUTH .- G.P.

Birmingham, Henley-in-Arden, Strat-ford-on-Avon, Alderminster, Shipston-on-Stour, Enstone, Woodstock, Oxford, Abingdon, Steventon, E. Ilsley, Newbury, Woodhay, Tarrant, Andover, Salisbury, Fordingbridge, Ringwood, Christchurch.

NOTTINGHAM TO CHORLEY (Lancs.) .-- T.B. Nottingham, Stapleford, Borrowash, Derby, Mackworth, Brailsford, Ashbourne, Mayfield Leek, Rudyard, Macclesfield, Chelford, Knutsford, Mere Park, Warrington, Winwick, Abram, Wigan,

COVENTRY TO TOROUAY .- A.B.

Coventry, Finham Bridge, Warwick, Stratford, Mickleton, Weston-sub-Edge, Winchcombe, Cheltenham, Broadway, Gloucester, Quedgeley, Claypits, Thornbury, Bristol, Bedminster, Redhill, Sidcot, Highbridge, Bridgwater, Taunton, Wellington, Cullompton, Exeter, Exminster, Dawlish, Teignmouth, Torquay.

IMPORTANT DATES.

Tues., June 15th— Junior T.T. Race, Isle of Man. Thurs., June 17th— Senior T.T. Race, Is'e of Man.

Senior T.T. Race, Is'e of Man.

Fri. June 18th—
Speed Tria's on Douglas Promeuade.

Speed Iria's on Douglas Fromenade. Fri, an 1 Sat. June 2 Sh. 28th—
Dublin and District M C.C. Open Twentyfour Hours Reliability Trial.
Sat., June 26th—
M.C.C. Team Trial for "The Motor Cycle"
Men., July 5th, to Sat., July 10th—
Scottish Six Days Trial.

Section Six Despiration
Wed., July 7th—
Union Motocyclist de France et Automobile Club de l'Ouest, Grand Prix Race
for Motor Cycles and Cycle Cars.
Wed, and Thurs., July 7th and 8th
Arbuthno! Trophy Trial.

Thurs., July 15th—
Essex M.C. Joint Open Speed Trials,
Westeliff-on Sea.

Thurs., July 15th, and Fri., July 16th-Irish End-to-end Trial

Sat., July 17th — Cumberland County M.C.C. Open Re'ia-bility Trial.

Shity Trial.

Sat, July 24th—
Luton and South Beds. A.C. Open Trial
at Luton Hoo.

Sun., July 25th, to Aug. 1st International Six Days Trial in France. Suu., Aug. 1st, to Wed., Aug. 4th Auglo-Dutch Trial in Hollaud.

Sat. Aug. 7th— S.A.C.U. luter club Meet at Callander. Mon., Aug 23rd, to Sat., Aug. 28ta A.C.U. Six Days Trial,

Sat, Sept. 4th— Scottish Speed Champiouships at St. Andrews. Scott Trial in Yorkshire.

IUNE 10th, 1920.



British-made Magnetos.

The new British motor cycle records, recently set up for one to three hours by D. R. O'Donovan, and eight to twelve hours by F. A. McNab, were made with C.A.V. magnetos.

G.S.C. Autocyclette.

We understand that preparations are rapidly being completed for a limited production of the C.S.C. Autocyclette, which was described and illustrated in a recent issue of *The Motor Cycle*. An announcement regarding price and delivery will shortly be made.

Dukeries Motor Co.

A photograph was published in The Motor Cycle for May 20th of a 7-9 h.p. twin built by E. Chandler, of Mansfield. We understand that a very limited number will be built this year, but production on a large scale will not be undertaken at present. The engine is fitted into a special Campion frame.

Increases in Prices.

Abingdon Works, Ltd., Birmingham: Abingdon Works, Ltd., Birmingnam: Belt fastener now Is. 2d. plus postage.
Cedos increased to 70 guineas and 72 guineas for gentleman's and lady's machine respectively.
The price of G.N. cycle cars has been increased by 121.

increased by 12½ %

Wolf motor cycles are increased in price 5% as from June 1st.

Tiller Steering.

J. C. Coney, who competed in the London-Edinburgh on a 3½ h.p. Wilkin sc., rode the last 160 miles minus the left handle-bar. Notwithstanding, he checked in to time, and has been awarded a silver medal. Coney was a D.R. throughout the whole period of the war, and is now in charge of the motor cycle branch of Messrs. Best and Sons, Grimsby.

"Brooks Book of 1920."

An interesting little booklet bearing the above title has just come to hand. It is the thirty-fourth edition, and is nicely got up and well illustrated in colour. All got up and weil illustrated in colour. All types of Brooks saddles, toolbags, tube and belt cases, and other useful accessories are shown. A copy will be sent free on application to Messrs. J. B. Brooks, Criterion Works, Great Charles Street, Birmingham.

A.B.C. War Engines.

It has come to the notice of A.B.C. Motors (1920). Ltd., that in a number of cases their 250 c.c. and 500 c.c. engines, which were specially designed as power units for various Government purposes during the war, are now being used (second-hand) in built-up motor cycle frames and cycle car chassis. A.B.C. Motors, Ltd., ask us to state that it should be noted that no responsibility can be accepted for damage arising from the use of such engines.

A Rough Riders' Trial in France.

British Machines Win Most of the Prizes.

BRITISH machines were predominant in the recent trials in France by the Association des' Anciens Motocyclistes Militaires. The contest consisted of a reliability run over the Paris-Anxerre course, followed by a despatch riders' cross-country run. Out of thirty-nine starters, thirty-three survived these tests, and were thus eligible to compete in the "cold starting" and

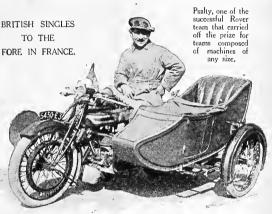
flexibility tests which took place on the

following day,
The A.B.C., Triumph, and Rover side car made the best all-round individual performances, while the Norton team won the President of the Republic prize for best team performance. A Blériot won the "starting" contest, taking only $4\frac{1}{5}$ s, with A.B.C. $4\frac{3}{5}$ s. The following table shows the best individual times:

Class,	Rider.	Starting in Secs.		Elexibility
350 c.c.	Delorme (Douglas)	- 91		30%
500 C.C.	Detruche (A.B.C.)	48		38
500 c.c.	Naas (A.B.C.)	42	٠.	401
750 c.c.	Davachelle (Triumph)	7		365
750 c.c.	Penney (Triumph)	123	٠.	311
500 C.C.	Slalty (Rover sc.)	51	٠.	4.5
750 C.C.	Delabre (Rover sc.)	6 !	٠,	42

Norton team: Barthelemy, Plateau, and Bastide.





TO COVER ALL RISKS.

Details of the Manner in which "The Motor Cycle" has provided a Comprehensive Scheme for Motor Cyclists.

In the early days of the motor cycle, difficulties were continually cropping I difficulties were continually cropping up in all directions. Not the least of these was the question of the motor cyclist's hability in the event of an accident involving damage to others, while the question of repairing damage to the machine itself was also an important one. Though the problem was great, if the use of a motor cycle was to become every man's pleasure, it had to be faced and solved. Most of the insurance companies were indifferent to the matter to the were indifferent to the matter to the extent that, under no circumstances; would they consider such risks; and some companies still maintain that position, their objection being due to the small amount of data upon which to base pre-

Although the first start off had of necessity to be a leap in the dark, the proprietors of *The Motor Cycle* were determined to make insurance readily obtainable at reasonable rates, and with obtainable at reasonable rates, and with that object The Motor Cycle Insurance Department was created. In its early beginnings it was the connecting link between its readers and reputable insurance offices willing to accept the risks. A later development, prompted very largely by a desire to obtain unlimited third party cover (which was not up to then

viewed with favour by some of the biggest companies), was that we were able to get a Lloyds Syndicate to issue a policy—the wording of which was suggested by ourselyes—granting what we considered was absolutely essential in cover at as low a rate as possible consistent with the undoubtedly serious risks. Not the least of the special advantages of this particular policy was that the whole administration was completely vested in our own Insurwas completely vested in our own insur-ance Department, so that any reader finding it necessary to make a claim was sure of impartial investigation. The Motor Cycle policy fully justified itself, but another development arose. The particular underwriters at Lloyds who had underwritten the risks advised us that after December 31st last year, they would cease underwriting any motor risks. It was clear that we could not stop the special protection hitherto accorded our readers, so consequently we were compelled either to secure other underwriters or form a company of our own, and carry

To Make Security Doubly Sure.

On reflection, there appeared to be no security against a recurrence of the same position if we adopted the former alternative, so, in order to make security

doubly secure, The Autocar Fire and Accident Insurance Co., Ltd., was formed. This company was created on the 31st December, 1919, with an authorised capital of £500,000 and a subscribed capital of £50,000, which, we think, will be readily agreed gives ample security to policy holders.

In addition to issuing The Motor Cycle special policy, the company also issues the special policy authorised by The Autocar, the new company having also absorbed The Autocar Insurance Department. The organisation is similar to that which existed in connection with the two Insurance Departments just mentioned, Insurance Departments just mentioned, and, in addition to having its head offices at 20, Tudor Street, London, E.C., branches have been opened in Glasgow, Newcastle, Leeds, Manchester, Birmingham, and Cardiff.

The necessity for insurance is well appreciated, and those desiring to cover risks by insurance with an office that is almost essentially a motorist's organisaamost essentially a motorist's organisa-tion (thereby ensuring that the motor cyclist's viewpoint has sympathetic con-sideration), will do well to apply to The Autocar Fire and Accident Insurance Co., Ltd., 20, Tudor Street, London, E.C.4, for the complete and comprehen sive particulars which will be forwarded.



A Review of the Practising. Weather Conditions not Ideal for High Speeds. Form Improving Day by Day. Excellent Organisation.

THE JUNIOR T.T. RACE IN A NUTSHELL.

DATE AND TIME OF START: 9.30 a.m., Tuesday, June 15th, 1920.

DISTANCE: Five circuits of 37 miles 6 furlongs each. Total distance, 188 miles 6 furlongs. FIRST PRIZE: The Junior T.T. Trophy, to be held for one year. £40 in cash and special gold medal.

SECOND PRIZE: £20 in cash.

THIRD PRIZE: £10 in cash.

"THE MOTOR CYCLE" TROPHY for the fastest 250 c.c. machine.

TEAM PRIZE: To be won by a nominated team, who must all finish the course within thirty minutes of the winner.

PRELIMINARY EXAMINATION: Monday, June 14th, at 10 a.m.

PREVIOUS WINNERS.

Eric Williams, single-cylinder A.J.S. (74 × 81 mm. = 318 c.c.)

1913 H. Mason, V twin N.U.T. (60 \times 61 mm. = 344 c.c.) . .

W. H. Bashall, flat twin Douglas (60.7 × 60 mm. = 350 c.c.) . . 39-6

1911 .. P. J. Evans, V twin Humber (60 × 60 mm. = 340 c.c.) 41.5

Douglas, I.O.M.

GOOD deal of work has been accomplished by the competitors over the Isle of Man course, and most, if not all of them, have now completed the minimum number of circuits to qualify for

the races. The arrangements, organised by the Auto Cycle Union for the regulation and control of the daily practising, are excellent, with corresponding benefit to the competitors. The daily programme, from 4.30 a.m. to 6.30 a.m., has been carried

ont successfully. In addition to the arrangements made for telephonic communication between the various post offices on the course, and the start at Douglas, special telephones have been installed at the Ballacraine and Creg-na-Baa Hotels, so that with the help of marshals, and a system of signalling, almost any part of the course can be in close touch with the officials and timekeepers at Douglas.

Warning banners are erected at a dis-tance of 300 yards on the following corners : Quarter Bridge, Braddon Bridge, corners: Quarter Bridge, Braddon Bridge, Ballacraine, Glen Helen, Kirk Michael, Sulby Bridge, Hairpin Corner, Windy Corner, Keppel Gate, Creg-na-Baa Sign-post Corner, and Governor's Bridge, and extra warning signs have been displayed at Sulhy Bridge and Governor's Bridge, both of which spots on the course require

more than ordinary care.

The Manx M.C.C. are giving a good deal of help to the A.C.U., a dozen members acting as marshals on the course each morning. The worst corners are each morning. The worst corners are also patrolled by the police, and it may be mentioned incidentally that all the marshals conducting the practising have been sworn in as special constables, and wear the official sleeve band as such when

on duty from 4.30 a.m. to 6.30 a.m. on practice days.

The Most Dangerous Spot.

It is probable that most of the competitors will consider Keppel Gate to be the most dangerous spot on the course, although unusual weather conditions may make other parts on the circuit as bad, if not worse, to negotiate in the actual races next week.

The trouble with Kennel Cate is that.

The trouble with Keppel Gate is that a competitor, travelling at great speed down the mountain road to Hillberry, may misjudge his speed for the conditions and bend of the course at this spot, and easily bend of the course at this spot, and easily come off, while at other places a rider knows that he has to slow down, and, therefore, takes the necessary precautions. On one or two mornings the mist on the mountain road has given trouble to the mountain road has given trouble to the men, and in the earlier part of the



If the facilities for embarking and disembarking of motor cycles were as good at Douglas as they are at Liverpool, more motor cyclists would take their machines to the Isle of Man. Major Dixon-Spain, O.B.E., M.C., assistant secretary of the A.C.U., is seen in the Brough sidecar of S. W. Phillipott, A.C.U. Consul for Liverpool. We are indebted to Messrs. J. Blake and Co., Liverpool, for the photograph.

and of the ruts and bumps at various stretches.

Notes on the Practising.

As recorded in last week's issue, official practising commenced on Monday, the 31st ult., when the weather was had over the Snaefell stretch, but good times were made by D. M. Brown (Norton), G. Dance (Sunbeam), and others. The A.C.U. announces that no official times of the practising will be published, but speeds are taken each morning by The Motor Cycle. and may be taken as accurate for all intents and jurposes. The second day's practice was, to some

extent, marred by the accident which be-

fell T. H. Haddock, riding an overhead valve A.J.S. In passing Keppel Gate at speed, he ran into a gulley at the side of the road, and was thrown from his machine a distance of sixteen yards, according to the local report, and landed on his head. The marshal near the scene of the accident communicated with the starting point, and the official doctor and local ambulance reached Haddock in good time, after which he was taken to hospital. The rider suffered rather bad injuries to the head, but a good recovery is expected.

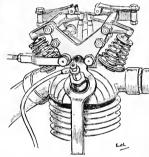
Two other mishaps occurred during the practice riding, Graham Walker (Norton)

hitting a stray sheep on the Snaefell Road, and sustaining face bruises and scrapes, but continuing on to the finish in spite of his injuries; and G. Cowley, senr. (23 A.J.S.), who is fifty-four years of age, skidded at Governor's Bridge, but was able to resume practising after a day's rest.

Value of the T.T. Helmet.

The strict enforcement of the A.C.U.'s regulations in regard to helmets is to be recommended, and T. H. Haddock's life was undoubtedly saved by the helmet he was wearing at the time.

Weather conditions, especially in the high parts of the course, were bad, the mist on the mountains making practising difficult. The fastest time was accomplished by H. R. Davies (2³/₄ A.J.S.), his



The A.J.S. overhead valve arrangement

circuit being made in 47 mins. 40 secs., his speed being 47.4 m.p.h. This is an exceptionally good performance and augurs well for the A.J.S. chances. The Sunbeam, Norton, A.J.S., and Indian teams completed a number of laps, and the A.B.C. and Ivy machines put in some work also.

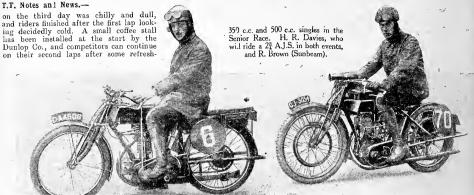
In view of Summer Time being in force, practising occurs one hour earlier than in the last T.T., hence the morning mists are often more prevalent in the mountains during practising. The weather



THE STARTING POINT OF THE T.T. RACES.

At this spot next week expectation will reach fever heat. Even during the early morning practising there are speculation and discussion among the interested onlookers who study the "form" of the riders.

T.T. Notes and News .-



Another accident occurred just before the commencement of practice, in before the commencement of practice, in which two men were injured. In proceeding to the start, N. C. Heath (A.J.S.) collided with one of the marshals, riding a private machine, both men having to go to hospital. Their injuries, although aggravating, are not likely to be serious.

The Sunbeam, Indian, Norton, and A.I.S. they wave injury to a property of the sunbeam.

A.J.S. teams were again out, and a number of laps were completed by them, as well as the A.B.C. and Levis machines. Twenty-three competitors completed the

course, eight of which accomplished two laps during the morning. Of the fast circuits made, D. Brown (Norton) made fastest time in 45 mins. 52 secs.; G. Dance (Sunbeam), 46 mins.; T. C. de la Hay (Sunbeam), 49 mins. 1 sec.; and R. Brown (Sunbeam), 50 mins. 30 secs.

One of the features of this morning's practice was the excellent performance of the Levis, ridden by Gus Kuhn, who made the circuit in 55 mins. 50 secs. This made the circuit in 56 mins, 50 secs. baby machine exhibited a wonderful amount of speed and vigour.

Several complaints were made by Sunbeam and other riders in regard to sheep on the mountain road, and the A.C.U. set to work to eliminate the evil.



THE MOTOR CYCLE LIGHTWEIGHT T.T. TROPHY.

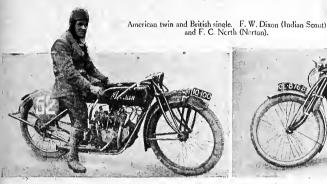
To encourage the development of light-weight motor cycles, The Motor Cycle has presented the above cup for machines of 250 c.c. in the Junior T.T. Race on Tuesday, the 15th inst. The trophy, which is to be won outright, weighs 75 ozs., and is 13in. in height.

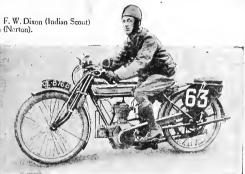
The Diamond, Blackburne, New Comet Duzmo, Dot-Jap, and the Senior T.T. Douglas machines had not made their appearance by the end of last week, and, taking into account the possibility of bad luck while practising, none too much time was left to make sure of the minimum number of official laps being made before the end of practising.

It took some time for the competitors to get accustomed to Governor's Bridgeseveral of them over-ran this corner on the earlier days of the practising. On the other hand, some good cornering was done by others.



The early morning practising attracts spectators at many points where the "cornering" skill of the T.T. entrants is demonstrated. One favourite point of vantage is the spot depicted, showing one of the hairpin bends on the steep down grade leading from the Snaefell road into Glencrutchery road.





Despite his fall on the Tuesday, Walker (Norton) was out again on Wednesday, on which day Kuhn (Levis) took a toss at the Bungalow, without, however, injury to himself or his machine.

Thursday morning's practice was aided considerably by fine weather, with sunshine and practically no mist, which enabled the competitors to get away quickly and make brisk riding. The on-lookers at this early time were more numerous than on previous mornings, and the crowd increases daily.

With the exception of one rider, the Sunbeam team completed the six circuits required by the A.C.U. regulations by the fourth day of practice, which is testi-



FLYING KILOMETRE RACES AT DOUGLAS.

The Motor Cycle rose bowl offered by the proprietors of this journal for the fastest time made in the Flying Kilometre Race on Douglas Promenade on Friday, the 18th inst.

mony to the enthusiasm of the Sunbeam men and the efficiency of the practising arrangements under Mr. Greenwood, the Sunbeams are very smart on the course. The A.J.S. team did not turn out on the fourth day, their record to that date being good and permitting a day's rest. J. W. Shaw (Norton), the Belfast rider,

made fastest time in the Thursday morning's practice, his average speed being 48.5 m.p.h., while Clark (Levis) made an excellent lap at 41 m.p.h., a creditable performance, since it was only his third attempt.

In the first four days' practising the A.J.S., Sunbeam, and Norton machines have been the most conspicuous in regard to speed, but there were still other machines that had not appeared on the course. The whole of the Nortons had not then commenced practising.

On Friday last at an average speed of 51 m.p.h. Rice (Sunbeam) made a record practice lap of the course in 44m. 28s., thus heating D. Brown's (Norton) record on the previous Tuesday by approximately a minute. The fastest lap in the last Senior T.T. was 42m. 16s. The Norton ridden by J. W. Shaw also averaged 50.5 m.p.h., his time being 45m. 3s., while G. Dance (Sunbeam) rode a circuit in a little over 46m.

The strong wind on this morning made the riding slow on the far side of the Island, although a correspondingly faster pace was made on the mountain climb from Ramsey. The weather being fine, however, a number of men took the opportunity of making double laps for qualifying.

The New Section.

O. Wade (A.J.S.) skidded at Governor's Bridge and suffered a cut face, and several men had tyre trouble on this day.

Governor's Bridge is proving to be the most difficult part of the course for a number of competitors to negotiate. The Sunbeams are, however, cornering well at this point.

Saturday morning was perfect for practising, with no wind, and a con-

siderable number of competitors and reserve riders started at 4.50 a.m., led away, as usual, by the veteran F. W. Applebee on his Levis. Three Diamonds appeared for practice work, one of which has a very neat overhead valve twin J.A.P. engine with ball bearing rockers.



W. Applebee, it is noted, uses upturned handle-bars on the Levis, but put up excellent performances.



A STUDY IN CORNERING. A scene taken soon after dawn. The light during the early practising is not all that the photographer can desire.

T.T. Notes and News .-

A third A.B.C. machine now made its

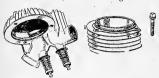
appearance in practice.

The majority of men who had practised The majority of men who had practised during the week were by this time thoroughly used to the course. The practice on the morning went through without any accident to riders, although a non-competitor with the Indian colony here injured his face in a fall on

the Scby-Ramsey stretch.

The Clincher Co. are supplying Oxo to riders at the start and finish.

A number of competitors, having qualified for the race, were able to go around

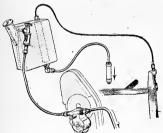


T.T. Sunbeams have detachable cylinder heads held down by three bolts; the joint is made by a copper asbestos washer,

the course at a more leisurely pace in order to make a survey of the more troublesome stretches.

Forty-seven machines were out again on Monday morning, including a number of newcomers to the Island, which were of newcomers to the Island, which were sturting their practising a week behind the majority. These latter included the Blackburnes, 3½ h.p. Douglas, Woolers, Dot-Jap, New Comet, Aurora, and Duzmo, and so completed the lists of those entered in both events.

The roads were extremely dusty, but fortunately the weather was fine with no wind. Rice (Sunbeam) made fastest time



The Sunbeam lubrication system. A footoperated oil pump gives a direct charge to the engine when required, while a mechanical pump on the magneto chain case maintains a constant supply of oil in the crank case.

in approximately 44½m. on his second lap. This rider collided with a telegraph pole about a mile from Ramsey Gooseneck on the mountain climb, and was thrown some distance on to grass at the side of the road. He was picked up dazed by another Sunbeam competitor, but was not

another Sunbeam compensor, our was assertiously injured.

Eric Williams on his Sunbeam made two laps at 45m. and 45m. respectively, and Townshend and De la Hay, also on Sunbeams, lapped in 47m. and 46m. respectively. Norman Black on a belting of the specific of the spec driven Norton with Philipson pulley made the trip in 48m., while D. Brown and

NEXT WEEK!

MOTOR (YCLE

T.T. and Summer Number

THURSDAY, JUNE 17th.

From cover to cover the contents will be of more than ordinary interest to every motor cyclist, whether soloist, sidecarist, tourist, competition rider, or racer.

TOURIST TROPHY MATTERS will form a special feature.

Walker, also on Nortons, finished in 47½m. each. Misfortune overtook Dallison (Ivy), whose machine caught fire between Sulby and Ramsey. He was reported to be uninjured, but his machine is badly damaged. Most of the new machines commencing practice on Monday morning were slow; this was natural, as it was the riders' first time round, but Holroyd (Blackburne) lapped in 57m.

A Week's Practising. Some of the Lap Times.

Lap Times.

MONDAY.—C. Dance (Sunbam), 49m.; R. Brown (Norton), 54m.; E. S. Abnam (A.B.C.), Norton), 54m.; E. S. Abnam (A.B.C.), Norton), 47m.; V. E. Horsman (Norton), 47m.; V. E. Horsman (Norton), 47m.; C. Horsman (Norton), 47m.; C. W. Walker (Norton), 58m.; D. S. Alexander (Indian Scott), 55m.

TUFSDAY.—N. C. Heath (A.J.S.), 61m. 38s.; T. H. Haddock (A.J.S.), 67m. 8s.; E. Williams (A.J.S.), 58m. 15s.; P. G. Dallison (Hy), 52m. (A.J.S.), 58m. 15s.; P. G. Dallison (Hy), 52m. Davies (A.J.S.), 54m. 49s.; F. C. Townshead (Sunbasm), 52m. 23s.; R. Brown (Sunbasm), 55m. 20s.; T. C. de la Hay (Sunbasm), 65m. 65s.; C. Dance (Sunbasm), 35m. 17s.; H. R. Rice (Sunbasm), 55m. 20s.; T. C. de la Hay (Sunbasm), 56m. 50s.; S. J. Redmond (Indian), 63m.; G. W. Walker (Norton), 58m. 50s.; B. Houlding (Indian), 55m. 45s.; A. H. Alexander (Indian), 74m. 35s.; S. J. Redmond (Indian), 87m. 37s.; (Indian), 87m. 45s.; E. S. Abram (A.B.C.), 70m. 40s.

70m. 498,
WEDNESDAY.—T. Sheard (A.J.S.), 49m. 55s.;
H. R. Davies (A.J.S.), 49m. 47s.; F. W. Applebee
(Levis), 82m. 55s.; Gus Kuhn (Levis), 56m. 50s.;
A. E. Wills (Douglas), 75m. 55s.; D. M. Brown
(Norton), 45m. 32s.; V. Olsson (Norton), 50m. 5s.;
N. C. Sclater (Norton), 50m. 5s.; G. W. Walker

(Norton), 55m. 55s.; N. Black (Norton), 64m. 55s.; G. Dance (Sunbeam), 46m.; H. R. Rice (Sunbeam), 75s.; G. Dance (Sunbeam), 45m.; T. G. de 1 Hay (Sunbeam), 75m. 15.; Heg. Bown (Sunbeam), 55m. 50s.; F. W. Dixon (Indian), 61m. 15s.; F. W. Dixon (Indian), 52m. 27s.

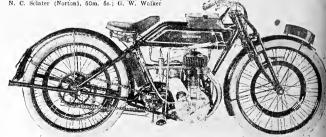


The tank arrangement of the 21 h.p.T.T. Levis, showing the handle-bar controlled pump and tool-box with cushion on lid.

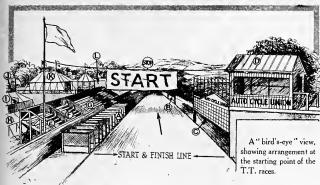
THURSDAY.—T. Sheard (A.J.S.), 54m. 30s.; R. O. Clark (Levis), 55m. 20s.; P. G. Dallison (Ity), 67m. 30s.; Gs. Kuhn (Levis), 65m. 40s.; P. W. Dallison (Ity), 67m. 50s.; Cs. Kuhn (Levis), 65m. 20s. F. W. Dallison (A.S.), 75m. 20s.; P. W. Dallison (A.S.), 75m. 20s.; Gs. F. C. North (Norton), 46m. 40s.; J. W. Shaw (Norton), 46m. 40s.; F. C. North (Norton), 55m. 15s.; N. Black (Norton), 59m. 30s.; V. E. Horsman (Norton), 52m. 22s.; G. W. Walker (Norton), 55m. 15s.; H.R. Rice (Sunbeam), 45m. 57m. 47s.; H.R. Rice (Sunbeam), 45m. 57s.; H.R. Rice (Sunbeam), 59m. 45s.; H.R. Rice (Sunbeam), 59m. 55s.; F. W. Dikon (Indian), 59m. 55s.; F.



FRIDAY.—H. F. Harris (A.J.S.), 52m. 15s.; O. Wade (A.J.S.), 71m. 4s.; F. W. Applehee (Levis) 88m. 40s.; R. O. Clark (Levis), 104m. 39s.; Gus Kuhn (Levis), 81m. 42s.; F. G. Dallison (1ry), 61m. 55s.; A. E. Wills (Douglas), 61m. 25s.; A. Marks (Douglas), 67m. 7s.; Erren (Dot), 67m. 15c.; H. R. Bice (Sunbeam).



The new 32 Sunbeam in the T.T. Mechanical oiling off the timing shaft and a detachable cylinder head are its chief features.



- A. Tbirty-two replenishment
 B. Auxiliary board. (depots,
 C. Scoring board,
 D. Timekeeper's box.
- chment E. Governors' stand. [depots, F. Press stand. G. Grandstand. H. Official refresbments.
- Storage tent.
 Members'motor cycle enclosure.
 Replenishment tent.
 Public enclosure, 2s. 6d.

44m. 28s.; G. Dalle (Sunbeam). 46m. 15s.; T. C. de la Hay (Sunbeam). 68m. 28s.; Eric Williams (Sunbeam). 68m. 28s.; Eric Williams (Sunbeam). 68m. 48s.; J. W. Shaw (Norton). 45m. 3s.; D. M. Brown (Norton). 46m. 10s.; V. Horsman (Norton). 47m. 45s.; N. G. 25m. 48s.; N. C. 53m. 48s.; C. W. Walker, World Brown (Norton). 53m. 44s.; C. W. Walker, World Brown (Norton). F. C. North (Norton). 62m. 48s.

F. C. North (Norton), 82m. 49s.

SATURDAY.—Shaw (Norton), 46m. 5s.; Sclater (Norton), 49m.; F. W. Applebee (Levis), 56m. 5s.; T. Simister (Norton), 54m.; E. S. Abram (A.B.C.), 55m. 5s.; F. W. Dixon (Indian), 55m.; R. O. Clark (Levis), 57m.; A. E. W. Is (Douglas), 55m. 5s.; G. W. Walker (Norton), 55m.; G. Dance (Sunbasm), 55m. 5s.; B. Houlding (Indian Scott), 55m. 5s.; B. Houlding (Indian Scott), 51m.; S. A. Marks (Sunbasm), 56m. (Sunbasm), 55m. (Sunbasm), 55m. (Sunbasm), 55m.; B. Houlding (Indian Scott), 51m.; S. A. Marks (Sunbasm), 55m.; B. Houlding (Indian Scott), 54m. 38s.; H. Petty (Norton), 57m.

MONDAY.—J. S. Helroyd (Blackburne), 57m.; H. R. Rice (Sunbeam), 44m. 30s.; E. Williams (Sunbeam), 45m.; T. C. de la Hay (Sunbeam), 45m.; F. C. Townshend (Sunbeam), 47m.; N. Black (Norton), 45m.; D. M. Brown (Norton), 47m. 50s.; G. W. Walker (Norton), 47m. 30s.; E. S. Abram (A.B.C.), 50m.

At the time of going to press those unfortunates who were injured in last week's practising were reported to be making good progress. These include T. H. Haddock and H. C. Heath, A.J.S. riders, and R. Cowell, of the Manx M.C.C., one of the special constable marshals.

The Club Championship.

UP to the time of going to press the following clubs had entered teams for the M.C.C. Team Trials for The Motor Cycle Challenge Cup on the 26th.

M. C.C.
Blaenavon M.C.C.
Coventry and Warwickshire M.C.
Oxford M.C.
Coventry and Warwickshire M.C.
Oxford M.C.
And L.C.C.
Pablic Schools M.C.C.
Liverpool M.C.
Surbiton and District M.C.C.
Bedford and District M.C.C.
Bedford and District M.C.C.
Leicester and District M.C.C.
Leicester and District M.C.C.
Wolverhampton M.C.C.
Wille M.C.C.
Wille M.C.C.
William W.C.C.
Sheffield and Hallamshire M.C.C.
Sheffield and Hallamshire M.C.C.
South Birmingham M.C. Strict M.C.
Waspes M.C.C. (Cambridge).

The Coventry Club—the present holders of the Cup—have entered the same riders who were successful last year.

Entries close to-day.



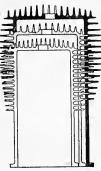
The T.T. course—37 miles 6 furlongs. Junior: Five circuits. Senior: Six circuits.

The Manville Trophy Trial.

THIRTY-SEVEN riders competed for the Manville Trophy in a trial from Coventry to Bath and back last Saturday. It was a stiff trial, in every way worthy of the valuable trophy, and included Birdlip (climbed twice), Portway, Rising Sun, Sudeley, and the rough colonial section from the top of the last wationed hill to Stewowthen Wold

mentioned hill to Stow-on-the-Wold. Some of the single-cylinder sidecars had great difficulty in maintaining schedule speed over-this section where, in places, sidecar chassis scraped the ground.

sidecar chassis scraped the ground. Rising Sun proved to be the pièce de résistance. The majority climbed the hill without undue effort, others just managed it, while the folloving failed: J. M. Philpot [23] Wilkin], G. F. Evans (23] Douglas), E. Swindlehurst (3½ Lea-Francis), A. L. Auerhaan (4 Triumph), E. A. Barnett (3½ Invicta), H. F. Harrison (4 Triumph sc.), and S. Wright (4½ Humber sc.)



THE THREE SIZES OF T.T. ENGINES.

The cylinders of 250 c.c., 350 c.c., and 500 c.c. compared, which illustrates that capacity increases in greater proportion than do the external dimensions

The 1914 Junior T.T.

Winner.—Eric Williams riding a single-cylinder four-stroke A.J.S., 74 mm. bore, 81 mm. stroke. 548 c.c. capacity. Side-by-side valves. Four speeds. Gear ratios $4\frac{3}{4}$, $5\frac{4}{4}$, $6\frac{3}{4}$, and $7\frac{1}{2}$ to 1. Time 4h, 6m. 50s.

Average Speed of First Three Finishers.—
(1.) Eric Williams (A.J.S.), 45.6 m.p.h.
(2.) C. Williams (A.J.S.), 44.7 m.p.h.
(3.) F. J. Walker (Enfield), 43.3 m.p.h.

Lap Times.

Fastest Lap of the Race.—Eric Williams, second lap. Time 47m. 18s. Average speed, 47.57 m.p.h.

Fastest V Twin.—F. J. Walker (Enfield), 47m. 35s. Average speed, 47.36 m.p.h. Fastest Flat Twin.—G. E. Elwell (23 Douglas), 50m. 13s. Average speed, 44.78 m.p.h.

Fastest Two-stroke.—N. O. Soresby (234 Peco), 58m. 55s. Average speed, 38.4 m.p.h.

Birdlip also proved troublesome to a few, while H. F. Harrison (4 Triumph sc.) took the top bend so fast that he struck the wall with damage to his sidecar body.

Bad luck pursued Swindlehurst, who broke a chain five miles from the finish.

Eficit (5-6 Rover).

CLASS II. (SIDECAR COMBINATIONS).—F. L. Allen (5-6 Rover sc.), H. A. Smith (4 Triumph sc.), T. R. (Sihhons (8 Acme sc.), H. Finch (4 Triumph sc.), D. A. Atkin (8 Acme sc.), J. W. Ravenhall (5-6 Rover sc.), C. R. Little (4 Triumph sc.), H. F. Harrison (4 Triumph sc.), W. J. Montgomery (5-6 Rover sc.), F. Arbuckle (4½, Bundber sc.), D. S. Heatter (4½, B.S.A.Sc.), A. T. S. Harley, D. S. Heatter (4½, B.S.A.Sc.), F. H. Brown (8 Rex sc.), and S. Wright (4½, Humber sc.),

CLASS III. (CARS).-W. Montgomery (25 Crossley), J. W. F. Crouch (8 Crouch), and Miss V. Hathaway (11.9 Hillman).

Mountaineering in Yorkshire.

The Ilkley L.C. and M.C.C. Open Trial. Of 117 Starters, Twenty-six Fail to Complete the Course.

NORTH country motor cyclists are mostly sporting riders by nature and environment. They are forced by circumstances to take the rough with the smooth, but in the route laid out by the Ilkley club there was enough of the "rough" to satisfy the most ardent spirits.

Six observed hills and as many more nearly as severe, mile after mile of moor roads amidst beautiful scenery, and withal excellent organisation, were the outstanding features of the most sporting trial we have yet witnessed. Had last Saturday been wet—but it was not, so why solilouise?

The Course.

On leaving the Crescent Hotel at Ilkley, competitors were led to a weighbridge in the town. Immediately afterwards began a long twisty climb, unobserved, but quite as severe as most observed hills in Midland and Southern trials. This was followed by a section of road so rough as to inspire some dread as to the future.

road so rough as to inspire some access as to the future.

A steep drop into Stockbridge, with a fearsome hairpin, led to the valley again, and there followed the first observed hill. Thwaites Brow, a cobbled ascent of single-figure gradient, including five hairpins. Three and a half miles further on came Harden Bank, a short, steep hill with a nasty turn at the bottom and an appalling surface of rocky outcorp. Then followed an up and down section, having a few steep hills and one short but hair-raising descent, and then from Sutton a fine main road to Skipton.



After this town the road led over Eastby Brow, with its two corners but good surface, then down Barden Scale, where the first beautiful view of Wharfedale is obtained. The road to Kettlevell was comparatively simple, but a check was located in this section at Threshfield.

A sharp climb with the inevitable hairpin leads out of Kettlewell, and after a short grassy road the dreaded Park Rash looms suddenly on the right. As usual the climb was very loose and stony, and this, combined with the I in 4 gradient, caused many failures. After the observed climb, grassy roads continue up hill, and culminate in a rough bit of I in 4½. Thereafter a winding route led finally to Kidstones Pass, which, although observed in the 1913 Six Days Trials, was not considered worthy of the honour by the Ilkley club. Instead, a sharp right tun led up "The Stake," a fearsome hill consisting of grass and loose rocks, and having one or two soft patches to entrap the rear wheels of sidecar outfits. A long and tricky descent to Semmer Water was followed by an equally long and very steep climb up the other side of the valley, the top hairpin being particularly steep, thence to Hawes and a welcome lunch stop.

White Shaw Moss Again.

After lunch came a trip through some wild and beautiful scenery, including, of course, fearful ascents and descents, to Dent; thence, up the long severe White Shaw Moss, a hill which caused a strike in the 1913 Six Days Trial, but was responsible for comparatively little trouble in spite of identical conditions on Saturday last.

The corresponding descent included a sudden S bend on a grass road with nothing on one side to save a sheer drop, but all went well till after Clapham, where a sharp left turn led through two short but greasy tunnels. Then came a long stretch over Swarth Moor, through Langcliffe, and over Malham Moor, the surface gradually deteriorating till it proved more trying to man than machine. Then once more on to good roads to the heautiful village of Burnsall for tea.

Immediately after leaving the tea stop, an acceleration test was taken on Burnsall Fell, a fair gradient of excellent surface. Despite the gruelling of the day, most of the machines showed up well



Sidecars had the greatest difficulty on the loose surface of Park Rash. The picture shows enthusiastic spectators rushing to prevent C. W. Hartwell's 4 h.p. Norton outfit running backwards.



W. H. Hadfield (4 Triumph) climbing Kidstones Pass, which immediately preceded The Stake.

here, especially as they were confined to one gear for the fast and slow sections. The main road was followed down Wharfedale, Barden Tower and Bolton Abbey being passed, and a detour made over the moors to Beacon Hill at Beams-lev. This section was not difficult, although it involved steep gradients and a long descent, at the foot of which was Ilkley, the finish, and sighs of relief!

Observations on the Hills.

Thwaites Brow.—This hill was the easiest of the observed climbs and caused little trouble, despite its five hairpins and surface of smooth paré.

HARDEN BANK.—Troubles on this hill were entirely due to riders' inability to

steer on the rocky surface.

PARK RASH.—Rough surface, lose stones, and gradient caused falls and failures. The star solo climb was made by Capt. C. P. Wood (53 Scott), who shot up at speed, while the best sidecar was H. Pattinson's 8 New Imperial sc. R. Stacey (7-9 Harley sc.) made a splendid ascent, and F. D. Roper (7-9 Indian sc.) did well by jockeying. Excellent slow and steady climbs were made by W. L. Guy (33 Scott), P. Walker (4 Verus), A. Wood (52 B.S.A.), R. E. Darnton (7-9 Indian), and G. A. Reed (53 Scott).

The Stake.—This short single figure gradient, with great boulders over the road caused some trouble. H. M. Barton

THE STAKE.—This short single figure gradient, with great boulders over the road, caused some trouble; H. M. Barton (3½ N.U.T.) made a splendid climb, but H. Reynolds (4 Norton sc.), who had plenty of power, failed from wheel spin; H. Gluy (2¾ Coulson-B.) did well, and Cawthorn (2¾ Autoglider) was going strong and seemed adept at jumping off and "galloping" (no other word), when his little vehicle bounced him off on the rough surface.

rough surface.

SEMMER WATER.—A steep hill with a 1 in 5 hairpin. Only one or two failures were noticed, these being C. Marshall (24 Enfield), who obviously was underpowered, and F. Trueman (4 Campion), who missed his resu

who missed his gear.
White Shaw Moss.—Most solo men
got up by dint of footing to correct skids
on the stones. Despite the three miles'

ascent, with sections of 1 in 5½ and 1 in 5, little overheating was noticed. The sidecars suffered from wheel slip, but H. Reed (8 Dot sc.) made a splendid climb with his passenger on the carrier. H. Gibson (2½ Clyno), who had been doing wonders, got up with much foot assistance; the Scotts for the most part were sure, and the Triumphs did wonderfully well. The A.B.C. machines were troubled with wheel slip, but Applebee was very good. W. F. Waddington on an old hub-geared o.h.v. 5½ h.p. Precision made a good climb on his second attempt. A. B. Chapman (5 Brough) made a very slow climb, and just got up. Acceleration Testr.—The best speeds

ACCELERATION TEST.—The best speeds over the fast stretch were made by J. C. Standford (6 Rover), W. Atkinson (4½ Bat), F. C. Waites (4 Triumph), E. Porter (3 A.B.C.), G. W. Shepherd (31 Norton), J. Baker (32 Scott), and R. T. Cawthorn (Autoglider).



R. F. Craven (3½ Sunbeam) passing A. B. Green (3 A.B.C.) on White Shaw Moss.

As usual *The Motor Cycle* observed every section of the trial. One representative covered the whole course, riding with the competitors, while another made observations of most of the performances on four of the six observed hills.



R. T. Cawthorn (23 Autoglider), who finished the course to time despite tyre trouble. The execrable surfaces bounced him off his machine repeatedly, but he persevered to the end.

Amateur Motor Cyclists in Competition.

Surbiton M.C.C. Team Trial in Surrey. Fourteen Clubs Compete,

THERE were eighty-four entries for the challenge shield presented to the Surbiton and District M.C.C. by Mr. Geo. Pettyt, of Mandes' Motor Mart. Fourteen clubs sent six representatives each, three riding solo and three sidecar outfits. All the clubs turned up complete except the Public Schools M.C.C., which arrived with two members short.

The start was made in fine but cold weather from the Talbot Hotel, Ripley, and an excellent and sporting course was and an exceeded and sporting course were followed. This consisted, to a large extent, of that employed in the 1913 A.C.U. One Day Trial The competitors went direct to Guildford, where they doubled back on their tracks, made a short détour, and ascended Bright Street in the town, which, taking many by surprise, caused several failures on the first round. H. E. Symons (5-6 Zenith) failed through belt slip, A. S. Brereton (7-9 Harley-Davidson) owing to a stuck up inlet valve, and W. Lewis (4 F.N.) and Wright on the Henderson sc. among others. The Clandon Road was followed to the turn-

Claidon Road, was followed ing to Newland's Corner, We saw practically all the starters ascend this famous, though comparatively easy, hill without a falter. Descending from Newland's Corner, Surrey's own particular heauty spot, the run was easy as far as the entrance to Shere, where the route bent back so as to include the ascent of Coombe Bottom-another old favourite. Its only difficulty is the corner at the top, the surface of which is now very rough. Here, J. H. Jeffree (5 Zenith) took the corner too fast and fell off. H. Lane (24 Levis) did likewise and ran up the bank, but cleverly recovered himself and did not tumble.

Parts of the descent were very rough, and at the bottom a sharp turn to the right was taken up a steepish hill, known as Crocknorth, on which the surface was The surface then became very bad. better and an easy run then ensued over



Surbiton and District M.C.C. Inter-club Team Trial. A. S. Brereton (Harley-Davidson) making light of Coombe Bottom.

Ranworth Common on to the Burford Bridge road. After this came the ascent of Blagdon Hill. Here, Brereton met three steam lorries he was unable to pass and ran back on to the bank. Other competitors were also impeded by this unpleasant traffic stop. The rest of the course back to Ripley was easy.

Each lap, which measured about thirtythree miles, had to be covered three times non-stop.

The winners were the organisers, the Surbiton M.C.C., who beat the Woolwich Club by a small margin.

Sottom.

1.—SURBITON AND DISTRICT M.C.C.

Total
Error. 41m. 48 57m. 43S. 3.—THE SUTTON COLDFIELD AND N. BIRMINGHAM

F. Watson (6-7 Ariel sc) ,

Other clube competing were the Gipsy Club, the Plymouth District M.C. and L.C.C., the Public Schools M.C.C., the Bedford and District M.C. and L.C.C., the Rochester, Chatham and District M.C.C., the Purley and District M.C.C., the Purley and District M.C.C., the Reading M.C.C., the City Guilds (Eng.) College M.C.C., the Ealing and District M.C.C., and the Streatham and District M.C.C., and the Streatham and District M.C.C.

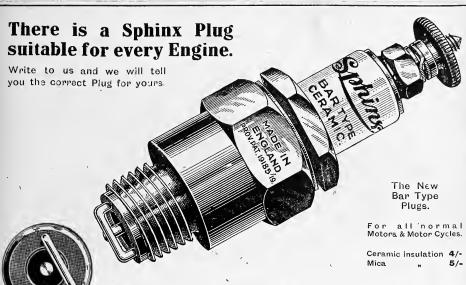
The Motor Cycle as a Police Aid. The notorious Percy Toplis was located by a policeman in plain clothes, who used a motor cycle to follow his man.

Johannesburg-Durban. A cable informs us that the above race was won by Zurcher on a 34 h.p. spring frame Douglas. Flook, last year's winner, took second place on a 23 h.p. of the same make.

The Inter-'Varsity Hill-climb. A proposed Oxford and Cambridge hill-climb, which was to have been held on Kop Hill on the 6th, was postponed.

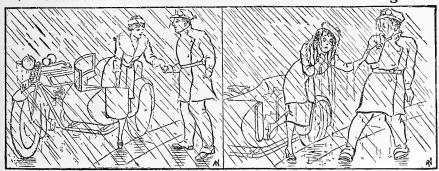


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350 Miles, Eight Hours, and Nine Hours in Class B.

500 Miles and Twelve Hours in Class E, and established the following new records.

	Class	В.			Class	C.	
400	Miles.	7	Hours.	450	Miles.	11	Hours.
450	Miles.	10	Hours.	500	Miles.	12	Hours.
500	Miles.	11	Hours.				
		12	Hours.				

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Write for approval terms to-day.

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T.T. Races—Isle of Man

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Members.

1.-For those taking their Machines to the Island:

Petrol collection to avoid wastage and risk of Fire. On the Landing Stage opposite the Isle of Man Steamers, and an hour-and-a-half before each day boat is due to sail, J. Blake & Co. will have a staff and collection van in attendance. Petrol will be drawn off from the machines, measured and stored, and a voucher ticket for the quantity given in receipt. On returning from the Island it will be necessary simply to send a postcard to J. Blake & Co., rio. Bold Street, Liverpool, giving them particulars of date and time of return, name of boat, and quantity of Petrolue—it will be on the Landing Stage ready.

2.—For those coming to Liverpool by road and desirous of avoiding the trouble and risk of damage incurred by taking their Machines on the Boat to the Island:

A Garage within easy reach of the Landing Stage, spacious and stone-floored, capable of storing 500 machines, will be available at a nominal charge. This is situate on the corner of Laurence Road and Wellington Road, facing Gainsborough Road, immediately between Smithdown Road and Wavertree Road, and the attendants at the garage will advise the quickest route to the Landing Stage by 'tram or 'bus close at hand. This garage which is being managed for the Auto Cycle Union by J. Blake & Co.—will be opened from Saturday 12th to Monday 21st June, inclusive.

3.—For those who are prevented from attending the Races:

By courtesy of "The Motor Cycle" telegrams will be displayed in the window of our Bold Street, Liverpool, Showrooms showing the progress of the Races at every Stage.

A.C.U. Members everywhere are invited to fully avail themselves of these facilities.

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Unlimited Standing Kilo—and on time— Bronze Medal. George Strange on "James" 33 h.p. Twin Solo Model (500 c.c.):
500 c.c. Standing Kilo — 1st on formula — Gold Mcdal. 500 c.c. Flying Kilo — 3rd on time — Silver Medal. 500 c.c. Flying Kilo — 3rd on time — Gold Mcdal. 500 c.c. "1" 1st on formula — Gold Mcdal. J. F. Lidstone on "James" 21 h.p. Two-stroke Light-J. F. Lidstone on "James" 24 n.p. Two-stroke Light-weight (260 c.c.)
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 CHATER-LEA, 2½ h.p. 2-speed, 2-stroke, 1919, excellent machine.
 £60

 DPERKINS 10 cwt. Lorry.
 £220

 B.S.A. and Sidecar, 4½ h.p. 1916
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We have a large stock of SIDECAR5, including B.S.A., No. 2, Douglas, Watsonian, Cancelet (all models). Williamsons, etc. Fitted while you wait



9, Shoe Lane, Fleet Street, London, E.C.4.

Phone: Holborn sill Grams: Opificer, Fleet, London MOTOR CYCLES FOR SALE.

A.B.C.

 $\begin{array}{cccc} A.B.C., & \text{delivery} & \text{early July; 4 gns, and deposit} \\ A.B.C., & \text{delivery} & \text{early July; 4 gns, and deposit} \\ & \text{scenres option.--Bridges, 127, Grawford St., W.I.} \\ & \text{(6203)} \end{array}$ A.B.C., 1920, ready for insmediate delivery; offers for option?—Box 4,862, c/o The Motor what A.B.O., new condition, Lucus lump, horn: best offer over £150.-Hiscox, 32, Queen's Rd., Wimbledon, [6299] A B.C., 1920, io splendid condition, mileere under 500; 138 gas.—Julion's, 84, Broad St., Reading. [6470

A.B.C., just delivered from makers, unregistered and unridden; list price.—Hunt, Villa, Eye, Suffok,

A.B.C. Motor, Cycles, deliveries from stock.

B.C. Motor, Cycles, deliveries from stock. A.B.C. Motor Cycles, deliveries from stock.—The Spalding Motor Co., Ltd., Pinchbeck St., Spald-ing. 'Phone: 144. T.A.: Service. [0015]

Ablugdon

4 h.p. Aldingdon, 1914 sports model; 46.—The Black Horse, Reigate Heath, Reigate, Surrey. [5699 19 Horse, Reignte Heath, Mergare, 2-speed, chitch, perfect condition; £47.-2, Appain Rd., Old Ford. [640]

A BINGDON 31/2b.p., eppearance and running good, New Eltham. Set 1848; N.S.U. to ht.-44, Gerda Rd., New [5939]

A BINGDON 4h.p., just overhauled, as new, lamps, and horn; £47/10.-R. Ball, Stanton-under-Bardon, Leicestershire.

3 1h.p. Abingdon King Dick, waterproof Bosch, top 2 feed B. and B.; £40; ride away.—Hayball, 44, South St., Bridport. [6411

31s.p. 3-speed Abingdon King Dick, in splendid 2 order; £65.-Wallis, 16, Admiralty Cottages, Invergordon, Ross-shire. [5686 19¹⁴ Abingdon King Dick 3½h.p., Armstrong gears, in very good condition; £60, or near offer.—A. Godfrey, 16, Okehampton Rd., Willesden. [5627

A BNGDON King Dick 6hp. Combination, 2-speed, hand clutch, kick start, all accessories, perfect condition; £85, real bargain.—141, Earlham Forcet Gate.

1916 6h.p. Abingdon 2-speed Coachbuilt Combina-tion, accessories, perfect; £98; exchange 4h.p. combination, cash adjustment.—47, Lincoln Rd., East Finchley, 1966

Acme.
TWO 8h.p. Acme Combinations; immediate delivery 1019 Trinuphs; part exchange.—8, Warrington 104, Asbton-ha-Makerfield. (X3063 ACME Combination, 100 miles, running beautifully, spare and detachable wheels, 8h.p. J.A.P., Sturmey gear; best offer over £215 secures.—80x 377. (70 The Modor Cycle.

19 20 A.J.S. Combination, brand new; \$232.-Box [6801]

A.J.S. 1914 6h.p., in perfect condition; any trial; £90.-7, Talbot St., Kidderminster. [X2967 CROW Bros., Guildford, A.J.S. agents and experts since 1912, accept no premiums. [9993

A.J.S.-Brighton, Hove and district.-Turpin's 22 and 29, Preston Rd., Brighton. [0202]

A J.S. Combination, new 1920, lamps, horn, all complete; offers.-55, Nicholls St., Coventry. [X2904

A J.S. 5-5h, Combination; 295, or exchange for T.T.

A J.S. 5-5h, Combination; 295, or exchange for T.T.

andel.—Gazzard, Cleobury, Mortimer, Sulopport

A J.S. 1920, brand new; best offer above 2.220,
Cambridge.—Box 4,865, c/o The Motor Cycle.

A.J.S. 6h.p. Combination, 1916, spare wheel, guar teed order; £165.—Frank Eele, Thame, Oxon. A J.S. 'Combination, immediate delivery.—A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 1024

1916 A.J.S. 3-speed Solo, very little used: £160.— Cole, 137, Chatsworth Rd., Lower Clapton, London, E.5.

19 16 A.J.S. Combination, 2 new tyres, lamps, and all accessories; £135.—Apply, 150, High St., Somerset. [6656]

1914 A.J.S. 6h.p. Combination, recently overhauled; bargain, £110; seen Dorset.—Box 4,772, c'o The Motor Cycle. [5696]

19 18 A.J.S. 6h.p. Military Model and Canoelet Side-car, in good order; offers.—Sheard, 13, Sobo Rd., Birmingham. RG., Billingsam.

F.O.C.H. have a late model A.J.S. combination and spare wheel wind serven, lagage grid, electric and arctyleas and services. Hampsteed Fair Offer Tube Station). Phone: Hampsteed finest Hampsteed Tube Station). Phone: Hampsteed 3752. Hours 9-7, including Saturdays.

cluding Saturdays.

A.J.S. 5-6h.p., 2-speed, "clutch, ride away: £85, no reasonable ofter refused; seen after 6.30.—114, Revensbourne Av., Shortlands.

19²⁰ A.J.S. Combination, fitted hood, screen, Lucas lamps, horn, only done 100 unles: £250.

2. Nightingale Rd., Lower Clapton. [67] വി [6769

200 GNS.; A.J.S. combinatioo, complete, not done 150 miles 1920, like new; first offer.
-Miller, 62 Hampstead Rd., N.W.1. [5037

A.J.S. (delivered 1919), spare wheel, Millford side car, lamps, generators, tools; £175; splendid condition.—9, Gurney Rd., Stratford. [5730]

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.-bh.p. A.J.S. combination, 1918, detachable wheels, tree eogine, kick start, accessories; £185.

VERY late 1919 A.J.S. Combination, No. 11524, 3 lamps, horn, spare wheel, screen, etc., in perfect order; £220.—Chas. Morris, Highbridge. [5840 A.J.S. Specialists, The Walsall Garage, Wolverhaup-ton St., Walsall (Tel.: 444), can give involved deliveries of these grand combinations. [5760

1 20 A.J.S. Combination, not run 200 miles, Lucas lighting, hood, all accessories; best offer over £250.-Watson, 17, Queen Victoria St., Leeds. [5446]

19450.—Watson, 17, Queen Victoria St., Leeds. [5446]
20 A.J.S. Combination, delivered Whit-week, makers' specification, too high-powered for owner; 235 gns.—Box 4,871, c/o The Motor Cycle. [6816] owner; 235 gns.—Box 4,871, c/o x ne monor ogota (which is a superscript of the superscrip

A J.S. Late 1919 Combination, 5h.p., spare wheel, wind screen, Lucas head lamp, tail lamp, horn and tools, as new.—Cardess, Cartwright St., Wolverhampton. [X3624]
A J.S., 2½h.p., late 1913, 2-speed, clutch, rebushed, hew rings, latest B, and B, good tyres; nearest 48.—11, Lalor St., Fulham Falace Rd., Fulham201

A.J.S. 1918 Combination, in splendid order, complete with wind screen, hood, Lucas lamps; £185.—Elea and Co., 15-16, Bisbopsgate Av., Camemile St., E.C.3.

19 (November) A.J.S. Combination, spare wheel, Lucas lamps and horn. series, hood and cover, etc., perfect throughout; £200.—66, Shobnall St., Burton-on-Trent.

1920 A.J.S. Combination, extras, hood and 8-gn. set F.R.S. lamps, outfit delivered end March, scarcely used, as new; £250.—Jones, Netherton, Portmadoc, Carnarvoushire. (5490

LATE 1919 A.J.S. Combination, disc wheels, spare wheel, black and gold finish, splendid condition; £205.-626, Lea Bridge Rd., Leyton. 'Phone': Walthamstow 300.

A J.S. Combination, 19191, excellent condition, 3 hamps, speedometer, spare wheel, new storm apron, new chains, etc.; nearest £215.—Spencer, 85, Constable Rd., Ipswich.

1919 (Nov.) A.J.S. 6h.p. Combination; spare wheel, wind screen, apron, electric lights, Lucas horn, tools, etc., as new; £205.—177, Somerville Rd., Small Heath, Birmingbam. [X3170]

A.J.S. Combination, Nov., 1919, complete, spare wheel, hood, wind screen, 3 lamps, Wattord speedometer, horn, and Tan-Sad carrier, and full insurance.-R. Hubbuck, Headley, Bordon.

10 20 A.J.S., delivered April, Lucas hest lamp, horn, spare wheel, Tan-Sad, screen, absolutely perfect, as new insurance till April, 1921; £236.—Replies to Box 4,872, clo The Motor Cycle.

19 20 A.J.S. Combination, complete with hood, side curtains and wind screen, only had goad delivery; £245; seen by appointment—Advertiser, 2. Albert Studios, Albert Bridge Rd., S.W. [627]

A.J.S. 6h.p. Combination, 5 speeds, K.S., band clutch, Lucas lighting set, tools, 1 an-fad, spaces, little need, condition excellent and appearance as new; £120, no offers.—Banadi, The Cottages, Creswell, Gt. Bridge-jord, North Stafford. $\mathbf{A}^{.\mathbf{J.S.}}$

A.J.S. 6h.p., military model, and Heoderson Elife sidecut, both delivered August 1919, complete with lamps and, horn, excellent condition, very little ased; price £180,—Apply, The Boreen, Laleham, nr. Staines, Middle-ex.

A.J.S. 6h.p. Combination, 1915-16, engine No. 6503, 5-speed, clutch, K.S., screen, hood, side curtains, apron, speedometer, tools, large size tyres, good condition, ride away; after 5; £155 cash or ofter.—F.D.H., 16, Tuan Rd., Plamstead. (6455

A J.S. Gombination, Nov., 1918, spares, tools, hood, wind screen, new rang, and speedometer, acetylens and electric, mileage 1,000, perfect condition; best over £165, exchange Morean or similar: Inther particulars.—39, Humbr Rd., Wolverhampton.

6 b.p. 1919 A.J.S. Combination, delivered August last, Lucas accessories, special Brooks saddle and hood complete, mileage 1,000, perfect order; price £235; private ower, bought car.—Replies after 6 p.m. to 19, Huwthorn Rd., Moreton, Birkenhead.

19 15 A.J.S., cancelet sideen, Lucas lamps, horn, 2 generators, Jones trip speedometer, all tyres new, extraordinary good appearance, mechanically perfect, insurance policy 9 n. arths paid; offers above 2145,—Blackwell, Belle Walk, Moseley, Birmingham. (655)



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All the above in Stock at

MOTOR CYCLES FOR SALE. A.J.S.

19 16 A.J.S., new sidecar, new tyres and lamp (Lucas), new spare wheel and tyre, Easting screen; the whole turnout perfect and ready for storing; £160, no offers.—Crumpton, 65, Salishury Rd. W. Kilburn (outside Queen's Park Tube). [666]

W. Kilburn (outside Queens, fark Auser, 1918) 1919 A.J.S. Combination, makers' specification complete lighting set, horn, speedometer, watch, kne grips, apron. small mileage, very carefully treated; un trial; £220.—Sawlell, Long St., Sherbonne, Defect

A J.S., into 1919 guaranteed in perfect condition of the unpurctured page wheel, all lumps, Lumber, spectureter mirrog wheel, all lumps, Lumber, spectureter mirrog grape, strengthened luggage carrier, Inlly insured, \$21 no offers.—Apply after 7.30 p.m., 45, Mayfield Routh Crodon.

A J.S. Combination, 1918 Military, Model, new August 1919, enumelled black and gold, humps etc. Follord sidecut, Ensting when specifically appearance; selling lack of docommodation; 2185, Captain Dobb, 5. Abbey Road Mansions, St. John Wood, X.W.

1903 of the print A.J.S. Combination, stretch Lunch and 1903 of the dark though, and large P and H. H. lamp, hood, hood cover, side curtains, and till it surance policy, run about 250 miles, and in perfect condition; £255, or near affer.—F. A. Grundy, Ne Hall St., Wilenball.

Hall St., Willenhall.

A.J.S. 6h.p. Military Model, bought August, 1918 cettrely re-enamelled, only done 400 miles, lare luxurions (foint sidecar, with spring wheel, luggar luxurions) (foint sidecar, with spring wheel, luggar lighting, speedometer, Cowey born, outfit in splendi condition, except for tyres which are poor; owner goin aluxad; best offer over £180; letters only.—E. E. Davise Duntan, fox and Co., 28, Gt. St. Heles, E.C.3. [56]

Alldays.

ALDAYS Allon; instant deliveries. — Hewin Garages, Ltd., Totnes. [608

A LLON 254h.p., kick start, clutch, complete lampeter: £60.—Parry, Thorneloe, Worcester. [575] 19 20 (April) Alldays Allon 2%h.p.: £85, or offer, c exchange higher power.—43, Coleraine Rd., Black [669]

A LLON 1916 2 Mh.p. 2-stroke, excellent condit £37, complete. 28, Solna Rd., Winchmore

A LLON 1920 21/2h.p., 2-speed, 2-stroke, kick starte new, lamps and horn.—Tottenham, Carrog Iss Llangollen.

A LLON 254h.p. 2-stroke, 1919 model, tyres unput tured; £55, or close offer.—Bowker, Garag Ayleshury. [X30]

ALLON, 2-speed, clutch, speedometer, lamps, et perfect condition; £45. - 70, Ringford R

ALLDAYS Matchless, Villiers engine, all accessorie condition as new; £55.—Manual Centre, Chart Rd., Richmond.

ALLON 25th.p., 1916, 2-speed, beautiful condition, sparse, tark; £65.—Gresswell, 159, Mark St., Holliceworth, Hadneld.

A LLDAYS 23/h.p., following are new: mag., B.P. carburetter, tyres and tubes; £23.—P. Cray. 38 Station Rd., Hendon, N.W.4.

A LLON 234h.p. Late Model, 2 speeds, countershaft overhauled, re-enamelled, good tyres; £48.—59
Sewardstone St., Waltham Abbey. [619]

ALLON, 1916, 2-speed, excellent condition, etc., good, new lamps; £55; near offer-crest, Cliffview Rd., Lewisham, S.E.

1920 Alblays-Allon, uncrated, 2-speed, 2-stroke; li-price, £85; owner bought ear; first cheque secure Phone: 1.—Post Office, Barnwell, Peterboro'. [572]

A LLON, 1915-16, 2 speeds, engine just overhauled new lamps, pillion sent, and tools completer 5 gns., lowest.-5, Howard Rd., Bromley, Kent. [577]

A LLDAYS-VILLIERS, thoroughly overhauled, new cylinder, piston, connecting rod; £40.-A. and B Garage, Loine Rd., Southwood Rd., Ramsgate. [603]

A LLON, 1920, brand new, 2-stroke, 2-speed, clutch, kick starter, just arrived; at makers'—Wilkins, Simpson, opposite Olympia, London.

A LLON 1919 21/th.p. 2-stroke, as new, little u owner bought combination; £65; first che secures.—Geo. Smith, £68, Lavender Hill (opposite ing and Hobbs), Clapham Jucction.

A LLON de Luxe, 1919, 2-speed, Senspray, Best an Lloyd drip, P. and H. head and rear lamps, pum Brooks' pan, cuamcl perfect; 270; buying combination 4, Station Parade, Purley, Surrey.

A RIEL 31/h.p., 1920, just delivered; list price. Butler's Garage, Baldock. [551

ARIEL.-Brighton, Hove and district.-Turpin's, 2 and 29, Preston Rd., Brighton.

CYRIL WILLIAMS, for early delivery of Arlels-Chapel Ash Depot, Wolverhampton. [226 ARIEL Combination, 1919; £120.—Combined Co., Hobson St., Cambridge.

34 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

Coulson.

COULSON B.—New 1920 models in stock; list price, 1920 competition model, lamps, horn, sparse, bin won 2 golds, I silver model, mileage 1,350; sung, £100, -7, Exhibition Rd., South Kensington. [6878]

COULSON B. 2 h.p., 2-speed, spring frame, Black-barne engine, latest model in stock, humediate delivery; 95 gns. Extended payments if desired.—Elecand Co., 15-16, Bishopsgate Av., Camomili St., E.C.3.

Coventry Challenge.

19 18 25th.p. Coventry Challenge-Jap. 2 speeds, fast, sporty model; £58.—48, Leicester Rd., Bed.

Coventry Engle.

COVENTRY Eagle 2-stroke, Villiers engine, splendid workmanship and finish throughout; £65.—Whitworth, 139, New St., Birmingham. [5873]

COVENTRY Eagle 1919 2-stroke, 2-speed, P. and H. lighting set, horn, excellent condition, gnaranteed: £53.—162, Dunstable Rd., Luton. [6500] COVENTRY EAGLE-VILLIERS 212h.p., 2-st footboards, lamp, hern, tools, new condition. 1919; £55.—56, Old St., Goswell Rd., E.C. [

COVENTRY EAGLE 1920, 2*(h.p. J.A.P., 2-speed, hand chitch, kick start, horn. 'tools, as new, milege under 50; £80.—timtdner, 53, Atherley Rd., Southmpton.

COVENTRY EAGLE-J.A.P. 23th.p., 2-speed, counter-duff, delivered thee, mileage under 200, tally squipped and nasoiled; £75, no offers.—Keeble, 14, Oni-and Rd., Dovercourt.

DE DION 3! (h.p., Simms variable, Amac, footrests, horn, Brooks, adjustable pulley, sporty machine, equires magneto chain; £23, or offers.—29, Northamper Bd Wellingborugh equires magneto chain, on Rd., Wellingborough.

Mamond

DIAMOND, new, 2-stroke, just arrived; £63.
Exhibition Rd., South Kensington. DIAMOND 1917, perfect; £35, no offers.-10.
Adolphus Rd., Finsbury Park, N. [5524

O'RIL WILLIAMS, for early delivery of all model Diamonds.—Chapel Ash, Wolverhampton. [2266]
DIAMOND-JA.T., 1920. 2²hp., bron, Enfeld 2-saxed, not done 150 miles; £78.—Easington, Castle, Walton-or-Thames.

19 224hp. Diamond-Jap, 2-speed, lamps, horn, whole as new, includes insurance just paid; first wer £70.—138, Grosvenor Terrace, Cambervell, S.E.S. [5722]

1 D 20 25/h.p. Diamond-Jup, Sturmey-Archer 2-speed, clutch, kick starter, top gear change; list price 95; brand new; nearest offer £90 accepted—Box, 656, clo The Motor Cycle.

Douglas.

WOFFAT, Douglas Expert, Yeavil.

VEW 1920 M. dels, 4h.n. combination £170, 254h.p. W. 20, £100 and £105. MMEDIATE Delivery. Why wait?

OFFAT, Yeovil. Tel.: 50 Yeovil. VIVIAN HARDIE and Lane, Ltd., Douglas Special-

h.p. Comoination, 1920 model: £170.

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WE Stock Everything you require for your Douglas

14, Woodstock St. (off Oxford St.), Bund St., W.1. [0012]

OUGLAS 1920 254h.p., 3-speed, less clutch; £100: OUGLAS 1920 4h.p., 3-speed solo; £130; in stock.

OUGLAS 1920 4h.p. Combination; £170; in stock.

OUGLAS, Junglas, Donglas, Donglas,—For naick deliverse of 1920 Donglas models and all sparse 18, write, 'shlone, or wire, Herhert' Robinson, Ltd., 'con St., Carbridge, Tel.; 1995. T.A.: Bircyles, [6125] 33.h.p. Donglas, 2-speed, '£55.—Platts, 602. King's 44 Rd., Fallbam, S.W.6. OUGLAS 254h.p., 2-speed, perfect condition; £62-80, Corrance Rd., Brixton. [5909]

OUGLAS 254h.p., 1916, perfect: £65,-10, Adolphus Rd., Finsbury Park, N. [5525

OUGLAS 1915 234h.p.: £48, or near offer.—Morley. 219, Hornsey Rd., Holloway. [5808

ADY'S Douglas for sale. See advert under Ladies'
Motor Cycles column.—Richards. [X2729a OUGLAS 254h.p., ride away: £26.—134, Crystal l'alace Rd., Goose Green, London. [5581]

19 20 Brand New Ponglas Combination, unused: list Telephone: Victoria 0353.



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j }	"	Goodrich Safety Tread . Wood-Milne Ex. Hy. Keygrip	63 /- 52 /6	93/6 69/6
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1 9 20 Itoughas, new, every necessory, disc wheels; £120.—Ordorne's, Bond St., Ealing. [5437

Doll'GLAS 25 h.p., 2-quest, 1916, fine order, Douglas volonis; £65.-Raynham, Suffron Walden. [5082]

D'OUGLAS 25th.p., W.D., 2-speed, buffers, makers' colours; £62,-1, Cedar Rd., Cricklewood. [6264 DOUGLAS 25/h.p., 2-speed, fast, reliable; £35.—Bambridge, 43, Riverside, Kingston-on-Thumes, (X 3015

19 18 Douglas 3-speed, K.S., renovated, as new; £70 -262, Blackhorse Lane, Walthamstow. 19071 3 h.p. Doughs, 1916, incomplete, £24; also one £18, 24 −262, Blackhorse Lane, Walthamstow. [5672]

19²⁰ New 4h.p. Douglas Combination in stock: price.—Bounds' Garage, 223, High Rd., Kills

2 h.p. 1919 Douglas, not W.D., 2-speed; £80, nex & d offer.—Charles Dixon, 9, The Crescent, Surbiton 19 15-16 Douglas, fine condition, very fast, let etc.; £59.-116, Askew Rd., Shepherd's Buy

D^{OUGLAS} 2¹d.p., 2-speed, needs slight attention; £32, or near offer.-636, Harrow Rd., Paddington. 6878 DOUGLAS 4h.p. Combination, new, just arrived; £170.-7, Exhibition Rd., South Kensington. [6873

p. Douglas, 2-speed, clutch, in good running order; £30.—Taplin, 159, Hornsey Rd., N.7. [6550 DOUGLAS 25th.p., 1915, lamps, horn, good minning order; £60,-26, Queen's Mews, Queen's Rd., W.2.

19¹⁶ 23th.p. Douglas, clutch, 2 speeds, perfect condition; £75.—Horwood, 138, Mill Rd., Cambridge. DOUGLAS, 1910, less back ryl., otherwise complete, tyres as new; £23.—Box 4,738, c/o The Motor 5528

Cycle. DOUGLAS, 1915, lamps, horn, speedometer, all sories; £58.—Bray Lodge, Snakes Lane, Woodfreen.

DOUGLAS, 1912, single speed, good order: £40.-A.
and B. Garage, Lorne Rd., Southwood Rd., Ramsgate. [6036] gate.

DOUGLAS 1914 2%h.p., 2-speed model, excellenge botton.

Bolton. (X3001)

BARGAIN.-Douglas, 2 speeds, open frame, 1915 engine, perfect; £39.-20, Frankford St., Birm. [6655] 19¹⁶⁻¹⁷ Douglas. 2⁵/₄h.p., 2-speed, lamps, tools, Finchley.

DOUGLAS.—District agents for Rrighton and Hore:
Brighton.

Motor Cycle, Douglas 23, h.p., T.T., disc wheels,
S.E.25. [€335

S.E.25.

DOUGLAS 234h.p., 2-speed, 1916, perfect condition tyres, enamel, etc.; £60.-25, Dunbar Av, Nor. [6141] 19²⁰ Douglas Combination, brand new; list price, plus accessories.—2, Nightingale Rd., Lower Chan-

f6771 ton. 1914 Douglas, 2-speed clutch, lamps, etc., new tyres; bargain, 50 gns.-120, Sutherland Rd., West Crov-

10 4h.p. Douglas's, 3-speed gear, kick starter (solo) £50 each.—J. Dooley, 33, Killyon Rd., Claphan S.W.8.

DOUGLAS 4h.p. 1915 Combination, engine of hauled, sidecar repainted; £95.-251, Nov.

19 19 Douglas 254h.p., 2-speed, spares, splendid condi-tion; offers over £80.--Blizard, Kingsholm, Gloucester [6665]

19 16 Douglas T.T., exceptionally last, £65;

19¹⁴ 2³4b.p. Douglas, 2-speed, lamps, horn, ver fast machine, stored 18 months; £52.—Waddout Orpington. DOUGLAS 4b.p., late 1919, discs, wind screen, lamps, etc.; £150.-Whitworth, 139, New St., Birmingbam.

DOUGLAS, 39806, late model, as new, speedometer, lamps, Tan-Sad, etc.; 78 gns.—Bailly, 8, High [6435]

50 GNS.-2%h.p Douglas, not W.D., 1914 model, Fulham. Condition perieut.-31, Halford Rd., Fulham.

DOUGLAS 234h.p., 2-speed, in very good condition, Buckleigh Rd., Streatham, S.W. [6142]

DOUGLAS, 4h.p., 1919, just overhauled at works electric lighting, many spares; £150.-9, Market St. Maidenbead. 1911 Douglas, in good running order. 2-speed, and free engine; £55, or near offer.—F. Odell, fe202

Hotel, Chilbam.

DOUGLAS 2¼h.p., 2-speed, uncrated last year, any trial; bargain, £60.-37, Streatham Place, Brix-ton Hill, S.W.2. [6478]

10 17 Douglas Combination, lamps, horn, tools, Brook Rd., Redhilh. [6211

1 99 4h,p Douglas Combination and accessories, in 2 9 good condition; e150.—Seen Bounds' Gringe, 225, Hugh Rd., Kilbunn.
1 917 Douglas 25th.p., in good condition; £425, makers' colours.—Kays, 8, Bond St., Ealing. 1827.

98 GNS.; 4h.p. Douglas 1917 combination, 3-speed, as new, any trial:—19, Wilcox Rd., Sonth Lambeth, London, S.W.8. [6259

3h.p. Douglas, Bosch, footboards, in excellent condition; any trial; £35, or nearest.—47, Old Winton Rd., Andover. [6421

Winton Rd., Andover. [6421]

155.—Douglas 25/h.p., 2-speed, 1915 model, all below a lamps, nice running order.—103a, High St., Wandsworth, S.W.18. [6519]

23h.p. Donglas, almost brand new, only used few times, unscratched; bargain.—34, Bradshaw St., Moss Side, Manchester. [X3102] DOUGLAS 234h.p., 2-speed, electric lighting, splendid condition, complete; £54.—Deneholme, Beeches (6545)

DOUGLAS 23/h.p., 3-speed, faultless coad makers' colours; bargain, £68; after 7 p.m.-Friera Rd., East Dulwich.

19 20 Donglas Combination, 4h.p., with lamps, horn, etc., done 600 miles; price £175.—Moore, Fairwood, Westhury, Wilts. [6020]
DOGLAS, 2º4h.p., good condition, Bosch, new tyres and belt, ride away; £35.—Guys, Baxendeans, Wargrave, Berks. [5573]

DOUGLAS 1915 2%hp., 2-speed, speedometer, lamps, good condition, renovated January.—H. Holmes, Goods DOUGLAS, 2%hp., 1916, thoroughly overhauled, new condition: sacrifice, £63.—Lansbury, 105, St. Stephen's Rd., Bow, E.3.

4h.p. Douglas, 1918, 3 speeds, K.S., in perfect order; £80.—Apply between 10 and 4, or by appointment, 296, Wightman Rd., Horasey.

19²⁰ Douglas 2³4h.p., 3 speeds, clutch, and b starter, brand new and unregistered; £110 Nightingale Rd., Lower Clapton.

19¹⁹ Douglas 2³4h.p., 2-speed, mileage about 300, beautiful and perfect machine; 72 gns.-60, Wallingford Av., North Kensington. [6425] 3h.p. Douglas, just delivered from works, clutch model, latest oil feed; £112.-65, Abbey Rd., N.W.8. 'Phone: Hampstead 8211. [6014

4 h.p. Donglas, 1917, 3-speed, kick start, clutch, semi-T.T. handle-bars, lamps, horn: £85; after 5.-2, Fortunegate Rd., Harlesden, N.W.10. [6640

DOUGLAS 1916 2%h.p., £65; 4h.p. £70, excellent running order, apply before 12.—Chauffeur, 13, Pindock Mews, Castellain Rd., Maida Vale.

DOUGLAS Combination, done 500 miles, purchased January, 1920, lamps, horn, wind screen; £160.—Workman, 54, Baxter Av., Southend. [6328]

1920 Douglas Combination, electric lamps, Cower horn, leg shields, watch, hood, screen, luggage carrier, etc., perietc, mileage 500; £186.—
1920 Douglas Combination, mileage 50; £186.—
London, S.W.12.

recently

D OUGLAS 2%h.p. 2-speed, 1913, Bosch, overhauled, perfect order; Basingstoke \$50.—Box 4,849, c/o The Motor Cycle.

DOUGLAS 2 4h.p., 1915, lamps, new pistons, hearings, sprockets, guaranteed perfect; £58.—Miller, Jasmine House, Fengate, Peterborough. [5848]

GIBB, Douglas Specialist, Gloucester, gives personal attention to all orders. All spares at makers' pures stocked. No profiteering.—'Phone: 852. [6340]

19 19 4h.p. Douglas Combination, complete with lamps, horn, and speedometer; £145.—Cole, 137, Chatsworth Rd., Lower Clapton, London, E.5.

Ah.p. Douglas Combination, 1918, makers' colours, enamel and paint as new; £120, or near.—The Haven, 120, Sutherland Rd., West Croydon. [6677] 19 15 Douglas 2%h.p., Colonial model, 3-speed lamps, speedometer, any trial; £72,—Ston Station Garage, Bradford-on-Avon, Wilts.

19 19 4h.p. Douglas Combination, in spotless condi-tion, as new, only done 500 miles; £149.—Rhosha Motor Co., Bank Mews, Romford. Tel.: 95. [5968

DOUGLAS 254h.p. W.D. Model, completely one hauled, as new: £63; lovely machine. Anoth £65.—7, Exhibition Rd., South Kensington.

4 h.p. Douglas and Sidecar, perfect condition, believed 1917. 3-speed, clutch, and kick starter, lamps, and horn; £100.-R. Letts, Semer Lodge, Ipswich, [5663]

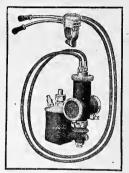
19²⁰ Douglas 4h.p., delivered May, mileage 200, complete with Lucas lamps, horn, etc.; £125, -Whitehouse, Poplars, Bridgetown, Cannock. [X3165]

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Douglas.

DOUGLAS 1920 4h.p., solo model, electric lighting and horn, indistinguishable from new.—Parkers, Bradshawgate, Belton. 245, Deansgate, Manchester, 19 15 Donglas 23/h.p., 2-speed, enamel and pland plands like new, smart, last machine, pump, etc.; £57.—67, Little Heath, Old Charlton.

DOUGLAS 1915 23/h.p. 2-speed, new beed laminew back tyre, recently overhauled, fast 2: Seen by appointment, 48, Kidderminster Rd., Crov

FOR Sale, 4h.p. Douglas and sidecar, pattern 191, splendid running order, with spares; -Apply, Major Skipwith, Glenlea Hotel, Hindh

1920 4h.p. Donglas, with new Montgomery tand sidecar, 100 miles; £170; owner bas mounts,—Pearson, Hinton St. George, Crewkerne

DOUGLAS 2%h.p., 1918, 2-Speed, buffer forks, lamps, Hutchinson tyres, pump, tools, spare cellent condition; £68.—Heathview, Shirley Rd., doc.

10 20 254h.p. Douglas, 3 speeds, hand clutch, start, lamps, horn, leg shields, used a few to only; nearest offer to £115.—12a, High St., Ash Kent. DOUGLAS 2%h.p., new August, 1919, splendld co dition, very little used; £65, no offers; seen as evening after 7.—Nastfelt, 110, Chichele Rd., Crick wood.

DOUGLAS 1919 23th.p., 2-speed, in splendid order complete with lamps, had very little nse; £80. Elce and Co., 15-16, Bishopsgate Av., Camomile St. E.C.3.

DOUGLAS 1916 25/h.p., 2-speed, splendid condition lamps, mechanical horn, footboards, tyres executed: 65 gns.—Wigner, 92, Tyrwhitt Rd., St. John's S.E.4.

DOUGLAS, 25th.p., engine 31116, new condition 2-speed, lamps, Klaxon, spares, maps, over alls, insured; £60—Gledbill, Chesterfield House, Malock.

19 Donglas, 254h.p., 2-speed, Lucas lamps, horr knee grips, maker's colours, excellent condition £75.—Winfield, 532, Kingston Rd., Raynes Park SW 19 £75.—V S.W.19.

DOUGLAS 25th.p. 1915 2-speed, not W.D., ename plating, tyres, and mechanical condition excellend disc wheels, all on; £68; after 6 p.m.—60a, Kirkdal Sydenham. [65]

2 SPEED 23th.p. Douglas, 1915, perfect condition lamps, horn, spare tyre, plags, tools, will take anywhere; £58; any trial.—14, Cedar Av., Whitton anywhere; £5: Twickenham.

19 19 4h.p. Dooglas Combination, electric lightin Klaxon, horn, mirror, speedometer, perfect condition; £142; no offers; bargain.—Rhodes, 53, Easter Rd., Romford.

DOUGLASES 23/h.p. always in stock at competitive prices, open till 7 p.m. week days, 5 p.m. Satur days.—Smith's, 86, Chalk Farm Rd. (opposite Chalk Farm Tube Station).

Ah.p. Donglas, 1917, royal blue sidecar, 3 speeds elutch, kick start, 3 lamps, Klaxon, tools, excel lent order; 2104. Atter 5.—Brierley, 247, Fullam & South Kensington.

19 19 4h.p. Douglas Combination, as new, 1ste clutch, horn, 3 lamps, Tan-Sad, screen, spa tube, belt, plug, etc.; what offers?—Hughes, Wychol Lodge, Hixon, Stafford.

23h.p. Donglas, T.T., 2-speed, unused during was a splendid condition, lamps, horn, speedematric watch, sparses; \$65, offer.—Thorpe, 10, Moorside Guidens, Goodinores, 11ord.

DOUGLAS Combination, Cancelet sidecar, Bomag, 2 speeds, iamps, speedometer, Klaxon, to spares, fully insured, perfect order; £85.—Box 468 (c) The Motor Cycle.

DOUGLAS, 1915, Bosch, long exhaust. dynamic bargain, £62/10.—Sinclair, 24, Page St., Westmister Tel.: Victoria 1977.

DOUGLAS 3-speed 1920 25/h.p., very latest patter throughout, nuscratched, T.T. bars, specially took engine; first offer over £110 secures; seen Derby.—Bo 868, c/o The Motor Cyde.

19 16 254h.p. Douglas, 2-speed, T.B. mag., Ams carburetter, Dunlops, and tootboards, machin in splendid running order; what offers?—45. Templed., Cricklewood, N.W.2.

10 20 4h.p. Douglas Combination, P. and H. lamps Klaxon, guaranteed under 200 miles; seen suttial near London (South); price £168.—Apply, Best, 4,841, c/o The Motor Cycle.

23hp. Douglas, 1915, stored 4 years, perfect condi-dation, maker's colours unscratched, bought con-bination: 62 gms., offer.—6, Tottenham Terraca, While Hart Lane, Tottenham, N.17.

3h.p. Douglas, 1914, fully equipped, many spa dong exhaust, original enamel in good condition good tyres, very fast, 120 m.p.g.; 60 gas.; no deal after 6.—138, West Hill, Putney.

Douglas

24.p. Douglas, 3-speed, clutch, lootboards, 1915 4 not W.D., 2 new Dunlop covers and belt, 2 ool bags, tools, lamps, all in first-class condition 878.—Walbro Motors, Ely, Cambs. [X3182]

DOUGLAS 2 hp., 1914, 2-speed, losch, Binks entracter, discs, F.R.S. electric highting, speedoneter, horn, tools, spares, complete; 70 gas., or offer,—lackley, 3, Portugal St., Cambradge.

1920 4h.p. Doughs Combination, mileage 220, E.R.S. lamps and mechanical hour; cheapest lot adverted this week; £165. Phone: 379 Dalston, 206, figh St., Stoke Newington, N. (No offers).

DOUGLAS 25th.p., military models, W.D., reno-vated, carcully selected and tuned np. always thoics of several; price £60; seen any time.—Watson, 8I, Clapham Rd., S.W. 'Phone: Brixton 2984, [4555] DOTULAS 4h.p. Combination, 1919 (November), latest clut-h, Cameo wind screen, legshields, underhield, born, perfect condition; £165, or near.—Fuireld, Serpentine Rd., Selly Hill, Birmingham. [5505]

D 0UGLAS 25,hp., 1913, 2-speed, clutch and kick starter, in good condition, last and powerful, omplete with lamps and horn. 653; Verous ceachwilt sidecar, £9.—Goodliff, Willingham, Cambs. [6373]

DOUGLAS, 1916. W.O., 2-speed, lamps, speedo-meter (Watlord trip), mudshields, footboards, ts, as new, 120 mp.gs, registered June, 1919; 272— ertard, 69, Stapleton Hall Rd., Strond Green, 15569

9 20 Douglas 25th.p., show model, with Cower horn and speedometer, lamps, Tansad, large exhaust, iscs, etc., as new; 4130: a very smart machine, and laranteed.—Perry, 32, Alexaudia Rd., Twickenham.

[561] 10 17 (late) 4h.p. Donglas Combinatico, 3-speed, kick start, dynamo lighting throughout, 3 electric sumps, electric horn, Binks carburetter, sudcar re-olstered and painted; £140.—Wadlow, Orpington,

DATENT Rear Sprung Frame Douglas, 25thp., 2 speed, free engine, just overhauled, Bosch, loct-pards, head lamp and generator, good tyres; £40.— unting, School Lane, Circnester, Gloucestraine,

1920 Douglas 2º;h.p., 3-speeds, new accessories, lighting set, Klaxon, Tun-Sad, and Pedley grips ull insurance, absolutely as new, done out 250; owner mains sidecar outfit: 2108.—Frith, Somersty, Buxton, U.S. 2009. Douglas Combination, carrier [IX 3009] 22. 4h.p. Douglas Combination, carrier, lix acceptance of the combination of the c

N Fine Condition Douelns 25th.p., 2-speed new Cotober, 1919, all tools, spare leelt and chain, foot-ards, lamps, horn, leg gaurds; £75; owaer buildings, ger machine.—Write Smith, 4, Christchurch Rd., Rd., [5621

T Appears Ridiculous to Advertisa when you have

no stock, but wa are giving deliveries to the early
tds. Place your order at once if you want detery.—Eli Clark, Donglas Agent, 196, Cheltenlaum Rat-

9 20 224hp. Dougles, 3 speeds, clutch, kick start, 2 lamps, horn, knee grips, tools, mileace alout of, thorough running order, owner buying combination; sos.—E. L. V. Thomas, St. John's College, Cambridge.

JOUGLAS, 1915, 25th.p., 2-speed, T.T., in excel-lent condition throughout, complete with lamps, tr, footboards, leg and undershield; £70; seen ear 6. — Kelley, 2. Hilltop Av., Cheadle Hulme, eahire.

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9 19 4h.p. Donglas Combination, large P.H. lamps, Klaxon, speedometer, reflector, tools and spares, low nulleage, thoroughly overhanded, splendid, new udition; 150 gns.—Thomas, Rockwells, Saisburry Red. rnet, Herts. f6439

) OUGLASES.—I always know of several good 2% h.p. Douglases. You are safe as to date and of condition of any machine I recommend.—Robert andor, W. cosulting engineer, 345, Edgware Rd andon, W. 24626.

DUGLAS, 2%h.p., 2-speed, Bosch, very comfortable Brooks saddle, good tyres and lamps, Stewart chanical horn, semi-TT. hars, condition splendid; 7/10, or near offer; after 6.-1, Pendrell Rd., ockley, S.E.4.

16103 16 2°,4.p. Douglas, 2-speed, huifer forks, re-enamelled and plated, makers' colours, new 10s, tool box, pump, helt, Stewart speedometer, chanical horn, tyres as new; 65 gns.—16, Mervan Brixton, S.W.2.

OUCLAS Combination, 4h.p., 1919, disc wheels, new tyres, also 2 new spares, 2 nickel headlights, tear lights, 2 generators, tools, spare belt, storm on; 6155, or offer.—Write A. Wandord, 24, Bassein on; £155, or

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Off License, Pentstoft RG, tumon, econo-DOITGLAS 4he. Combination, W.D. Model, makers colours, little used, mechanically petret, cannel as new, disc wheely, electre lighting. Kinyan, Cowy Ander Piers, Stuntfold St, St.L. Thome. 326, 44 [16], Ander Piers, Stuntfold St, St.L. Thome. 326, 46(8),

Article Piess, Stanford St., S.E.I. Pholic: 3004 109, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199, 21 199,

DOUGLAS Model W, 1920, delivered April, 3-spgd, horn, all accessories, perfect condition, mileage under 300, owner hnying combination; £100, or best eller, Peofold, Grasmere, High Towa Rd, Maidenhead, Berks,

10 19 Douglas, 25 h.p., W.D. Model, 2-speed, meet? colours, new Yeb, 1920, P. and H. lamps. Girisphone Horn, suit of new overalls (£4/10), insurance, not ridden 100 miles, owner lorbidden to ride; £90. — Garaged St. Alban's Garage, Teddington. Phone: Kingston 1535.

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batt, chain, valve, cover and tube, all tools, paint nascratched and in perfect running order, undershield,
laggage grid and hand-controlled clutch have been fitted;
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1915 Douglas, engine No. 19637, 2-speed, fast machine. 90-100 m.p.g., undershield, toolbugs, lamps, took, and Iranue just re-connelled in makers' colours, eogine just fitted with new craokshaft, pistoos, and connecting rod, Brosch mug, overhauled; first offer over 260 secures.—Shatwell, Bow Bridge Dye Works, Huut's Loue, Stratford near Bow Bridge. (5687

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EDMUND-J.A.P., spring frame, Enfield 2-speed an clutch, just in; list price, no premiums.—Hewio Garages, Ltd., the real service firm, Taunton. [608]

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Enfield 23,4h.p., new tyres, 1 new cyl., very fast; £33.-6, Higherort, Swanley. [5415]

19 20 Enfield 2-stroke, just delivered; £73/10 plus carriage.—Jordan's Garage, Totnes. [X3078

19²⁰ Enfield Combination, just delivered; £175 plus carriage.—Jordan's Garage, Totnes. [X3079]

ENFIELD 3h.p. wanted, late model, fully equipped.
-Moulton, 68, Lawrence Rd., Liverpool. [6493

R^{OΥAL} ENFIELD Twin, in sound condition; any trial; £32.-126, Portland St., Lincoln. [5679] Enfleto 2-stroke, condition new; £75.—H. Cameron, 1, Greyhonná Lane, Streatham Common. [5810

ENFIELD Combination, 6h.p., a bargain; £89 10.— Wilkins, Simpson, opposite Olympia, London.

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3h.p. 1916 Enfield, economical, little used, perfe £65.-444, Jenkin Rd., Wincobank, Sheffield.

19 19 3h.p. Enfield, 2-speed, kick start, Palmers, new condition; £75.—Clark, Builders, Wormley, Herts.

ENFIELD 6h.p. Combination; any trial; a bargain, £100, no offers.—Mitchell, 185, Central Park Rd., [589] ENFIELD Combination, excellent condition cently overnauled; £105.—Strood Post

Rochester, 1920 Enfield Combination, Sh.p., brand new and unregistered; £200.-2, Nightingale Rd., Lower

Clapton. [6772 p. Enfield Combination, recently overhauled, splendid condition, any trial; offers.—W. Weighell La mnceston.

1910 Enfield Combination, fitted with lamps, born and wind screen.—Lamb's, 151, High St., Wal thamstow. [5866]

ENFIELD 3h.p., January 1920, fully equipped, low mileage; £90, or nearest.—20, Mount Pleasant, Redditch.

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Av., East Ham. [6468]

ENFIELD 1920 2-stroke, brand new, just arrived, opposite Olympia, London. [5820]

19 Enfield 2)4h.p., 2-stroke, 2-speed, Lucas horn and lamps, perfect condition; £60.—L. Hall, Watts Rd., Studley.

ENFIELD 2-stroke, brand new, actually in stock; list price.—Longman Bros., 17, Bond St., Ealing. [6727]

19 17 8h.p. Royal Enfield Combination, mechanically perfect, lamps, speedometer, Klaxon, watch, etc.—[6104]

19¹⁶ Enfield 3h.p. Twin, 2 speeds, K.S., lamps, new chains, good tyres (one new), engine overhauled, excellent condition; £60.—Hill, 6, High St., Uttoxeter. 1916 Enfield 3hp. Twin, 2 speeds, K.S., lamps, new chains, good trees (one new, engine overnamed, excellent condition; £60.—Hill, 6, High St., Uttoxefer, ENFIELD Combination, 1914, new tyres, a real sturdy bus; £110.—Hewin's Garage, Ltd., the real service firm, Taunton.

19 20 Enfield Combination, electric lighting, as new: £210.—626, Lea Bridge Rd., Leyton.
Phone: Walthamstow 800.

19 16 Enfield Combination, speedometer, screen, hood, spares, perfect condition; £145,—Osborne, 177, New Park Rd., Brixton. [6228 screen, sborne, [6228]

WAUCHOPE'S, 9, Shoe Lane, London, E. 2¹/₄h.p. Royal Enfield, new 1920, £73/10 2 4h.p. Royal Enfield, 1919, £60.

ENFIELD 6h.p. Combination, believed 1917, in new condition, F.R.S. lamps, spares, a bargain; £135 lowest—12, Thrale Rd., Streatham, S.W. [6737]

60 GNS.-1916 Enfield Twin, 3h.p., 2-speed, kick start, lamps and accessories, in splendid condition.-158, Norwood Rd., West Norwood. [6671]

19 Enfield 8h.p. Combination, dynamo lighting wind screen, and speedometer; £205.—Kays, 8, Bond St., Ealing. 'Phone: Ealing 1827. [5927]

19²⁰ Enfield Combination, 6h.p., hood, wind screen, speedometer, lamps, horn, complete, recently delivered; £200.—Curtis, 2, Park St., Barnsley. [6432]

19 Enfield 3h.p., 2-speed, K.S., low mileage, guar-combe St., Wollaston, Stourbridge, Worcestershire.

anteeq perices, Stoubridge, Worcestershire combe St. Wollaston, Stoubridge, Worcestershire combe St. Wollaston, Stoubridge, Worcestershire and Alexand dynamo lighting set, hood, screen, hom, etc.; £235.—46, Gladstone Av., East Ham. After 6, p.m. [6330]

1 16 Enfield 3h.p. Twin, 2 speeds, K.S., lamps, new chains, good tyres (one new), engine overhauled, excellent condition; £60.—18, Rectory Rd., Sutton Coddfield.

ENFIELD 6h.p. Combination, fully equipped, tools, spares, excellent tyres but no sidecar body, carefully used; £100.-21, Leinster Terrace, Lancaster Gate, W.2.

ENFIELD Combination, 1917, lamps, horn, speedometer, wind screen, complete and faultless condition; £130.—Hewin's Garages, Ltd., the real scruice firm, Taunton.

10 15 Enfeld 6h.r. Combination, J.A.P. engine, Bossh, drama lighting, hood, screen, luggage grid, splendid on condition, 2120, or near offer,—158, Bedford Hill, Balham, S.W.12.

ENFIELD-MOTOSACOCHE, 1915, 31/h.p. twin mag. engine, Enfield gears, clutch, long footboards, all accessories, nice appearance, perfect; £52.—20, Canterbury Rd., Croydon. [5816]

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MOTOR CYCLES FOR SALE.

Enfield. MOTOR Cycle for Sale, Royal Enfield 1914 23(h.p., 2-speed, free engine, just been thoroughly over hauled, tyres as new; a real bargein, £45.—Lyndhurt, Stone Rd., Stafford.

1916 Enfield Combination, in splendid content of throughout, hood, lumps, and horn, tyres now: a bargain at £132/10.—Thornley, Theobalds Boreham Wood, Herts.

19 20 Special 8b.p. Royal Enfield Combination, Luc mag-dynamo lighting set, small mileage; 223 seen by appointment, or after 7.30 p.m.-39, Orisp St., Spitalfields Market, E.

ENFIELD 3hp. Twin, late 1917, engine G 3298, speed, clutch, K.S., speedometer, Klaxon, etcherict; 60 gns. Hyde, Lyme Vills, Mottinghar S.E.9. Thone: Lee Green 500.

E NFIELD 6h.p. 1916 Combination, hood, screen speedometer, electric lighting, spring pillion, eccellent condition; £140.—Thomson's Carage, Bechin Lane, Ilford. Tel.: City 3980. [628]

CLIFFORD WILSON Manufacturing Co. have 1917 Enfield combination, screen, speedometer lamps, etc.; 2155.—70, Royal Hospital Rd., Chelses S.W.3. Tel.; Kensington 7113.

1920 Enfield Combination, Sh.p., Lucas dynam lighting set, horn, luggage grid, hood, screen waterd speedometer, small mileage; £240 complet. —Cripps, S9, High St., Strond.

E NFIELD, late 1916 combination, Lucas dynamics of lighting, hood, screen, etc., everything in perfect condition, chains and tyres recently renewed; £140_129, Alexander Rd., Acocks Green.

6 hp. Royal Enfield Combination, excellent condition mood, screen, speedometer, horn, mirror, new side car appron, all heavy trees, climost new; £150.—J. Yenro ley, 188, High St., Winford, Cheshire. E NFIELD Twin, 3h.p., 2-speed, clutch and kick starter, fitted with lamps and good tyres; a bargain, £73, or very near offer.—Tnrner, Westborner House, 95, Richmond Rd., Twickenham... [6428]

10 16 Sh.p. Enfield Combination, Lucas dynamo lighting, bood, wind screen, speedometer, Tan-Sad, neliable machine, mechanically perfect; any trial; 2150—Morris, 139, Bilston St., Wolverhampton: [X3084]

10 19 (October) Enfield 2-stroke, 2-speed, not run 300 bg/miles, guaranteed perfect and unscratched, P.H. lighting, horn, fully equipped and insured; £62-Stockwell, 6, Northdown Ar., Margate. (D) [5683]

E NFIELD 6h.p. 1915 Tandem Car, Tan Sad, stored Stycers, new condition, all on, mechanically owned, many spares, insurance; £165; genuine; letters.—Johnston, Station Rd., Chepstow, Mon. [5734]

E NFIELD 6h.p. Combination, 1917, dynamo light ing, speeddemeter, horn, hood, Bluemel's lates screen, new aprom, condition almost new, insurance policy; £155.—Smart, Prettyman's Lane, Edenbridge, [5959]

ENFIELD Combination, 6h.p., coachbuilt, 582 speedometer, watch, 2 spare covers and tubes, lamps, car tyre back, splendid condition, insurane bargain, 90 gns., near offer.—58. Duncombe Rd., NJ. Hornsey 1012.

ENFIELD 3h.p. Twin, splendid condition, free an gine, 2-speed, Bosch mag, new Amac cather, tyres and tubes practically new, with acts sories, recently thoroughly overhauled; 268, or gotfer.—Browne, Aldgate, Ketton, Stamford.

DOTAL ENFIELD, 1919 model, 24/hap, two seats and free engine, big front light and buck, pump horn, complete set of tools, Pulmet twee, has been used only 2½ months, mm abunt 500 miles, in period coldition; pince £60.—Write Box 1052, c/o Willing 5, 125, Strand.

Excelsior. EXCELSIOR, 2-speed, 2-stroke, new, just arrived £67.-7, Exhibition Rd., South Kensington. [687]

EXCELSIOR 31/h.p., single-speed, recently hauled, very fast machine; £45.—Thom Tibshelf, Derbyshire.

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225, eners.—Tucker, Church Place, Penarth, (6314 4-cyl, 5-6h.p., 2-speed, clutch, 1920 Binks arburetter, new crankshall and big ends, per-unning order; A65.—Carter, Grey Friars, 8t St., Stamford, Lines.

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4-cyl., 5-6h.p., engine thatoughly overhauded, worn parts renewed, Indian red, replated, aluminium wheels, and footbourds, special burs, new pan excellent tyres, tenovation carried out by expert; ieur offer; also sidecar £5.-8, Watherley Rd., [5661]

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dbury. (6703 CCHOPE'S. 9. Shoe Lane, London, E.C.4.—7-9h.p. Harley-David-on and sidecar, 1919, splendition; £195.

LLEY-DAVIDSON Combination, 1918, with new Harley sidecar; £160.-26, Barrington Rd., ell, S.W.9. [6414

LEY-DAVIDSON 4h.p. 1920 Flat Twin Com-ination, speedometer, just delivered.—Turnill orth, Peterborough. [5919

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LEY-DAVIDSON Combination, in perfect order, new: £140.—Cornelins, 34, Vicarage Park, The Rd., Plumstead. [5906] Harley-Davidson Solo, in perfect condition, mag., re-enamelled; £110.—A.S., 15, Bram-tv., Charlton, S.E.7. [6361

LEY-DAVIDSON 1920 4h.p. Twin, done 300 ailes; £158. — Cambridge Automobile Co., St., Cambridge. [6754

LEY-DAVIDSON 7-9h.p. Combination, in ock, lamps, horn, speedometer, just delivered, ll and North, Peterborough. [5918

3-speed, LEY-DAVIDSON Late 1918 7-9h.p., 5-speed, ig., in perfect running order: £95, no offers.—5, Brook Green, Hammersmith. [5499]

7-9h.p. Harley-Davidson and Sidecar, Bluemel wind screen, electric model, usual accessories; 75, Cleave Rd., Gillingham, Kent. [6248]

Harley-Davidson, new sidecar, speedometer, ood tyres, fine condition, seen Camberwell; Jones, 76, Downs Park Rd., Hackney. [6232

Harley Combination. 7-9h.p., perfect order, yres as new, very smart appearance; £155.—C. 24. Grosvenor Av., East Sheen, S.W.14. [6252]

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HARLEY DAVIDSON, 79h.p., 1915, 3 speeds, coach sidecar, lamps, horn, all spares; £85, no offers; not war model; seen Southend.—Hill, 24 Silchester Rd., W.10, Phone: 1443.

T ATE 1919 Harley Combination, electric model, proper lect condition, bulbons sidecar, discs all round speedometer, Easting wind serven, Tun-Sad; £225-Palmer, 121, Glenfarg Rd., Catford, S.E.6. [6462]

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Bosch, fully contipped, perfect condition; £110, or offer,
-497, Upper Richard Rd, East Sheen. (X274)

HARLEY-DAVIDSONS, 7-9hp, mag, models, mechanically perfect, ready to ride, good tyres, 1918, C90; 1919, £100; second-hand Harley sidecar, £20.—Olphert, 66, Church Rd., Barnes, S.W. [6353]

1918 Harley-Davidson, plating and cannol excellent, any trial, 110 gps.; magnificent bulbous backed decar, £20, optional; or exchange 1920 lower power; seen after 5 p.m.—175, Cambernell Grove, S.E.S. [3998]

HARLEY-DAVIDSON Combination, late 1915, electric model, ramons K engine, splendid order, teady for tontring; £140; trial—W. B. Garner, Depot Cottage, Occupation Rd., Manor Place, Walworth, S.E. [5783]

HARLEY-DAVIDSON Combination, 7-9h.p., must, model, just back from makers, overhauled, re-enamelled, replated at rost of £50, new Goodyests, electric lamps, wind sereen, horn, etc.; £155.—Day, Walcef, Hersham (near Esher).

HARLEY-DAYIDSON Combination, 7-9hp., 3-speed, electric model 3 happ, electra forn, speedometer, knee shields, large bulbous back ridecar, streen, hood, step potrol tia carrier, and spring luggage grid, mileage 3,000, fully insured, date 1915-16; 138 gas.; London, Box 4,747, e.j. The Motor Cycle.

HARLEY-DAVIDSON Combination, 1919, in excel lent mechanical running order, lamps, Klaxon Easting screen, new appearance, owner sails for Ceylon on 19th; £155 for quick sale; evenings.—1. Townley Rd., Dulwich, S.E.22.

LATE 1916 Special Demonstration Harley Combina-tion, electrical model, excellent condition, disco-new 3'\(\frac{3}{2}\)in Dunlop, new sidecar, Triplex screen, head, spare tyre, valves, chains, etc., insured; 2165 or cffer, -Sancred, Galton Rd., Westchiff-ne-Sea.

"Sancreed, Galton Rd., Westchn-on-sea.

HARLEY-DAVIDSON 7-9h.p., 1918, porchased
February, 1919, canoelet sporting sidecar, 3speed, clutch, kick-starter, TT. bars, aluminium discs
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19²⁰ Hazlewood-Jap 5-6h.p. Combination. 3-speed countershaft, just delivered; £186.—Raynham, [5681

19 20 Hazlewood-Jap Combination, 5-6h.p., brand new; exchange 25th.p. Douglas, T.T. Trinmph, or countershaft Trinmph.—Box 4,855, c/o The Motor Cycle, (6797)

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19 20 H.B.-Blackburne, 2-speed, kick start, hand
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19 20 Henderson Combination, hood, screen, etc., as new, very fast; price £230.—Gerrard 2113.—Loyd, c/o Lamotte, 175, Piccadilly, W. [5180

HENDERSON, 1920, Lucas lamp, Cowey horn, mi age 800, owner buying car; sacrifice, £160. Tod, 61, Eardley Crescent, Earls Court. [55]

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4.-8-10h.p. Henderson combination, 4-cyl., 2-speed, free engine, handle start, all accessories; £125. [3941

10 h.p. 4-cyl. Henderson Combination, electric light spare tube, excellent order throughout; £145.

-21, Wheathill Rd., Aberley, London. Phones Streatham 2405.

Hobart.

HOBART 23 ih.p., 3 speeds, new tyres; £28.-C. Fox, Charawood St., Sutton-in-Ashfield. [5940

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23th.p., single, uncrated; list price, £63-15; first cheque secures.—Dyson, North St., [5730

HOBART-J.A.P. 4h.p., 3-speed, clutch, drip feed, Bosch waterproof, coach sidecar; £75.-82, Glen-coe Av., Seven Kings.

TOBART 2%h.p., 3-speed, clutch, new Dunlops, me-chanical horn, lamps, accessories; £40. - 58 Erlanger Rd., New Cross. [6038 16039

1014 44/h.p. Hobart Twin, 3-speed, clutch, Boseb mag., Brooks saddle, underslung sporty sidecar, good tyres; ride away; £60.—79, Unton Lane, Forest Ect?

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REX G. MUNDY.—Hockley 31/h.p. 2-stroke, 3-speed countershaft box, lamps, horn, etc.; £47/10.—1, Duke St., Richmond.

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HOSKISON, 1920. 234h.p. Union, fully equipped, 2-speed, F.E., K.S., Burman; £65.—Neal, 4, Stren-sham Hill, Moseley, Biruningham [X 3090]

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HUMBER 3½h.p., 2-speed, good running order; £40.—Lynn, 58, Northside, S.W.18. [6467 H UMBER Lightweight 3-speed, good condition; nearest offer £35.-178, Durban Rd., Grimsby.

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H UMBER 31/h.p., about 1912, free engine, Bosch upper Deal, Kent. B. and B.; nearest £30.—Hayman, Upper [6091]

HUMBER 3½h.p., coachbuilt sidecar, 3-speed clutch, splendid order; ride away; £75.—190, Broadway, Hendon, N.W. [6694

H umber, 3-speed, S.A., with Cancelet D4 sidecar, Las as new, take 3 anywhere, perfect.—The Fern, [6435] Market Diayton.

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HUMBER Combination, 2-speed, F.E., handle starter, Bosch, B. and B., running order, guaranteed; £65; solo, £55.—34, Somerset Rd., Sheffield. [5852

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19 14 7-9h.p. T.T. Cintch Model Indian overhauled, perfect condition; £60.—Ba

INDIAN 7-9h.p., spring frame, electric lights. Canoelet sidecar; £120.-Whitworth, 139, Ne Birmingham.

19 20 7-9h.p. Indian 3-speed and Grindlay dynamo electric lighting, wind screen, not meter; £240.—Below.

19¹⁴ 7-9h.p. Indian 2-speed and Swan Sidecar, a

7-9h.p. Indian, clutch model, and coachonit ale £90.—Cole, 137, Chatsworth Rd., Lower Cl. London, E.5.

1015 7-9h.p. Indian, clatch model, verification in Lindsey, Lancs.

5-6h.p. Indian, clutch model, lamps, horn, good dition; £58, or exchange lower power; after 14. Ecclesbourne Rd., Islington.

INDIAN Combination, 1914, 31/h.p., clutch, frame, 2-speed; £80, lowest; evenings.—37, Hart Lane, Barnes, S.W., London. 19¹⁸ 7-9h.p. Powerplus Indian, re-enamelled plated as new, in first-class running order; Taplin, 159, Hornsey Rd., N.7.

19²⁰ Brand New Indian Powerplus Combin latest model, with sidecar, lamp, wind st £224.—Walbro Motors, Ely, Cambs.

1920 Indián Combination, just delivered, d lighting, Indian's best bulbons back sidecar; -Driscoll, 58, Woodfield Rd., Ealing.

19¹⁶ 5-6h.p. Indian C.B. Combination, 3-speed 6 K.S., fast and smart lot; by appointment; 7-73, Braileford Rd., Brixton, S.W.2.

INDIAN 7-9h.p., 1915, 3-speed, splendid con-low mileage, large luxurions conchimit si £135.-Colehrook, 92, Hazelville Rd., N.19.

INDIAN 1911-12 5-6h.p., clutch model, very English controls throughout, T.T. bars; best £45.—Upjohn, Stapleford, Cambridge. (1) INDIAN Powerplns, 1920, dynamo lighting, Fuliord sidecar, accessories, condition like £190.—Griffiths, 97a, Kilburn Lane, W.10.

5 6h.p. Ciutch Indian, thoroughly overhauled an enamelled, new chains and sprockets; 252. Pike, 73, Loughborough Park, Brixton, S.W.

19¹⁵⁻¹⁹¹⁶ Indian Combination 7-9h.p., 3-speed, electric lighting, all in excellent condition; -Thomas, 5, Victoria Mansions, Holloway Rd., N. 19 20 Indian Combination, dynamic lighting, Fi wind screen, speedometer, complete and re-ride away; 190 gns.—Julian's, 84, Broad St., Re-

£85.—Indian 1914 7-9h.p., 2 speeds, spring h coachbuilt sidecar, electric starter, dynamo ing; bargain.—103a, High St., Wandsworth, S.W.

INDIAN Combination, 1914, 7-9h.p., 2-speed, condition, ride away; £98.—Togneri, Dunbar, land.

LATE 1915 5-6h.p. Indian, 3-speed, cluch, offer over \$80.—Richards, Horsington Manor, Prombe.

1915 Indian Combination 7-9h.p., 2-speed, kick clutch, electric lighting, and horn, speedor perfect condition; £90.—Osborne's, Ltd., Bond Enling.

INDIAN 7-9h.p. Powerplus, brand new, 5-sh. K.S., clutch, lamps, Klaxon; a bargain, 21 Seen, Railway Arch Garage, Denmark Rd., Canwell.

19 15 5h.p. Indian and Sidecar (new), Camed screen, lamps, horn, new back Dunlop, elent condition; £110.—Carratt, 16, Hardy Rd., B heath, S.E.

INDIAN, 2-speed, 7-9h.p., new tyres, screen hood, needs slight repairs; any reasonable considered,—12, Tatam Rd., Stonebridge

Indian.

INDIAN.—For early delivery of the famous Powerplus motor cycle, with electrical equipment, write to J. Evans, Indian Agent, 83 91, John Bright St., immingtan. (0173

19 20 Indian Combination, N.E. model, electric throughout, complete us unikers' specification, party new, 2215.—The Napier Gauge, Forest New Rd., add Woodford.

(1920 7-8)h.p. Powerphs Indian Combination (May delivery, mileage 500, electrically equipped, East wind screen; £220,—beverall, The Willows, Rel-toft Rd., Hereford.

NDIAN Combination, 1914, 2-speed, clutch, spring frame, disc wheels, electric lamps, overhauled, sheadd condition; £100.-66, Bawden Rd., Smeth-ick, Birmingham.

9 16 Indian Fowerplus Combination, electric lighting, Easting; new tyres and chains, luggage ad petrol tiu carrier; £130.-114, Dartmouth Patte III, Highgate, N.19.

10 19 7-9h.p. Powerplus Indian, 3-speed, kirk starter, solo, mechanically perfect, good tyres, camel and plating, as new; £115.—Olphert, 66, hurel Rd., Barnes, S.W. [6354]

**MDIAN Combination, Powerplus 7-9h.p., spring frame model, overhead valves, electric light, horn, 3-seed and chitch, in new condition; £150.—Bridgen and, Motor Works, Whremton. [6667]

M. Jack 7-9h.p., 1915 T.T. clutch model, polished allowing minimm discs, inst overhauled, engine perfect, very set; £80, neurest cheque secures.—Lloyd-Evaos, Kingsood, Englefield Green, Egham. (6501)

NDIAN, 7-9h.p., April, 1920, electric model, Swan sportiog sidecar with electric lamp, completely upipped, as new: £20; taking delivery of car.—J. upton, Trinity College, Cambridge.

NDIAN 7-9h.p. 1915 Combination, 3-speed, clutch, kuck-start, electric lighting, horn speedometer, apatanee, mechanical condition, and tyres perfect; £120; ter 6 p.m.-60a, Kirkdale, Sydenham.

NDIAN Combination, 1915, clutch, kick start, electric light, speedometer, Millford sidecar, shood, e, mechanically sound and in excellent condition; 125; snip.—352, High St., East Ham. [5061]

NDIANS.—Several 1918-19 Powerplus models, many with new tyres, re-enamelled and plated, as new, echanically perfect; £125, or with sidecar and fully mipped.—3, Courtland's Av., Lee, S.E.12. [6735]

[9] S. J. Cournand S. Av., Lee, S. L., S. Speed, clutch, K.S., Millford siderar, hood and screen, contion very good, any Irial by appointment; £95.—M. obbs, Highfield Villa, Ethey, near Stread, Glos. [6864] 8005, Highment vitta, Enery, near Groun, Gross (1992).
WDIAN Combioation, 1914, 2-speed, kiek start, recentled, new chains, new sprockets, hood, sen, apion, electrically, equippel, sprung frame, over-uled; nearest 100 gns.—73, High St., Bexley, Kent. 1935.

NDIAN Combination, 7-9h.p., 3-speed, cirich, kick start, lamps, horn, accessives, in splendid un-ig order, aur trial: £100 for quick sale; owner bought r.-Crown Hotel, Sundridge Park, Bromely, Kent.

NDIAN 7-9h p. Late 1919 Combination, 3-speed, clutch, kick-stant, elevtric lighting as new, not ruo 100 miles, sidecar brand new, no connection with my; £200; after 6 p.m.-60a Kirkdale, Sydenham, 65518 [£325

[651€ NDIAN 1915 7-9h.p. Sporting Combination, 3-speeds, K.S., canoelet sidecar, discs, tyres perfect, Klavon, amel and plating unscratched, mechanically pert; £125.-65, Haldon Rd., Wandsworth, S. Frence

t; £125—65, Hauda Am. [6600]

14 7-9hp. Indian Combination, 2-speed, dynamo, electric lighting, starting and horn, speed-byte, splendid condition; trial hy appointment, elecads; £100.—Rowsell, 18, Buckland Rd., Ley-[6346]

10 14 7-9h.p. Indian, spring frame, and Coronet coachbuilt sidecar, 2-speed and clutch, engine t overhauled and new parts fitted, lamps and speed-eter, too fast for owner; £115.-5, Wilson St. 15880

9h.p. Iodian and Phænix Torpedo Sidecar, 2-speed, clutch, Binks, disc wheels, acetylene lumps, Gforia-zoe, in splendid order, tyres excellent, very smart lot; 'trial; 275.—Learned, Greenbank, Monument Gree-phridge.

20 Indian Powerplus Combination, electrically all might be a compared to the combination of the combination

JUIAN, late 1916. Powerplus, 7-9h.p., 3-speed, clutch, electric horo, electric lamps, tools, spare C. T.T. hars, disc wheels, large copper exhaust, etically new; \$120-18. Netherhall Gardens, Hampdu, N.W.S. After 5.30 p.m.

16 7-9h. Powerplus Indian Combination, dual clutch, 3 speeds, electric hora and lamps, speed-ter, etc., excellent condition, low mileage: £135, toffer, ar exchange.—L. M. Buntord, 42, Broad St. town, Montgomerschire.

DIAN 1915 Combination, Swan sidecar, sporting mount, 6h.p., 3 speeds and clutch, kick start, wheels, P. and H. lamps, Ford mechanical horn, in good order; too last for owner; £110.—H. 6449 feer, 104, Moor St., Birminglaum.



MOTOR CYCLES FOR SALE.

Indian.

7 9h.p. Late Model Indian Combineton, Swam sadden, ear, hand and toet control, clutch, kiek that's, Khayon, Tan-Sad, elect the latt, toet, and vay powerful, top-lede until t, price 1153. Apple, Mr. Day, S. Reshold Phace, Becklew RE, "Extrager RE, Suppose 8, 5183.

19 16 Indum 7-9h.p., 3-speed, disc wheels, fitted Glorin projectile side ar, C.A.V. dynamic, electric lighting, recently enginelled black and plated, numerous source, perfect condition, smartest outfit in Nottinglaming between orders—Portland Motor Co., Ltd., Manefeld.

1920 Indian Powerphry, destric equipment, speed, one-er, interface with 25 or the memory blist observation of the state of the control of the state of the control of the state of the stat

INDIAN 922 owerplus Combination, usual checkfird and our combination of the combination o

NDIAN,—Warning, The Hendee Manufacturing Co.

—warn intending jurchasers of Iodians not to jay
excessive prices to speculators. A list of Indian
ageots who cao supply promptly at list prices, plus
transportation charges, will be seen on application to
Headee, 366-368, Eunto Rd., London, N.W.I. [1970]

INVICIA Lightweight, fitted with the famous Villiers 240-p. 2-stroke engine, a thoroughly reliable mount; £65 cash, or on easy payments 42 extra. Many other machines in stock; latest lists and particulars of Harrolds system or easy payments soot or application—Harrods' Motor Showrooms, 1016-116, Brounpton Rd., opposs.e Main Building, Looden, 8-W.I. (5513)

Iver Johnson.

TVER JOHNSON 1920 7-8h.p., 2-speed, kick start, and clutch, brand new; £115.—30, Herrington Rd., South Kensington Statica, Kensington 7215. [5557

lvy IVY.—The Walsall Garage, Walsall, cao supply at early dates. [5763

IVY 2-speed 2-stroke in stock.—Rothwell and Mil hourne, Cowleigh Garage, Malvern. [6186

IVY 2-stroke, 1916, not run 800 miles, stored 2 years; £38/10.—Newton, 23, Loadon Rd., Begnor. [6327

IVY 2-stroke, 2-speed, 1917, Tan-seat, as new, complete, all on; £62/10.—Seen, 43, Dinsmore Rd., Balham.

Balham.

IVY, 2-speed, about 1914; £42. Wanted Scott engine
and radiator.—Evans, 4, Ash Villas, Herbert Rd.,
[5689]

MMEDIATE Delivery of all Ivy models, the acknow-ledged finest lightweight.—Full particulars, H. C. Henly and Co. Loudon and District Ageats, 91, Gt. Portland St., W.1. Mayfair 4084. [0022]

Ixion.

TIXION-VILLIERS 2½hp. Single, lamps, speedo-meter, etc., new Duolops, heavy; £40; 6.30 p.m.— Pope, 77, Holland Rd., Willesden Junction, N.W.

James.

THE Walsall Garage, Walsall, for good deliveries of all James models. [5764

H Gerrons, Northgate, Inswich, James, all models, earliest deliver, Phone: 962. [8100]
WAUCHOPE'S, 9, Shoe Lane, London, E.C.4,—214h.p. James 2-stroke, new 1920 model; 275, [3947]

WHITBY and Son, the James specialists, sole trict-agents.-7, The Vale, Acton. W.3. Chis-

WHITBY'S have a splendid stock of slightly used 1919 James 5-6h.p. and 4\(\text{th}\), combinations, overhauled and gnaranteed by us, some not done 200 miles; write, 'plone, or call.-7, The Vale, Acton, W.3.

WHITBY'S.—James 1920 2-stroke, lamps and horn, indistinguishable from new; first £75.

Try Whithy's, agents for [5036 PARTS for your James. Try

JAMES 2-stroke, 2-speed, excellent condition, speed ometer, £55; also 3h.p. Enfield, £55.-Warren, Sndbury, Suffolk.

JAMES, 414h.p., 3-speed, clutch, P. start, new Dun-lops, accessories; £60, offer.—1, Melrose Terrace, Hammersmith. [6337]

1920 Mag-dynamo 6h.p. James Combination; £215; from stock.—A. J. Young and Co., Utd., Heath Garage, Newmarket.

Garage, Newmarket.

JAMES 1920 5-6h.p. Combination, Lucas dynamo lighting; list £215, accept £198.—Hucelecote [6449] lighting; list Lodge; Gloncester.

JAMES 414h.p. 1916 Motor Cycle, with tandem sidecar, in splendid order.-R. S. Girling, The Burgalow, Wreatham.

James

19 18 James 5-6h.p. 3-speed Countershaft Combination, excellent condition; best offer; must be sold.—Greaves, Harby, Melton Mowbray. [5981]

JAMES Latest 1920 6h.p. Combination, Lucas dynamo lighting, brand new; immediate delivery.— Parker's, Bradshawgate, Bolton. 245, Deansgate, Manchester. (X3000

6 h.p. James Combination, immediate delivery, mas., cynamo lighting set, ctc.; list prices.—From A. J. Young and Co., Ltd., Heath Garage, Newmarket. Thous: 214.

JAMES Combination 1916-17 4 b.p., 3-speed, kick start, electric light, Watford trip speedometer, good condition; 2105.—Hilbre, 9, Graham Rd., Hendon, N.W.4.

JAMES 3½h.p. Twin, 3-speed, K.S., clutch, little used, niechanical condition, enamel, plating perfect, electric lighting, hour; bargain, 290.-6, Comwall Rd., Harrogate.

19 16 James 3½h.p. Twin and coachbuilt sidecar, ex-cellent condition, just been overhauled, speed-oneter, horn, lamps; £120, or near offer.—Afton. Thork-hill Rd., Thames Ditton.

1 92 James 5-6h.p. Combination, Xl'all saddle, lamps, horn, tools complete, perfect condition, mileage 343; £200, or nearest.—Burrow, Meadowcroft, Oxford Tenuce, Busford, Stoke-on-Thent. [5946 JAMES 44h.p. Combination, coachbuilt, 3-speed, countershaft, lamps, horn, speedometer, spare tyres, fully insured, ccadition as new; uny examination, trial; £120, or nearest.—36, Oxford Rd., Windson. [5915

J AMES 4½h.p., 1916, Canoelet combination, bood, screen, 3-speed, kick starter, perfect order throughout; stand expert examination; any trial; best over £100.—154, Lower Addiscombe Rd., Croydon. [4097]

11h.p. James All-chain Coachbuilt Combination, 3-44 speed clutch, electric and gas, sprung luggage grid, tools, spaies, good condition and appearance; nearest 280.—Surith. 34, Priory Av., Caversham, Reading. 16224

JAMES 5-6h.p. Combination de Luxe, late 1919, first-class order, Easting screen, legshields, lugrage carrier, speedometer, etc.; £160.—Martin, Arden, Mush Laue, Erdington, Birmingham. Tel.: 186 Erdington.

JAMES 1919 4½h.p. Big Single Combination, cancell.

5. speed countershaft, all chain, electric lamps, mirror, leg shields, wind screen, tools, 900 miles; mid-Surrey; best over £140.—Box 4,850, c/o The Motor Cycle.

19¹⁸ James 5-6h.p. Combination, Easting screen, Watford speedometer, Lucas langes, pillion seat, original tyres good, low mileage, perfect, inst, comfortable, economical; particulars, stamp; £150.—Viear, Comberton, Cambridge, Cam

19 19 James Combination, 4½h.p., 3-speed, countershaft, clutch, all-chain, kick start, wind screen, 5 lamps, horn, tools, excellent condition, regdy to drive away; seen any time and tried; price £130, no offers—0 Feach, The Wellington, Leek, Staffs. (Z3012

J.A.P.

1914 8h.p. J.A.P. Combination, Grado gear, new tyres, splendid, climb anything; £65.—Peake, 48, Parsons St., Banbury.

J.A.P. 4h.p., complete lamps, Klaxon, tools, etc., gnaranteed perfect; £40; after 7.—71, North Side, Clapham Common, S.W.4. [6853

J.A.P. 8h.p. Combination, 2-speed clutch, speedometer, screen, accessories, just overhauled; £75.—11, Winchelsea Rd., Phillip Lane, Tottenham. [6206]

4 h.p. J.A.P. Combination, cane sidecar. 2 speeds, free, drip feed, lamps, good tyres, new tubes; £65 or offer; ride away.—Oxbrow. 35, Downs Park Rd., lackney.

J.A.P. 6h.p. C.B. Combination, 3-speed countershaft, K.S., all-chain drive, F.R.S. lamps, speedometer, etc., exchange lower power and cash, or sell; £98.— C.S., 14, Swaton Rd., Bow, E.S. Tel.: E3155. [6506

J.A.P. Combination. tip-top condition, mileage 370, guaranteed perfect and as new, 3-speed kick, Easting, all accessories; expert inspection invited, any trial; North London; owner going abroad; 99 gns.—Box 4,840, to The Motor Cycle.

J.E.S.

J.E.S., attached to cycle; £18; after 6.—Hipkins, 4, Farrance Rd., Chadwell Heath. [6011

J.E.S., special low-built frame, reliable, fine climber, accessories; £23.—69, Princes Av., Palmer's [6514]

J.E.S., in perfect order, enamel and plating good, nearly new tyres; £25.—Coupe, 9, Packer St., Halliwell, Bolton. [6686

WAUCHOPE'S, 9, Shoe Lace, London, E.C.4.— 7-9h.p. J.H. Combination, 1915, M.A.G. engine, countershaft Sturmey-Arcber gear, all-chain drive; £125.

JUNO-V.T.S. 2¹₄h.p., 2-stroke, new Feh., 1919, 2-speed, liamps, horp, tools, thoroughly overhauled, powerful; £55; owner going abroad.—16, Ashmount Rd., Tottenham, N.15. Atter 6 p.m. [5806



MOTOR CYCLES FOR SALE.

Kerry.
KERBY-ABINGHON, 1913, 2-speed, Bosch, running order; bargain, £38.-7, Exhibition South Kensington.

K ERRY-ABINGDON, 5\(^12\), b., free engine, clutter, can be seen and tried any time; 484, or 1 offer—B. W. Crief, Saddlebow, King's Lyun. [6]

KYNOCI.J.A.P. 4h.p. Twin, Bosch, late me new tyre, sporty machine, bargain; £40.—[6] Lea-Francis.

LEA-FRANCIS, 1919 31/2h.p., lamps, horn, too 266, Lordship Lane, Dulwich, S.E.22. LEA-FRANCIS, 1920, lamps, horn, speedome £140.—Lycett, Market Place, Burslem. [6

WAUCHOPE'S, 9, Shoe Lane, London, E.C. 3h.p. Lea-Francis, new 1920 model; £130/1 LEA-FRANCIS, 2-speed, chain drive, just fiauled; £65; by appointment. — Ritsen, Romola Rd., Herne Hill.

LEA-FRANCIS, November, 1919, excellent of tion, lamps and accessories; £115. — Magencies, 20, Regent St., Learnington. [X2]

LEA-FRANCIS, 1920.—Place your name on waiting list for delivery of these aristocr mounts.—A. J. Sproston, Ltd., 198, Gt. Portland W.1.

EA-FRANCIS, 1920 Model, A 1136, J.A.P. et Lucas lamps, Bonniksen trip speedometer, Intely perfect throughout; £130. — Swindlet Spencer Rd., Coventry.

EA-FRANCIS, 1920, 3½h.p. J.A.P., done under miles, Cowey speedometer, big P. and H. In etc.; £145, or offr.-Write Ivan Campbell, 10, Mary Axe, E.C., or 'Phone: Avenue 5413. Sean appointment.

Levis.

LEVIS Motor Cycle, 1920 model, just delivered f works.—Butler, 47, West St., Warwick. [5 LEVIS 21/2h.p., 2-speed, spring frame, excellent co tion; £55.-9, Cromwell St., Hounslow. [5

L EVIS. 21/h.p., perfect, only wants seeing.— George Rd., Stockland Green, Birmingham

EVIS, 1916, 2-speed, good running order, la horn, etc.; £45.—The White Lion, Dunmow, E

19¹⁶ 2¹⁴/_{h.p.} Levis, in good condition; n snip. ‡ ride away.—74, Radeliff Buildings, Bourne Est Clerkenwell, E.C.

L EVIS, 1915-16, condition as new, fast, sporty chine; £45; seen any time.—Tom, 15, Wimb Gardens, Ealing, W.13.

L EVIS 214h.p., 1919 Popular model, lamps, by tools, splendid condition; £55.—R. Moffatt, 4 Garrat Lane, Earlsfield.

LEVIS, '24/sh.p., 2-speed, clutch, just overhau splendid running order, lamps, horn, etc.; 2-15, Brewer St., Woolwich.

L EVIS 1917 24th.p. 2-strcke, bargain, ride agay grs. — Smith, 268, Lavender Hill (opp Arding and Hobbs), Clapham Junction.

19 15 Popular, 2-stroke, 23/h.p., Amac carburett funnlog tyres, P. and H. lamp set, good contion; £38.—2a, Ladbroke Grove, W.11.

2 1 h.p. Levis, 1914, new mudguard and carrier, Bo 4 Amac, in good running order; £39.—M. W Oak House, Enfield Rd., Southgate, N.14.

10 15 Levis Popular, T.T., fast and reliable, lam horn, footboards, excellent condition throughout 40 gns.—Roseherry, Saffron Rd., Biggleswade. [66]

HOVE Engineering Works, Davigdor Rd., Hove, 9
district Levis agents; immediate delivery. Office repairers R.A.C., A.C.U., N.C.U. Established 12 years.

LEVIS.—We strongly recommend, and can waisel famous 2-stroke.—District agents Walsell Garage, Wolverhampton St., Walsall. 'P

19 20 Levis Popular, under 500 miles, Hoffmann 6 bearings, horn, comprehensive insurance and A.A. tunasferred; £65; call after 7.-15, Cliff Av., Finchley.

LEVIS 21/h.p. 1920 Popular Model. - Viri Hardie and Lane, Ltd., nuthorised agents, 2 Woodstock St. (off Oxford St.), Bond St., W.1. Phon-Mayfair 6659.

LATE Model Levis Popular, B. and B. pilot jet of buetter, E.L.C. variable ignition, Miller let lamp, Brampton torks, almost new condition throughou approval willingly; £46.—Worboys, Saffron Rd., Bigels wade. [0]

Lincoln-Elk.

1b.p. Lincoln-Elk, 1920, B. and B., Bosch, Grac 2 gear, fast, powerful, and absolutely sound 2.35, or exchange good 2-stroke.—F. B. Hobson, Hi Lodge, Welwyn, Herts.

Lincoln-Fik.

1.incoin-Eik, believed 1914, long copper ex-baust, lamps (Miller), horn, new Clincher, ored during war, very little used; £36.—Simons, Bet inge, Harlington, Middlesex. [5707]

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L.M.C.

M.C., new Nov., 1919, 6h.p. twin, never been used;
owner has no use for same; best offer over £140.—
J. Sparrow, 5, Alexandra Rd., Doneaster, Yorks, (1)
[6013]

920 4h.p. L.M.C. and Sidecar, Sturmey-Archer 3 speed, lamps, tools, spares; £110.—River Roden h, Abbey Rd., Barking. 'Phone: East Ham 756.

M.C., lata 1919, 4 h.p., 3-speed, clutch, 57 Cowey horn and speedometer, lamps, mileage 70 an Chatham; insurance; £95, with sidecar £104 ptalu Dyer, Brompton Barracks, Chatham.

M.C. 1916 Combination, 2-speed rounter-haft, 4¹/₄ j. p. kick start, chain-cun-belt, lamps, spates, extra avy Diudops, just overhaldel; £80, no offers.—Alexder, Shakespeare Tayern, Clawtord St., Sulty, Highespear, Shakespeare Tayern, Clawtord St., Sulty, Highespear, Shakespeare Tayern, Clawtord St., Sulty, Highespeare, Shakespeare Tayern, Clawtord St., Sulty, Highespeare, Shakespeare, Shakespeare, Clawtord St., Sulty, Highespeare, Shakespeare, Shakespeare, Clawtord St., Sulty, March 1997, No. 1997,

Lugton.

UGTON 4h.p., 3-speed Sturmey-Archer, little used, new condition throughout; £50.—248, Drakefell h, Brockley. [6602

Martin.

ARTIN-J.A.P. 25th.p. 1916; £45; alter 5 p.m.— Amann, 80, Eswyn Rd., Tooting, S.W. [5790] ARTIN-J.A.P., Brooklands sporting model, 8-10 th.p.; ride away; £65.—15, Temple Rd., Chisywick

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EX C. MUNDY for early delivery of Martinsyde combination.—1, Duke St., Richmond. [0207 ARTINSYDE-NEWMAN Combination, 6hp., 3-speed, clutch, just delivered.—Turnil and North forbough.

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Matchless.

9 20 H. Matchless, never ridden; £230.-Box 4,860,

7AUCHOPE'S, 9, Shoe Lane, London, E.C.4.—8h.p. Matchless combination, 1918; £160. [3169 [ATCHLESS-J.A.P. 8h.p., V.S. 2-speed, Bosch, in good condition; £60.-14, Phoenix St., Euston.

hp. Matchless, 1913, Bosch, and B.B. earburgter, ride away; £45.-3, Aspley Rd., Wandsworth, S.W. [6692] 'ROW Bros., Guildford, West Surrey agents for this first-class outfit. Matchless in name and dity.

[ATCHLESS Combination, 2-speed, kick start, fine turnout; £88.-57, Kenbury St., Celdharbour Lane, oberwell. [5435]

20 Matchless Model H, dynamo lighting, hood, leg guards, etc. £240.-2, Nightingale Rd. Lower pton.

ICTORY Model Matchless Combination, lamps and accessories, splendid condition; £160.-14, Phoenix Euston. [6540

ATE 1914 Matchless Combination, 3-speed, full-equipment, splendid condition; £128.-E. Bygott, m, Salop.

20 Matchless Model H electric Lucas lamps, and special accumulator; £245.—2, Nightingale Rd., rer Claptou. 'ATCHLESS Model H, delivery promised this month by makers, £10 deposit paid; first offer.—4, aer Rd., Wembley.

ATCHLESS-M.A.G. 8h.p. Combination, 1: £100; weekdars 10-5.—Dowdall, Imperial Co-Science, South Kensington.

15 or Best Offer; 4h.p. Matchless, new B. and B., also belt, engine periect, 120 m.p.g., Bosch mag, 19, Grove Lane, Camberwell. [6290

Grove Lude, channerwell.
 Matchless Model H, wind screen. 3 Lucas and horn, absolutely perfect; £228-14.
 Maps and horn, absolutely perfect; £228-14.
 Marchiess 1916 79h.p. M.A.G. Combination. re-enamelled as new, Lucas lighting; £150.—Whith, 133, New St., Birmingham.
 ATCHLESS Combination. mag., 3-speed, complete lumps, etc., perfect condition: £150.—Phone; Marchiess Combination.
 Marchiess Combination.

ATCHLESS, Model H, 1920, done 200 miles, absolutely new, all standard fittings; best offer.— wn Flaunder, Alexander Rd., Watlord. [X3164 114 Matchless 6h.p. J.A.P. Combination, variable gear, lamps, hore, speedometer, accessories, and es; £75.-1, Melrose Rd., Merton Park, S.W. [6443] 19 Matchless Victory 8h.p., spare wheel, Lucas lamps, hood, screen, Cowey speedometer, tools; 3.—S., 69, Clarence Rd., Sutton, Surrey. [6231 ATCHLESS and C.B. Sidecar, 1913, 6-8h.p., Bosch mag,, just overhauled, private owner going ad; £90.-86, Uplaud Rd., East Dulwich. [4294]



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. £120 0 accessories
1920 AMERICAN EXCELSIOR. · electric

1920 AMERICAN EXCELSIOR, electric model, fully equipped to model, fully equipped to sporting Sidecar, lampe, horn, speeds 1920 (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (1910) (

DELIVERY SHORTLY.

DUZMOS. READING STANDARD. JAMES 31 h.p. twin and 5-6 h.p. twin,

Large Stock of 5-6 and 8 h.p. J.A.P. Spares.

We want to buy SOLOS or COMBI-NATIONS, 1918-1919 and 1920.

FOR HOLIDAYS

TRY IT. IT PAYS.

See "The Motor Cycle," May 13th. page 535, or write us for particulars.

BALLARD'S MOTORS 92. Gloucester Road, S.W.7.

Telephone: Kensington 6312. Telegrams: Efembalmot, Southkens, London.

MOTOR CYCLES FOR SALE,

Matchless

Matchiess.

19¹⁹ Guaranteed Matchless Combination, 4 interchangeable wheels, kit tools, hood, lamp, horn,
owner driven.—113, Rodney Rd., Walworth, S.E. [5955]

1 920 Model II. Matchless, Lucas mag-dynamo lightme, near driven speedometer, 800 miles; price £245 cash, no offers.—50, Glonesstei Rd., Tottenlam, N.15.

MACHLESS 1915 7h.p. MAG. 8H Combination, 3-speed, C.S., gear, clutch, K.S., small mileage, excellent order; £120.-64, McIrese Av., Mitchan.

19 20 Model II. Matchless Combination, Lucus lamps rear driven speedcmeter, Kluxon, done 250 miles; £230, or best offer.—Millward, York Av., Jackschle, Notts.

MATCHLESS 1919 Combination, 8h.p., war model, spure wheel, lamps, tools, perfect running; £165; seen West London, evenings.—Box 4,812, c/o The Motor Cycle.

Cycle.

8 hp. Matchiess Victory Model Combination, spare wheel, wind screen, tools, linguage gnd, petrol carrier; £145.-29, Grey St., Higher Openshaw, Manifold

M ATCHLESS 4h.p., Grado gear, kick start, in per-245; exchanges considered.—Hudson, 14, Conway Rd., Plumstead.

1920 Matchless Model II2, M.A.G. engine, Magdyno lighting, hood, wind screen, speedometer, everything perfect; £265.—14, Owen Mansions, West Ken-

MATCHLESS Combination, 6h.p. J.A.P., counter-m shaft gears, 3 lamps, horn, speedometer, spares, etc., good order throughout; 86 gus.—15, Summerhill Rd., Dartlord. [6585]

19 Matchless Combination, hood, screen, electric and acetylene lighting, spare wheel, new tyres, condition as new; £185.—A.S., 15, Bramshott Av., Charlton, S.E.7.

MATCHLESS Combination, almost new, 8h.p., 3-8 speed, lamps, Klaxon, speedometer, mileage 2,000, very fast; seen by appointment; £160.-Driscoll, 58, Woodfield Rd., Ealing.

19 20 Model H Matchless, new Feb., only done 800 miles, electric lighting, spare wheel, screen, speedometer, horn, etc.; £235.—Olphert, 66, Church Rd., Barnes, S.W.

M ATCHLESS.J.A.P. 1915 4h.p., Armstrong hab M gear, clutch, kick start, just overhauled, perfect condition, all accessories; £65.—Burton, 2, Ye Meads, Marsh Lane, Taplow.

10 1912 8h.p. Matchless Combination, spare wheel, hood, screen, lamps, generators, horn, pillion, mileage 500; £185.—38, Koights Hill, West Norwood, S.E.27. Phone: Streatham 1676.

SPORTING MatchlessJup, c.h.v. twin. 6h.p., or hulled, re-enumelled, new flyheel, pulley, ca.h etter, saddle, etc., very rast; expert examination invite £75.—156, Marrowbrock Lane, Cove, Hants. [66]

E75.-156, Marrowbrook Lane, Cove, Linus.

M ATCHLESS 8hp. Combination, Victory model,
M July, 1918, excellent condition, spare wheel, wind
screen, all accessories, electric lighting; £160.-4,
Richmond Rd., Thornton Heath. Seen by appoint.

FOR Sale, 1920 Matchless and sidecar, spring frame, spare wheel, screen, acetylene lamps, midage about 700, a perfect outhf, £235; also Matchless new outfit, unused, £250 or near offer.—S.H.P., 2, Dalton St., West Hartlepool.

15489
1916 M.A.G.-Matchless Combination, 3 speeds, tyres, Lucas dynamo lighting, in fine running order; best offer over £140; trial if required.—King, 82, Bunhill Row, E.C.l.

MATCHLESS Steel Torpedo Combination, 1914, 2Mangales Steel Torpedo Combination, 1914, 2Steel Barden Steel Barden Steel

M ATCHLESS Model H, complete spare wheel, tyre, M 3 lamps, horn, hood, screen with side wings, mileage under 500, splendid outfit; £230, quick sale; owner purchasing car.—Box 4,573, c/o The Motor Cucle.

owner purchasing car.—Box 4,573, clo The Motor Cycle.

19 20 Matchless Model H., luxurious, fully equipped trackable wheels and sparse to the dependence of the company of

MATCHIESS Sporting Combination, 1915-14, 8h.p., overhead valved J.A.P., Matchless variable gear, Blaks eriburetter, sporting Caucelet sidecar, long excluding the state of the

MAXIM-J.A.P. 4h.p., Bowden 2-speed countershaft, lamps, horn, Trip speedometer, new tyres, perfect condition; £55.—Hudson, 14, Conway Rd., Plumstead,

19 19 Metro-Tyler, perfect condition, horn: £55, offers.
-Preston, 57, St. Ronar's Rd., Southsea. [5719]
METRO-TYLER. delivery from stock.—Hewin's
Garages, Ltd., the real service firm, Taunton

RGERTONS, Northgate, Ipswich.—Ipswich ag Metro-Tyler, immediate delivery from sto 'Phone: 962.

METRO-TYLER, late 1919, 2-speed, lamps, horn, tyres excellent, good coodition; £55; nearest offer.—Preston, Trinity College, Oxford.

1017 Metro, T.T. low mileage, last, sporty, perfect, new appearance, Miller lamps; bargain, £36.—20, Treen Av., Hoggers Corner, Barnes, S.W. 19 (Aug.) Metro-Tyler, 2-stroke, 2-speed, long exhaust, Miller lamps, horn, overhauled, thorough working order; £60. After 7.-45, Whitehall Park Rd., Chiswick.

METRO.TYLER.—New models in stock for immediate delivery, 2-speed, long exhaust, disc ewheels; £74/12/6. Extended payments if desired.—City Agents, Elec and Co., 15-16, Bishopsgate Av., Camomile St., E.C.5.

Minerva.

MINERVA 21/h.p., mechanical valves, frame, wheels, etc.; £8.—Prout, Canon St., Taunton. [6674

41h.p. Twin Minerva, complete, less mag.; what offers?—Hedges, Wote St., Basingstoke. [5650]

2 1h.p. Minerva, Bosch, B. and B., low frame, tyres 2 good, new tubes; £19.-57, Learnington Rd. Villas, W.2. [6489]

Villas, W.2.

MOTOSACOCHE, 22h.p., less power unit, 210.—
John Arnold, Austrey, Atherstone. (Z298)

MOTOSACOCHE 3½h.p. Twin, De Lissa valves, Enfeld 2-speed, complete with lamp, Klason, tools, etc., guaranteed perfect; after 7; £50,—71.
North Side, Clapham Common, S.W.4.

MOTOSACOCHE 3½h.p. Coach Combination, 1914, but only 10 months use, M.A.G. De Lissa valves overhauled, and thorough order; £80, or reasonable offer.—Box 4.875, c/o The Motor Cycle.

New Hudson.

31h.p. New Hudson, free engine and clutch; £45.-R. [6190]

3½ h.p. New Hudson, free engine and clutch; £45 R. Neale, Thornwood, Epping. 19 (Sept.) New Hudson 41/h.p., 3 speeds; £30.— Goodhew, 70, Hythe Rd., Milton Regis, Kent.

NEW HUDSON Coachbuilt Combination, 4h.p., 3speed, kick start; £65.—Mill, Beacon Lodge, Fleet,
[5690]

NEW HUDSON, 2-speed, 2-stroke, shop-soiled; £73.—
Cambridge Antomobile Co., Hobson St., Cambridge. [6759]

LATE 1919 New Hudson Combination, fully equipped, nilleage negligible; £145.—Miss Bygott, Wem, [6431 condi-

NEW HUDSON 1919 Combination, splendid condition, -109a, St. James's Rd., Croydon. 'Phone

19 14 New Hudson 6h.p. C.B. Combination, all on, Plumgrand condition; £85.-3, Parkdale Rd., Plumfetead.

£40.—New Hudson 2-stroke, perfect condition, lamps tools; after 3.—Stammers, 3, Whitehall Gardens Westminster. [5544

1930 New Hudson Tourist, 214h.p., 2-speed, horn, tools, mileage 100; £70.—Walker, Tobacconist, Knowl, Mirfield.

19¹⁴ New Hudson 2-stroke, all accessories, speedometer, perfect condition; £40.—Cuthbert, 7, Old Town, Clapham. [5565

NEW HUDSON, delivered in Dec., 1919, 2-speed, 2-stroke, countershaft, trial; £65.—Lazenby, 28, Gordon St., Goole.

NEW HUDSON Tourist de Lanze Lightweight in Nicok, new; £75.—Lovett's Gurage, Ealing.

Thone Baling 533.

NEW HUDSON Combination, 35/20.p., 3-speed gears, good running order; sacrifice, £75.—124, Romford Rd., Stratford, E.15.

NEW HUDSON Combination, 1914, 4h.p., 3-speed, clutch, £60; or separate cycle, £55,—97, Calbourne Ed., Balham, S.W.12. [6144

GET YOUR TYRES

TYRE BARCAINS

All goods advertised in stock, and sent on 7 days' approval against remittance.

SPECIAL CLEARANCE LINES

BRAND NEW COVERS From Government Stores, etc.

FOR 21 R'M. Price. 26×21 Palmer Cord 48/5 60/6 passenger Wood-Milne extra 62/heavy Keygrip . . 52/-Pedley heavy 3-rib . 54/6 Pedley medinm 3-rib 49/6 70 /-62 /6 26×23 Dunlop extra heavy rubber studded ... 52/6 59/6 Dunlop combination Hutchinson T.T. 90/-3-rib 40/6
26×2½×2⅓ Skew heavy rubber studded ... 60/26×2½×2⅓ Hutchinson
heavy passenger . 45/-49 6 50/3 75/4 55/-FOR 2½ R M. 26×2½ Skew heavy rubber non-skid..... Skew round non-skid..... 60 /-75/4 . 68/9 skid 26×3 for 2½ Skew heavy , non-skid 86 T 28 × 2! American rim Good-year A.W.T. 55/-29×21 American rim Good-year rubber stud. (o'size for 28×21) 28 × 3 (For American Rims). 28×3 Goodrich safety 55/-59 /heavy 76/-650 × 65. 62 /-650×65 Avoo 3-rib ,, Extra heavy rubber studded 70/-69/6 ,, Avon square 650×75 Wood-Milne Key-59 /-69/6

Pike Tyre

-TYRE HOUSE,-83, Theobald's Rd., HOLBORN, W.C.1.

MOTOR CYCLES FOR SALE. 7 New Hudson

19 20 New Hudson 21/4hrp., 2-speed, new and pe lamps, tools, apares, etc.: £70.—Fozard, 244 grave Rd., Oldham.

NEW HUDSON 21/4b.p. 2 stroke, 1916, guars sound, lamps, etc., new tyres, also spare belt:
-Lion and Lamb, Chelmsford.

31h.p. New Hudson, 5-speeds, clutch; Bosch ma Senspray, good tyres, just overhauled, ride awa £45.—Waine, China Store, Staines.

19 20 New Hudson 2-stroke, De Luxe touring mode delivered May 20th, 1920; ot list price, 275. Howard, 36, Standishgate, Wigan.

NEW HUDSON 31/h.p., C.B. combination, 3-s clutch, hub screen, shield, new mechathroughout; £65.—296, Brixton Rd., S.W.9. NEW HUDSON 2-stroke, new, not ridden 100 mfler owner bought sidecar; first cheque £70 secure cost £75.—Southey, Wellington House, Worthing. [568

1914 New Hudson Combination, 4h.p., 5 specific clutch, new tyres, accessories, good conditions.—113, Aveling Park Rd., Walthamstow. [3

NEW-HUDSON, 1913-14, 3-speed, F.E., new tr and helt. Klaxon, accessories, splendid condition 55 gns.; after 6.-9, Hamilton Gardens, St. John's Woo

NEW HUDSON, 2-stroke, bought new August, 181 under 1,600 miles, condition perfect, lamps, hord £65; just decarbonised; trial.—Middleton; Christchuse Oxford.

NEW HUDSON 4h.p. Combination, 3-speed, thoroughly fine condition, new tyres, full according by the sories; bargain, £62, nearest offer.—38, Chambe Lane, Willeden Green, London.

21hp. New Hudson-Jap, 3 speeds, clutch, new at 22 heavy Dunlops, lamps, belt, etc., mechanic perfect, good appearance, real bargain; £50; no off 44, St. Donatt's Rd., New Cross, S.E.

NEW HUISON, 1915, and coachbuilt sidecar, con tion splendid, little used, complete lamps, horp, accessories, in perfect condition: price 260.—Regime Pritchard, Bank Buildings, Kidderminster. Tel.: 8

B 16 Six New Hudson, K.S., Armstrong 3-special chitch, coachbuilt sidecar, wind sereen, lugar carrier, tools, spare valve, etc., good condition, lieved to be 1915; 90 gps., or hear offer.—Jubb 5

1914 New Hudson, 31/h.p., 3-speed, Bosch, B. a bushed, excellent running order, with Miltond as sidead (undersimps), knipp, tools, photo: 255, or ofter.-10, Ash Terrace, Headinglery, Leeta. [54]

NEW HUDSON 4h.p. 3-speed Countershaft C. Conbination, 1915, h.c., thoroughly overhunded, new, starts first kick from cold, B. and B. Rosch, Peleys, Clero, Stewart, convex mirror, leg and undershel lannys, knew grips, everything perfect; £110.—Coll write, 28, Methuen St., Barrow-u-Purness.

192 New Hudsons, both T.T. and tourist mode catalogues and any investigation of the purpose of the transparency of the transpa

New Imperial.

CROW Bros., Guildford—New Imperial Jop agents at expert repairers since 1914. 19 20 New Imperial 21/h.p., 2 speeds, just received 71 gns.—Rose's Garage, Uxbridge. [662]

NEW IMPERIAL 8h.p. Solo, just delivered; price.-129, Brockley Rise, Forest Hill, S.E.

NEW IMPERIAL-J.A.P., 254h.p., 2-speed, perle condition; £52/10.—Robinson, c/o Lipton, 62 Albans.

NEW IMPERIAL-J.A.P., 1917, 2-speed, clutch, ki start, excellent condition; £58.-206, Droket Rd., Brockley, S.E.4.

19 20 Brand New Imperial, 3 speeds, twin J.A. combination; immediate delivery.—Rawson, 6 Linaker St., Southport. [45]

2 3h.p. New Imperial-Jap (March, 1920), 2 4 wide mudgnards, perfect; £75,—Taylor, Mary's St., Stamford.

19¹⁷ ²³h.p. New Imperial-J.A.P., ² speeds di Warket Place, Buxton. ² speeds di Market Place, Buxton. ² speeds di X30°

NEW IMPERIAL-J.A.P. 234h.p., 2-speed, good ruing order, trial given; £50.-27, Southborous, Rd., South Hackney, E.9.

NEW IMPERIAL-J.A.P., 25(h.p., believed 1915.1 2-speed, good condition; £48.—Robins, 15, Di more Rd., Sharpness, Glos.

19 19 New Imperial Jap, as good as new, will heautiful sidecar, lamps, hora, etc.; price £17 or near offer.—Moore, Fairwood, Westbury, Wilts.

NEW IMPERIAL J.A.P., 1916, 2\sh.p., 2-spechamps, horn, new engine, perfect condition; a bagain, £55.—Clarke, Mansells, Bexley Rd., Erith, Ken

B48 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the Issue

New Imperial.

NEW IMPERIAL Sh.p. Combination, W.D., hood, screen, humps, new, late 1917, splendal condition; hargain, £155.—129, Brockley Rise, Forest Hill, S.E.23.

NEW IMPERIAL 8h.p. Combination, practically equipped, excellent outfit; 145 ens.—Lengman Bros., 17, Bond St., Ealing, Tel.: 683.

19 17 T.T. New Imperial-Jup, 2-speed, countershaft, face condition, enamel, plating excellent, fast; approxal; £57.—(tibbs, 58, Ashdown Rd., Worthing, F513

NEW IMPERIAL Combination, 8h.p. J.A.P., splenddd comultion; owner gone abroad; chenp, £140.—8enner and Middleton, Abbey Rd. Works, Bush Ilill Park, Enfield. [5809

19 20 New Imperial 25th.p., 2-speed, clutch model; immediate delivery from stock.—Call or write, or 'Phone: theenwich 751.—Chapham (Motors), 27, 8tock.—Well St., tfreenwich, S.E.10.

TAKING Delivery of car; 1920 New Imperial Combination, 4h.p., Cancelet sidecar, electric lighting, all accessories, in-ured, Inxurious turnout; 184 gns.—Richardson, Longbridge Lane, Northfield. [5564]

NEW IMPERIAL 8hp. Combination, 3-speed, clutch, kick-starter, bood, and sereen, tyres good all found, lamps, horn, good mechanical condition; price £135, or near offer—Box 4,571, e/o The Motor Cycle.

1920 6h.p. New Imperial, mileage 1,500, fitted lamys. Klaxon, hood, screen, and benutiful frindlay sidecar, not W.D. tank, but guaranteed as new, and in better mechanical condition than when hought; our price £165; West End price would be \$200-B.F. Garage. 40, Murray Mews, Murray St., Camden Town (off Camden Rd.).

Norton. '

£62/10.—Norton combination, 2 speeds, lamps, nice order.—103a. High St., Wandsworth, S.W.18. B.R.S.-NORTON, late 1916, lamps, horn, splendid condition; £89.-Green, Wine Merchant, Rei-

NORTON Big Four Sporting Cambination, pecial shrwgate, Bolton. Ux1004, triat or examination—Parker's, pecial shrwgate, Bolton. UX3002.

19 14 Norton Coachbuilt Combination, 3-speed, Clutch, perfect condition; £60.—72, Longbridge Edd., Earl's Court.

1920 Big Four Norton, second on list; option for \$220, including deposit.—E.A.B., 11, Clement's Inn Passage, London. [6480

NORTON 1917 sh.p. Combination, lamps, horo-constept, wind soreen, daso wheels; £155.—5, Petk Av., Endeliffe, Sheffield. T.T. Norton. 1917. Philipson, lamps, Klaxon, Cols., Spares, in exceptionally good condition: £50.—203. Newland Av., Hull.

WAUCHOPE'S, 9, Shoe Lane, Londo, E.C.4,—
4h.p. Norton and Swau Sidecar, 1920 model,
perfect condition, as new; offers. [9944]
NORTON Four Combination, 1917, as new, wind
screen, lighting, accessories, lovely turnout;
£132[10.—127, Cromwell Rd., Peterborough. [631]

19 20 Big Four Notton, De Luxe sideear, due any day, ordered 5 months ago; what offers? North Dertyshire.—Box 4,824, c/o The Motor Cycle. [6119]

NORTON Big Four, countershaft, 1919, Luca lamps, Klaxon, nearly new; £150,—Montague's Motor Rat, 85, London Rd., Manchester. 'Phone: Central 7745.

T.T. Norton, 1919-20, Olympia Model, lamps, Cowey horn, speedometer, grips, not run in unscratched; £120; Surrey.—Box 888, c/o The Motor Cycle. [6233]

19 18 (August) 3½h.p. T.T. Norton, adjustable pulley, tyres and belt as new, fast and powerful, all in excellent condition throughout; £60.—Wilson, Trinity College, Oxford.

119 12-13 Red Norton 3½h.p., adjustable pulley, fast and powerful, lamps, semi-T.T. bars, disc wheels, long exhaust; £50, or offer.—C. Pearson, Hungate St., Brompton-by-Sawdon, Yorks.

NORTON, 1914, T.T., fast, perfect condition, guar-anteed 64 m.p.h., fully equipped, Philipson, brand new tyres and belt, horn, hest over £75.— Laurie, 2 Company, R.M.C., Camberley. [6458

MORTON Big 4, delivered 5 weeks, owner just got de-livery of car, not run 500, Milliord sidecar, East-ning screen, Cower horn, P.H. nectylene set; first over £180.—High Birks, Gateacre, Liverpool. (X2932

JF. You Want to get there before the others buy my 1920 sports Norton, Model No. 16, 3-speed countershaft, etc., little used, as new; best offer over 4£140.—Walter Madeley, Wem, Shropshire. [6066]

NORTON, 1916, T.T., Philipson puller, Lucas lighting, nucchanical horn, just overhauded and stove enamelled, new parts fitted wherever necesser; hike new, splendid turnout; £85.—Grant, Burford Bridge Hotel, Boxhill Surrey.

NORTON Big Four, late 1919, with new Glorin side-car, splendid appearance and condition, Sturmey-Archer 5-speed gare box, K.S., 3 electric lamps, Lucas horn, etc., new Duolop tyres; £155.—B.V., 58, Cowler Ged. Oxford

We have had some of the best makes this year and are prepared to quote you delivery dates for:

A.J.S., A.B.C. ZEN1TH NORTON N.U.T. ALLDAYS B.S.A. CALTHORPE CLYNO ENFIELD LEVIS MORGAN RUDGE BRADBURY IAMES MATCHLESS ŠCOTT TR1UMPH ROVER BLACKBURNE O.K. NEW IMPERIAL NEW HUDSON

AT MAKERS' PRICES.

NEARLY NEW (in Stock).

1920 B.S.A. and B S.A. Sidecar £175 0 W.D. B.S.A. and new B.S.A. Sidecar 130 gns. W.D B.S.A. and new Canoelet Sidecar .. 125 gns. 1919QUADRANT and Canoelet Sidecar .. £125 0 1915 HARLEY-DAVIDSON Comb., finished 1920 colour by Harleys £145 0 1920 SUN-VITESSE £67 10 1920 INDIAN Comb., luxurious outfit.... £230 0 1920 JAMES and JAMES Sidecar, many valuable accessories £216 0

Montgomery Sidecar £246 7 1920 NEW IMPERIAL. 6 h.p., & Montgomery Sidecar £175 0

1920 RUDGE, 5-6 h.p., and Rudge Sidecar £160 0 1915 DOUGLAS,

23 h.p., and Sporting Sidecar £85 0

1916 ENFIELD 6 h.p.

LAMB'S

151, High St., Walthamstow. 'Phone: - Walthamstow r69.
'Grams: "Cyclotomo, Phone, London."

50, High Rd., Wood Green.

387, Euston Rd., N.W.1, 'Phone: - - Museum 4978.

MOTOR CYCLES FOR SALE.

6 h.p. N.S.U., Posch, new tyres, condition good; £24, -17, Heaton Rd., Mitcham. [6223

N.S.U. 35th.p. Twin, excellent condition; fide nwny; 25, Clovelly Rd., Acton. (5588) N. S.U., 3½h.p., 2-qued, running order; £23.-Towner, Shrublands, Sandrock Rd., Tunbridge [6332]

Wells.

2 h.p. N.S.U., mag rebushed, new tyres, splendid order;
£28/10, or offer.—George Lane Cycle Stores, S.
Weselberg,

N.S.U. 4h.p. Twin, Bosch mag., 2-speed goar wicker sidecar (side door); £35,-F. Barker, monger, Potters Bar.

N.S.U. 30/h.p., U.P. mag., new tyres and belt, com-plete with lamps, in good condition; £30.—Clark, Cambs. Rd., Ely, Cambs.

N.S.U. 3½h.p., 2-speed, new Palmer tyres, tubes, belt, and C.A.V. mag., in top-hole running order; £36.-23, Otterburu St., Tooting, S.W. [6075

6 hp. Twin N.S.U., Bosch mag., B. and B. carburnellands young sound, splendid running order, with lumps mechanically sound, splendid running order, with lumps for some, less control, 55/.—Thickett, 6, Arcade, Newark, Natz.

19 20 N.U.T., standard model, done 400 miles; £165, —Deric Gatty, Brandlingill, Cockermouth. [N3017

19²⁰ N.U.T. Motor Cycle, offers to take over, de-livery promised next week.—Firth, Sunnyside, Meamswood, Leeds.

N.U.T. Motor Cycles from Stock.—Sole agents for Cambridgeshir, A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Phone: 214.

19 20 N.U.T., unpunctud, clork-speedometer, engine 9/209, spares, perfect; neurest £165 secures—W. H. Waldock, St. John's Rd., Spalding, Lines. [580]
19 20 N.U.T., electrically equipped, only ridden about 100 miles, unscratched; £165; owner going abroad.—Clive, Tudor Lodge, Richmond, Surrey, 1977

W. SPARROW, Ltd., Osborne Garage, Yeovil, Osborne Garage, Yeovil, official N.U.T. ngents, now booking orders for early delivery.—Write or 'Phone for particulars. Tel.: Yeovil 114.

N.U.T.-We are sole wholesale and retail agents for Staffordshire, and can supply these famous ma-chines for early delivery.-Walsull Garage, Walsall, [5766]

T.T. Nut, 1916, 3½h.p. o.h.v. J.A.P. twin, plate-ing and enamel unscratched, stored during war; best offer,—Capt. Frankyn, Holly Knowle, Presthury, Macclesfield.

SHROPSHIRE,—N.U.T. sole agents for the county; demonstration model in stock. Orders booked in strict rotation for early deliveries.—James Garages, Church Stretton. [7693]

N. U.T. 1920 Model 3½h.p., Lucas dynamo lighting, electric horo; 140 gns., complete.—Authorised Lon-don egents, Vivan Hardie and Lane, Ltd., 24, Wood-stock &t. (off Oxiord St.), Bond St., W.1. "Phone: May-laid 6555 Book new for early delivery [O860

N.U.T., 1916 31/h.p., T.T., oh v., Saperd S.A., Ke., Chieh, h.m. apperance, mochaeielly perfect, enamelled red, extra wire modguads front and rear, fast sporting mount, this and a slowery description; £100; take 2-th.p. Omega, cash adjustment.—A.J., 14, 68336

N. U.T. 3\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2}\)\(\frac{1}{2

O.K.

19 15 O.K. Mark V. 2-stroke; £32, or near offer.— 40, Saxon Rd., Southall. [5563 O.K. Junior in Stock, at list price.—Kays, 8, Bond St., Ealing. 'Phone: 1827.

O.K. Junior, 21/5h.p., 1917, 2-speed, good condition; £45.-161, Victoria Rd., Wood Green. [6215

NEW O.K. 254h.p. Junior, in stock, immediate de-livery; 48 gns.—Napper's, Dorchester. [6659

O.K. Junior, 1920, 21/2h.p. Villiers, 2-speed; \$265.— Whitworth, 139, New St., Birmingham. [5874]

O.K. Junior, 1916, 2-speed, lumps, horn, knee-grips, T.T. bars, perfect; £37/10.—Shirley, Pavillon Rd., Worthing.

19²⁰ O.K.-Union, 2-stroke, immediate delivery; list price; £51.-A. J. Young and Co., Ltd., 75, Albany St., Regent's Park, London, N.W.1. [0220

O.K. 214h.p. 2-stroke Lightweight; hargain, £27/10; ride away.—Geo. Smith, 268, Lavender Hill (opposite Arding and Hobbs), Clapham Junction.

MOTOR CYCLES FOR SALE. O.K. Lightweight, countershaft 2-speed gear box, free engine, etc., splendid condition, perfect order guaranteed; price 36 gns.—14, Arundel Rd., Croydon.

1016 O.K. Junior, 2-speed countershaft, rebushed, enamel, tyres, and appearance as new, overhauled completely, lamp; £45, offers.—Gordon, clo Dearlove, [5500]

O.K. 2-speed Model, Villiers engine; 265, or on easy payments 4% extra.—Harrods' Motor Showrooms, 116-118, Brompton Rd. (opposite Main Building), London, S.W.I.

Omega OMEGA-J.A.P. 24h.p., 2-speed, clutch, kick start, accessories, practically new; £55.-36, David Lane, Sbadwell, E.

OMEGA-J.A.P., 2-speed and model de luxe; at 71 and 79 gns. respectively; early deliveries.—Lloyd and Son, 29, Station St., Lewes. [7966]

19 16 Omega 2-stroke, in excellent condition, lamps, horn, etc.; £38, or without accessories £35.—Steward, Old Meadows. West Drayton, Middlesex. [6555] 1920 Omega Sporting Model, 2-speed, done about 600 miles, lamps, knee grips, long exhaust and all accessories; £74.—R. A. Jolley, 15, Park Rd., Wellingbow.

Overstone.

Overstone.
2-stroke, hardly used; £60, or near.—Lamh, 42.
Racton Rd., Fulham. P. and M.

1920 P.M., R.A.F., lidden 100 miles; what offers Box 4,819, c/o The Motor Cycle. [6114

P. and M., 1919, excellent condition; £90.-J. H. Brown, Hertford College, Oxford. [5680

19¹⁷ P. and M., 2-speed, kick start, good condition: £75.—Smith, Castle St., Eye, Suffolk. [6621 and M. 1918 31/2h.p., 2-speed, C.B. sidecar, all like new; £115.—Terry, Arcade, Bedford. [6745

P. and M.-Brighton, Hove and district; prompt de livery.-Turpin's, 29, Preston Rd, Brighton.

and M. Combination, late 1918, practically n smart; £90.-21, Newton Av., Acton, London

P. and M., 1918, guaranteed, as new, any trial; £' after 6.—30, Green Av., Northfields, West Eali:

P. and M. Combination, 3 lamps, speedometer, tyres as new, 3 spare tubes, chains, accessories: £50.—
Harding, Hereford. [5506

P. and M. Coachbuilt Combination, 1918, in splendid condition, any trial; £95, or near.—12, Thrale Rd., Streatham, S.W. [6738

P.M. 1916 R.F.C. model Combination, 83 gns. condition as new; any trial; take 3 anywhere.—88, Haven Lane, Ealing, London. [6205]

P. and M., coachbuilt sidecar, 1918, electric lighting, tyres and condition excellent; £95.—'Phone: Andrew, 2, Madrid Rd., Barnes. [6331

FOR Sale, P. and M., 1920, brand new, the very latest model; what offers.—Hardie, 79, Beach Grove, Wbitley Bay, Northumherland. [5989

1917-18 P. and M. Coachbuilt Combination, 2-speeds, enclosed chain drive, luxurious sidecar; £90, bargain; no offers.—72, Longbridge Rd, Earl's Court.

P. and M. 1919½ Combination, Millford, complete, all on; £125; Yorkshire; free introduction.—Midland Private Motor Registry, 27, Earl St. Covernment

19¹⁵ P. and M., new Handerson sidecar, new lamps, new back tyre, horn, just returned from P. and M. after £40 overall; £110.—Holden, 11, Pine Rd, 5702

19 19 P. and M., Stewart speedometer, lamps, spares, engine No. 8273, small mileage, £90; Gloria sideers if required, £15.—Harvey, Forsey, Sea View Rd., Parkstone, Dorset.

P. and M. 1918 3½h.p., 2-speed, black and green finish, completely overhauled, and as green new, guaranteed; \$75.—Longman Bros., 17, Bond St. Ealing. Tel.: Ealing 689.

LATE 1917 P. and M., just been restored, royal blue and black, in excellent condition, electric imaps and born, numy extras, new tyres; any trial.—Ashville, Forest Hill Rd., Honor Oak, S.E. [5623.

PHELON and Moore, ex military stores, overhauled and sent on approval, \$78; complete with B.S.A. No. 2 sidecar, £115; trade supplied,—Mandes', 100, Gt. Portland St., London. Also Paris St., Exeter,

P. and M., late R.A.F. model, unscratched, perfect running order, new tyres, new chains, Lucas head lamly, horn, any trial; 285; owner wants twin. —Phone: Chiswick 1211, Boxmoor 62.—Box 879, c/o The Motor Cycle.



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MOTOR CYCLES FOR SALE.

P. and S. 1920 2-speed 2-stroke, as brand new, hardly used, Cowey horn, 2 lamp sets; £77/10.—3, Courtland's Av., Lee, S.E.12.

WAUCHOPE'S, S, Shoe Lane, Fleet St., London,—P, and S. 2-stroke, 2-speed model, Villers engine, £69/15; kick start and clutch models, £77/10; from stock.

Peugeot

PEUGEOT 5h.p., fast solo, adjustable pulley; £35 Vizer, Log Cabin, Woodmansterne Rd., Coulsdo

Suirey. Counselond the Market Res. Counselond Res. PEEGEOT. 3½h.p. V-twin, complete, requires slight Motor Cycle. [631]

Motor Cycle. [631]

DEUGEOT. 3½h.p., C.A.V. mag., B.B. lamps, horns, very fast; triol: £35, near offer.—Bidder Street. School, Caming Town.

Precision

4 h.p. Precision, C.B. combination, almost new, 2-speed, K.S.; £105, or near offer.—Ramsay, 5, South Rd., Erith. [5844]

PRECISION 234h.p., 1913, engine in splendid condition, go anywhere; £30.—Crawford, High, St., South Norwood.

4 h.p. Precision, water-cooled Regal-Precision, Jardino 2014. Precision, yardino 2015. Precision, Jardino 2015. Precision, Jardino 2015. Precision 4 (App. A.S.L. patent spring frame, Bosch, B. and B., trres excellent, recently overhauled, splendid machine for 33 gns.—Rusper, Alexandra Rd., Addlestone, Surres.

DRECISION 4h.p., 1914, comfortable sidecar, speeds, clutch, lamps, horn, speedometer, good tyres, powerful, reliable, perfect condition throughout, genuine hargain; 48 gns.—102, Hamilton Hd., Wimbledon, S.W.19.

Premier.

PREMIER 5h.p. Twin, 1920, C.A.V., smart and powerful; £46.-57, Kitto Rd., New Cross. [6054 PREMIER 3½h.p., N.S.U. gears, very powerful; 235, offers.—Gluyas, Stithians, Perranwell, Cornwall

31h.p. Premier and Sidecar, perfect condi

19¹⁴ 2½h.p. Premier, Grado gear, new tyres, f condition; £40.—Hudson, Brook Rd., Redb

PREMIER 3½-4h.p., Grado, Binks, splendid runni order, takes sidecar; £32; after 6.30.—4, Bull St., Battersea. [64

19¹⁴ 3½h.p. Premier, 3-speed, clutch, new Binks and belt; any trial; £45.—R. Clark, Monument House, Bilsington, Ashford, Kent. [5461

PREMIER 1912 31/h.p., 2-speed N.S.U., waterproof
Bosch, new cylinder and piston; £39/10.—Stocks,
Thurlstone, Penistone. (D) [X3125] PREMIER 1913 4h.p., 2-speed, F.E., Bosch: £50, with sidecar £58.—27, College St., Waterloo Station. 'Phone: Hop 597.

4 h.p. Premier Combination, 1914, 3 speeds, kick start, electric light; £85; trial; no offers.—257, Central Park Rd., East Ham. [5988]

19¹⁴ Premier 4h.p. Coachbuilt Combination, speed, kick start, electric lamps, etc.; £6 Repshaw, Christ Church, Oxford. [5

19¹⁵ Premier Combination, lamps, speedometer, Klaxon horn, tyres nearly new.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer St., W.1. [5576 PREMIER 3½h.p., believed 1914; 3-speed, clutch, foothoards, good sidecar, lamps, etc., good running order; £48.-24, South St., Newport, I.W. [6367

PREMIER 4h.p., 1914, 3-speed, clutch, Bosch mag, B. and B., just overhauled, splendid condition; £55.-P. Selhia, The Orchard, Chorley wood, Herts.

PREMIER, late 1914 T.T., Philipson, knee-grips, ine-chanical horn, toole, spares, little used, winner hill-climbs; nearest £50.—Clark, 55, Pulteney Rd., South Woodford.

PREMIER Combination, 1914 3-speed gear, lamps, horn, coachbuilt sidecar, complete and just overhauled: £80.—Hewin's Garages, Ltd., the real services from Taunton. hauled: £80.— firm, Taunton.

PREMIER Combination 31/h.p., 3-speed, clutch, kick start, Senspray, Bosch, Cowey Trip speedometer, Klaxon, P. and H. lamps; £65.—20a, Gratton Terrace, Broadway, Cricklewood.

PREMIER Coachbuilt Combination, 1914, 4h.p., 3 speeds, clutch, kick start, Bosch nuar, speedometer, horn, 2 kmp sets, almost new Dunlop belt and tyres engine inst overhauled tools, apron; £75.—Mitchell Derby Rd., Penders End.

Quadrant.

QUADRANT Combination, 41/4b.p., 1920, accessories, delivered May; £140. — Vicar, Limber Habrough, Lincolushire. [6209

41h.p. Quadrant Combination, 1914, Armstrong 3 speed, lamps and horn; £75, or nearest.—247 Droop St., Queen's Park, Paddington. [6473]

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Why a T.T.?

THERE are still doubters who fail to see the value of the Tourist Trophy Races. These people point out that they require a touring mount rather than a racing freak, but they appear to have little realisation of the fact that road racing provides the finest possible test work for future touring machines. There is probably not one maker who has performed well in past T.T. Races whose standard touring design has not been influenced by the valuable lessons learned in connection with the Isle of Man event.

Even at this early stage, the experimental work carried out for the race has led to a definite improvement, which has already been incorporated in all models of a very well-known machine. Many manufacturers have no actual experimental shops, and the experience gained in the construction and testing of their racing machines provides them with the most valuable data for future reference, and almost invariably well repays the outlay and disorganisation caused by the construction of a few special machines.

Police Activity.

LTHOUGH the necessity for an examination of licences is recognised by the majority of motor cyclists, there is a deal of evidence to show that the methods employed by the authorities are not above We could write at length on means to obtain the same results without causing such serious inconvenience, but our object at the moment is merely to point out to the authorities that, while motorists are being stopped and delayed every few miles, the balance of the police force could be better employed than in searching for minor contraventions of the Motor Car Act. For example, it will not be out of place to refer to the fact that, of the many cars and motor cycles stolen recently, no fewer than 400 of them have not been traced by the police. One can couple this latter fact with the "hold

ups" mentioned, but for police to be trapping on roads where there are small chances of danger to the public at a time when crime is rampant throughout the country is a matter which the Home Office and Ministry of Transport authorities would do well to consider.

This interference on the part of the police is likely to damage an industry which, at the present time, is working under difficulties, and, besides employing many thousands of men, contributes in no small way to an improvement in the country's financés by exporting to foreign countries.

The Popularity of the Sidecar.

OTOR cyclists have resolved themselves into two main groups: the younger generation, who ride solo lightweights, and the more mature riders, who fill the roads at week-ends with the ubiquitous sidecar. True, there are a few survivals who, perhaps, soured in all other directions, still retain a love for the high-powered solo mount; while

there is also a minority of young enthusiasts who

spell speed with a capital S, and favour machines capable of yielding that quality.

The great majority of machines seen at any popular motor cyclists' rendezvous, or on any main road, are of the family 'bus order, and it is not to be wondered at. With the help of an auxiliary seat almost any modern towing sidecar will comfortably carry a child in addition to the usual passenger, while one of the special pillion seats will take an extra passenger on the machine in comfort and security; thus a powerful sidecar outfit will easily accommodate two adults and two children, or even three adults and one child, together with the materials for a very substantial picnic. A light car, costing at least twice the amount, and almost doubly expensive to run, cannot provide the same seating capacity with the same overall performance; hence the undoubted popularity of the sidecar with the family man of moderate means.



Four-wheeled Cycle Cars.

LMOST unnoticed by the talking public, a regular boom in four-wheeled eycle cars has commenced. Scarcely a week passes but we notice additions to the list, and the output of Blériot Whippets alone is equal to that of one of our most popular light cars. The prices in most cases are reminiscent of the figures which were paid for small cars in 1914, but are generally within measurable distance of the present cost of a high-powered sidecar outfit de luxe, and, in some instances are very perceptibly lower. I do not find that these newcomers are being very largely bought by experienced motor cyclists; the customers are often comparative novices. Two things are needed to get motor cyclists seriously interested in the newcomers. The first is a severe public test of their road capacity, in which they should be isolated from small cars, instead of being overshadowed by far more costly and refined specifications. The second is less certain, and reflects my own personal views. Belts have lost ground, and the average experienced motor cyclist is slow to accept a heavy vehicle which embodies belts in its transmission. In many cases he sighs for greaterprotection than a sidecar affords; but he regards a Sturmey-Archer gear box and an all-chain drive as about the simplest type of transmission which he can accept. If he is wrong, he needs convincing of his error, and it will need strenuous public demonstration to do this.

The T.T.

AM in the Isle of Man with mixed feelings. What I had hoped was to see a duel à l'outrance between the cracks of two nations-Sunbeam, Norton, Scott. Rudge Triumph, A.B.C., and a host of others, battling it against a horde of lean, jerseyed Yankees on Indians and Harley-Davidsons. This is not to be, and I find no fault with the abstainers; this is not the time to subordinate production to advertisement. Still, I am disappointed. There are enough hotstuffers in the race to prevent its reminding one of Hamlet with no Prince of Denmark; but if the red Indians pull it off, I shall fall to wondering whether some of the absentee Britishers could not have put them through it; and if the Indians fall to the Sunbeams or Nortons, I shall speculate on what the Rudge or A.B.C. might have done, and whether Harleys could do better than Indians. So I can only regard this year's race as hors d'ouvres for next year's pièce de résistance. After all, hors d'œuvres are very interesting if one is hungry, and I have six years of T.T. hunger to satisfy; still, a year between snack and joint is rather a lengthy interval. Here's good luck to the best man.

Hobson's Choice.

EAR by year the old problem crops up of whether it is worth while taking a machine over to the Island. Some of us ride to Liverpool and leave the jigger in garage there against our return. Some of us shamefacedly go by train, thereby facilitating the crossing, and avoiding the horrors of carrying a 7-9 h.p. sidecar outfit across a 3ft. gangway, not to speak of up forty green and slimy steps if the tide is out; but contrariwise subjecting ourselves to the Manx train system for Island transport. Others, again, boldly take our machines, even if we only cross for the three days. We enjoy roaring about the Island on them, of course; but getting them there! And, worse still, getting them back! Ugh! The ideal is to have an extravagant pal, who nobly takes a racing car over, and puts a seat at one's disposal. Personally, on these occasions I wish I could unearth one of the medieval magician's wands. I should start for Liverpool on a 7-9 h.p.; convert it into a scooter on entering the Liverpool traffic; and transform it into a hog-'bus immediately after landing. [Why not have a magic carpet, and avoid mal de mer? Ed.]-

Sea Sickness.

THILST I am on this engaging topic, let me pen a special par for those unfortunates who cry "Kamerad" when the steamer enters the cross seas which meet a few miles outside Douglas. One of my colleagues has a very queasy tummy, and, keen motor cyclist as he is, nothing but the editor's most concentrated Prussianism ever got him over to the Island for years after his first heartrending voyage. Then some kindly person introduced him to a specific known as Mothersill, which is a sovereign remedy against sea sickness, and ought to contract for a full page advertisement in The Motor Cycle pre-T.T. issue. Unfortunately this good Samaritan handed him a few loose capsules without any book of the words, and our knight of the pen was unaware that Mothersill paralyses the stomach and prevents it flapping when at sea. Therefore, he failed to observe the necessary fast, and proceeded to fill his tummy with sausage and marmalade before paralysing it. The unparalysing of his hearty breakfast required the united efforts of two medicos on arrival at Douglas, and the victim obstinately remained in the Island after the races and implored us to appoint him as our permanent Manx correspondent. We got him back to Coventry by Mothersilling him on an empty stomach, and he now goes over quite gaily. Once he had to travel by the s.s. Fenella (which takes eight hours to cross), and the meal he ate on arrival is still talked of by the chef at the Hotel Sefton.



MULLION COVE. A summer tour of the coast of Cornwall would never be complete without a visit to the old Smugglers' Cove, near Mullion, that most fascinating and mysterious of all Cornwall's fishing villages. The miniature harbour, with its two little solid granite breakwaters, its black and yellow encircling cliffs, rugged and precipitous, are typical of the finest scenery of the Cornish coast. Mullion village, however, is situated a mile or so from its quanti little harbour, down a few miles of winding lanes, leading from the main Penzance-Lizard road through Helston, and is not particularly easy to find, but the inset map will help motor cyclists to locate the spot.



Climbing Longlands Hill, a feature of the open One Day Trial in Lakeland. Shapely Skiddaw rises finely behind.

An Interesting Run on a Morgan Through Little-known Hill Country.

By GEORGE D. ABRAHAM.

Author of "The Complete Mountaineer," "Motor Ways in Lakeland,"
"On Alpine Heights and British Crags," etc., etc.

EVER have the Lakeland roads borne such a tide of motorists. During the recent Whitsuntide holidays it was possible to stand on the loftiest of mountain tops and see far below, stretching from north to south, that long, tell-tale trail of dust cloud which hung from morn till night over the main highways. Yet on the by-roads, where surface and scenery are often of superior merit, the motor cycle and its compeer the sidecar or cycle car, were seldom in evidence. However, on occasion, even the most remote mountain recesses are stirred by the healthy murmur of the well-tuned engine. Just after the late holiday, the writer was fortunate enough to encounter the well-known Morgan enthusiast, Mr. Neils Svanso, who is always keen on penetrating into unknown corners in Lakeland. Machine and rider had recently been amongst the gold medals at the speed trials of the Liverpool Club, and it would be interesting to try the Morgan on some of the steep and tricky Cumbrian ways. Thus it was decided to visit that wild and unknown region to the north of the Lake Country known

as Skiddaw Forest, and, if possible, climb into the lofty wilds where lies hidden one of the strangest topographical curiosities in Great Britain. This is Skiddaw House, of which more later.

A wet morning did not augur well for our attack on some fearsome grassy gradients, but in the afternoon sunshine on quickly drying roads we sped swiftly along the wooded slopes with ravishing peeps of Bassenthwaite's gleaming waters seen far below. The main highway was left at High Side Farm, nearly six miles from Keswick, and on the right a steep climb brought down the pace of the Morgan considerably. This was not surprising, for a heavy load of three passengers and luggage was carried.

On the switchback highway left behind, the Morgan had shown its splendid speed powers, and there was full opportunity to enjoy the unique, smooth travel motion so curiously reminiscent of tobogganing days at the winter sports. So far, all had been top gear. But now we saw something of the sturdy little machine's power on steep, rough gradients. At one moment we were struggling up some loose scarp, at another plunging down rugged slopes into tree-clad gorges where sudden corners tried driver and machine to the utmost. Then up and outwards we would dash to more airy heights, 'twixt banks starred with stitchwort or agleam with geraniums and cowslips in yellow

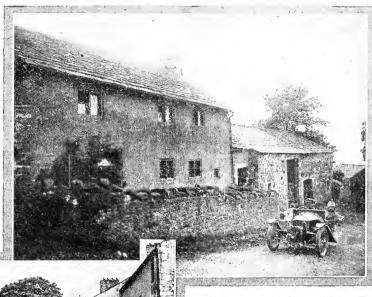
In Loneliest Lakeland .-

glory. Above us on the right, Skiddaw, here showing more shapely outlines than from Keswick Vale, towered loftily in grey gloom, which almost hid its massive form.

Somewhere up in the wilds on the right was hidden Skiddaw House, one of the objects of our trip, but we missed the proper turning to the right, and some distance ahead information was sought at the first farmhouse encountered in this out-of-the-world spot. The Cumbrian housewife and her son seemed to find great amusement in our idea of reaching Skiddaw

House on the Morgan. "What! Skiddaw House on that thing? Nivver, nivver, on that twisty fit-up!" said the matron of the mountains. We had heard similar prophecies on former occasions, but this time the prophet proved true. Conditions were against us from the start. Ultimately a slippery, turfy track led up for miles into the grey hills, but a long, steep, grassy gra-dent brought the Morgan hopelessly to rest, the wheel ploughing deep into the earth.

The usual plan is to walk this final section up beyond the savage rocks of Dead Crag and across the heathery foot hills—not a sign of man's handwork is in sight: nothing but moor and more moor, with purple mountains crouching near and far. The harsh croaking of the Dead Crag ravens softens with distance, and suddenly a rude fence and gate appear. Beyond this, and high up on the right, a white and grey-fronted house peeps out of a clump of stormshattered larches. It is a scene of utter lonesomeness: the sole evidence of life in the barren wastes is the startling call of disturbed grouse. This is Skiddaw



(Top) In the quaint old town of Ireby. The ancient cross, used for the sale of market produce. Ireby is noted as possessing a charter, and is the smallest market town in England.

(Bottom) John Peel's birthplace at Ruthwaite, near Ireby. The quaint old structure still stands by the roadside, and the kennels, where he kept his famous hounds, are behind the house.

House, the loneliest dwelling in England: a distinction thus awarded in a popular competition arranged a few years ago by a well-known daily paper. Moreover, it is the only house in the smallest parish or township of Great Britain, Skiddaw Forest. Despite the name, with the exception of a few ragged larches around the house, it is a treeless township. There is no church, no public-house, no post-office—nothing but the one valuation with one ratepayer, who assesses himself to the rates and taxes, and presumably sends them back to himself. The voter's list contains only one name,

In Loneliest Lakeland .-

and, failing the legal church door, it adorns that of the henhouse at a height above sea level of 1.650 feet. Numerous motors have unsuccessfully attempted the ascent to this noted place, but, given hard and dry conditions, the feat should be quite possible to the Morgan.

Thus we retired from the heights to the more normal surroundings of the secondary road leading on through John Peel's country. The route followed

from High Side Farm will be that used for the forthcoming open One Day Trial in Lakeland, which is to be the motoring event of the season in the North-It was of much west. interest to follow the difficult and twisty road, which will form the end of the day's run to Carlisle, finishing over Warnell Fell, and passing through Dalston. running leisurely through the strangely secluded valley, where almost unknown Overwater reposed, 'midst rich, flowery, and foliaged prettiness, a "tricky" hill, with an awkward corner of approach, lifted us once more to the heights. Then soon there came a sudden dip over into the depths, with a steep hill in full view on the other side rising to the lonely farmsteads known as Longlands.

Around a sharp corner a surprising watersplash lay in the gap between the two hills, and, ere the speedy little Morgan could be restrained, we were plunging through the water and careering up the opposite slope, wet but satisfied. After a photographic halt, the long climb up Longlands Hill was completed, and for miles the wide wild moors stretched ahead, with the thin white ribbon of road vanishing into the dim distance in the grey gloom of portending storm. Thus, before reaching Warnell Fell, a sharp turn was taken to the left and up to the crest of Aughertree. A long speed run, mostly on the easy down grade, led to Ireby.

The quaint little village, for such it really is, has achieved fame as being the smallest market town in England, and its curious old market cross is a popular pilgrimage for all lovers of ancient things. Also there was the Sun Inn to be visited, with its keen appeal to all sportsmen. There Robinson Bell, the genial grandson of John Peel, showed us a characteristic feature of the romantic region in which he lives: the famous relics of the Northern Nimrod.

Then with ominous storm clouds swathing the distant mass of Skiddaw

in gathering blackness, the return journey was begun by High Ireby. It is worth noting that the main route direct to Ruthwaite was in a very bad state, due to the heavy traffic from the barytes mine, which has been greatly developed through the war-time demand for this mineral. Ruthwaite was reached by the alternative route, and a halt made at the stormshattered dwelling where John Peel was born and lived for a goodly portion of his career. In former, more secluded times before the war and the mining ineverybody vasion. used to be related to the famous huntsman; nowadays we noted a more becoming modesty. It was

at the little grey house of Greenrigg on the moors near Caldbeck that Peel lived later in life, and it was there that the famous song was written by John Woodcock Graves in 1830, and set to music by William Metcalf, the choirmaster

Then, with sunset's rosy gleam breaking through the cloud pall over Western Lakeland; we climbed to the crest of Whitfield Hill, and thence by Castle Inn to Keswick, feeling that this remote but fascinating region of Northern England deserves more notice from all travellers, especially sporting motor cyclists, who revel in new scenes of unspoiled mountain loveliness.



At speed through the watersplash at Longlands Bottom. This awkwardly placed obstacle, situated between two very steep gradients, will be a notable new feature of the open One Day Trial in Lakeland on July 17th.

of Carlisle Cathedral.

The 'Scottish Six Days.

T a meeting of the Trials Committee, held on Monday, 7th inst., it was definitely decided, on account of the difficulty of obtaining accommodation, to omit Grantown, which previously was the finish of the fourth day in the Scottish Six Days Trial. Instead of spending the fourth night at Grantown the competitors will now go to Inverness, and on the fifth day return to Edinburgh by the main road, i.e., Kingussie, etc., to Pitlochry (lunch), by Ballinluig, Grantully, Weem, and over Kenmore Hill to Edinburgh.

The engine capacity limit for the manufacturers' team prize has been increased to 700 c.c.

The following is the result of the second ballot:

18.

20.

H. Mortimer Batten (3½ P. and M.*)
Godfreys, Ltd. (4 Indian Scont).
C. F. Plowman (4 Triumph).
J. Dias (3½ P. and M.*).
Claude Duncan (3½ Norton).
Ariels, Ltd. (4½ Ariel*).
Ariels, Ltd. (4½ Ariel*).
Alan B. Hill (3½ P. and M.*).
Hendee Mig. Co., Ltd. (4 Indian Scout).
P. W. Carter (6 A.J.S. sc.).
Alexander and Co. (8 Matchless sc.).
Ariels, Ltd. (4½ Ariel*).

25.

Ariels, Ltd. (41 Ariel*).

*Team entrants.



TNTIL quite recently I was just a motor cyclist's wife, his passenger and companion on many a glorious run; but now I am a motor cycling wife without that barrier of ignorance which sometimes isolates man and wife when anything goes wrong.

I now take my turn on the saddle. I understand some of the joys of-driving, and, what is just as important, my partner understands the monotony of non-stop hundred mile runs at speed when seated in the sidecar. He understands, too, that there are draughts in the sidecar from which one does not suffer while in the saddle, and that grit is thrown up from the front wheel. And I-well, I know enough now not to suggest that persistent trouble with the sidecar wheel has anything to do with the petrol

pipe breaking.

In short, I am now a motor cyclist, whereas for several years I have been merely sidecar ballast. I know now why it was inevitable that the old 31/2 h.p. sidecar outfit lost its interest when once the pleasures, of a big twin had been experienced. I have tried both, and, while the majority of ladies may consider the smaller size more suitable for a lady to drive, I know that the great reserve of power in a "big twin" allows one to make mistakes in engine driving. The bigger machine is easier to steer: at least, so I have found. One does not feel the tendency for the sidecar to lift on lefthand bends when a good solid coach-built affair is attached.

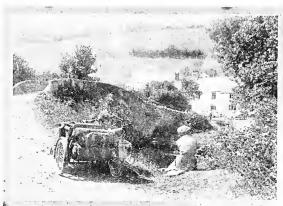
These points, however, are only inci-The great pleasure of the big machine is its ability to climb ordinary hills at speed. There is nothing more irritating-I know this now-than to have to change gear on ordinary main road hills. The undu-

Sharing the Driver's Seat.

lating roads, such as one strikes between Market Harborough and Oundle, are a real joy on a "big twin." The roads are across uplands, and a clear view is obtained on either side and a good way ahead, and a good average speed can be attained without danger. To sweep down a hill at a big speed, then just before the bottom is reached to "open out" and to sweep up the next hill, provides an exhibitration not comparable with any other. In the sidecar it is enjoyable enough, but on the saddle it is something to remember. My husband and I often go that way just for the love of the open road. To prevent any argument as to who shall be the driver, we have come to an arrangement that each has the saddle for alternate hundred miles by speedometer. Of course, the rule is not inflexible. If I feel tired, and am enjoying a "snooze" in the sidecar, my partner "carries on."

A Practice to be Encouraged,

Such a partnership as ours is not so general as it should be, for, among the thousands of sidecar couples, one does not often see the lady driving. Why is this? Is it because the majority of husbands will not take the trouble to teach their wives to drive? Or are



Touring without a definite object or set schedule permits one to rest awhile in those little known beauty spots which abound just off the beaten track.

Through Feminine Goggles,-

they so selfish as to want the major part of the pleasure themselves?

I have asked many motor cyclists how they like riding in the sidecar, and have generally received such replies as: "Bally monotonous: all right for a woman, you know!" I am afraid I do not know, but there seems to be an impression among men that ladies are quite content to sit for hour after hour doing nothing but admire the scenery. I once went from London to Newcastle-on-Tyne as a passenger. We took the Great North Road, which is particularly uninteresting, and I do not think my husband quite understood why I was so bored. He was interested in maintaining a set schedule, he had the engine to drive, the traffic to dodge, the milestones to watch, and other observations to make.

A Better Understanding.

Until I learnt the why, when, and wherefore of motor cycles, I was unable to share my husband's hobby, and, if harmony is to be maintained in a household, it is desirable that a man and his wife shall have a common interest. At one time I am afraid I was a little impatient when my husband spent several hours in the garage, but now I not only understand, but I understand enough to be of assistance. I know that he does not want a tyre lever to change a jet, or the big "King Dick" to remove the make-and-break apparatus. I used to think it was just a love for tinkering that made him take off the cylinders before we started on our annual tour, but now I know that decarbonising and valve grindling are wise preparations when a thousand miles lie ahead.

Although I say it myself, it is surprising what a large amount of assistance can be given by the motor cycling wife when it comes to overhauling, or even a puncture on the roads; and it is also surprising how much pleasure can be obtained by having a common interest in one's machine and those others that are met or overtaken.

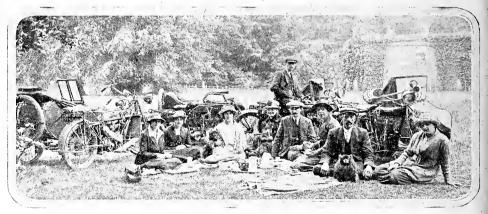
The Lady on Her Own,

There is also the advantage of being able occasionally to take out the machine on one's own, to call on a friend, or to take one's sister or mother for a run. Any motor cyclist's wife who becomes a motor cycling wife may find, at first, evidence of reluctance on the husband's part to allow the machine out without his attendance. When it has been proved that one can handle it properly, when the manipulation of the various levers becomes a matter of instinct instead of study, then this reluctance will disappear, and the ownership of the machine will truly become a partnership.

At one time I regarded a motor cycle merely as a means of transportation from one place to anothermost of the pleasure being in the object of the run. Now the real pleasure begins from the moment the clutch is let in, and, whether my husband or I am the driver for the day, I enjoy every minute of it. What is more, my interest in the machine and its behaviour adds to my partner's pleasures awheel, for I know now what it is to be merely the driver and to have for passenger one whose interests are confined to scenery and the millinery worn by ladies passed on the road.

I recommend that other motor cyclists' wives become motor cycling wives, and if they should be apathetic—then I appeal to their husbands. I mention this because I remember that I was not at all keen to become an amateur mechanic, and, as for driving, it seemed impossible that I should ever become proficient. Had it been a "two-seater,' of course it would have had a strong appeal—because, well—several friends drive two-seaters, but now I know that there is more fun in the saddle of a motor cycle than twiddling the wheel of a car.

One more hint. The equipment of a sidecar should include a camera, a picnic basket, a mirror, sponge, towel, and soap. The first allows one to obtain a pictorial record of the pleasures of the year, and in the winter time one then gets fireside motoring.



THE MOTOR CYCLISTS' P.CNIC. SECLUDED SPOTS ARE EASILY REACHED BY SIDECAR.

Reunions of old friends located miles apart are features of the summer runs of many motor cyclists. With a motor cycle one is able to "keep in touch," where otherwise friendship may die for want of transport facilities.





Times to Light Lamps.

${f J}$ une	17th	 	9.47	10. m
,,	19th	 	9.48	,,
*2	21st	 	9.48	>>
,,	23rd	 	9.49	,,

Motor Scooter Race.

It is proposed to include a two-lap motor scooter race in the programme of the Manchester Wheelers race meeting, to be held at Fallowfield on July 10th.

Motor Cyclists as Outriders.

Acting as outriders to H.R.H Prince Albert on his visit to Coventry last week were four motor cyclist special constables, who were in neat and uniform attire.

Motoring Princes.

H.R.H. Prince Henry, and his Equierry, Wing Commander Louis Greig, have become members of the Automobile Association. H.R.H. The Prince of Wales, and H.R.H. Prince Albert, Duke of York, are also members of the A.A., while the latter is patron of the A.C.U.

The Club Championship.

Twenty-seven teams have been entered for the M.C.C. Team Trial for The Motor Cycle Challenge Cup on Saturday, the 26th. The following are the clubs represented:

Motor Cycling Club (the organisers), Coventry and Warwickshire M.C. (the present holders), Waspes M.C., Ilkley M.C.C., North London M.C.C., Worcester and District M.C.C., Birmingham M.C.C., Kiddlersinster M.C.C., Middlesex M.C.C., Lotton Coldfield and North Birmingham A.C., Middlesex M.C.C., L.C.C., Public Schools M.C.C., Livroped M.C.C., Surbiton and District M.C.C., Luton and South Beds, A.C., Bedford and District M.C.C., Essex M.C., Leicester and District M.C.C., Essex M.C., Essex M

The Late Mr. J. C. N. Dickson-Hill.

At the inquest on this unfortunate rider, who passed away in Grantham hospital as the result of an accident at Gonerby on the occasion of the London-Edinburgh run, it was supposed that Mr. Dickson-Hill who was not travelling too fast, mistook a heap of Tarmac projecting too far into the roadway for the road itself. Beyond the Tarmac was a surface drain which sank six inches into the ground. The Coroner entered a verdict that the rider was killed by being thrown from his machine, but left it open as to whether the deceased ran over the heap of Tarmac which projected into the road. The Kesteven County Surveyor denies the fact that the Tarmac was the cause of

the accident, and pointed out that the heap of Tarmac showed no trace of wheel marks. The whole affair is inexpressibly sad. Mr. Dickson-Hill had had considerable experience as a motor cyclist.

H. B. Browning, hon, sec. of the Public Schools M.C.C. Loftus Hotel, Earls Court. S.W., desires to get_into communication with any competitor in the recent London-Edinburgh run who can give him any details regarding the accident to Mr. J. C. N. Dickson-Hill.

Imports and Exports.

The importation of motor cycles for May was greatly reduced compared with the previous month. Less than half the number of machines being imported.

MAY IMPORTS. 1913.

Number of motor 1913. 1919. 1920. cycles of motor 195 4 193 value, including accessories ... £14,123 £424 £23,910 Exports.

It is gratifying to observe our exports are on the up-grade, and although the increase is only 460 machines against April figures, it shows a desire on the part of manufacturers to regain our trade supremacy overseas; though fulfilment of the desire may be still a long way off.

MAY EXPORTS.

Number of motor cycles and accessories £89,607 £89,393 £168,082

Lost and Found.

Although at all times The Motor Cycle is willing to act as an intermediary between readers, the pressure on our space is so great that it is not always possible to mention all the articles lost and found. In future, therefore, we propose to publish particulars only of the latter. Our advertisement pages are available for those who desire to recover property they have lost.

have lost.
B. S. Ranford, Barnard's Green Road,
Malvern, lost a parcel containing a rubberstudded boot, a small dictionary, and
several sundries, which came admit from
his machine near Stroud or Nailsworth.

R. Rackham, 15, Park Villas, Byron Road, Wealdstone, has found three children's mackintoshes on the road near Rueby.

W. E. Price, Bushey View, Hampton Wick, recently lost his kick-starter crank from his Harley-Davidson in the Esher or Kingston district.

A toolbag containing spare valve, etc., has been lost between Kew and Farnham by C. Frank Hayman, 85, Gordon Road,

If the rider of a borrowed 4 h.p. Triumph, rider's letter XA, will apply

Special Features. LATEST T.T. NEWS. IN LONELIEST LAKELAND. THROUGH FEMININE GOGGLES.

at the garage to which he was recently towed by a Trimmph sidecar, he can obtain the valve cap taken in mistake by the cover of the letter

the owner of the latter.

Mr. H. L. Pawson, of 31, Stonegate,
York, writes that he wishes to get into
communication with the motor cyclist
who bonght a spare tube from him on
the road. The purchaser gave two £1
Treasury notes in mistake tor one, and
the error will be rectified if the party
concerned will write Mr. Pawson, giving
make of both machines and locality.

A tool kit was lost either at Bakewell or between Bakewell and Buxton on Whit-Sunday, by Mr. J. Griffiths, Woodville, Bramhall, Ches.

A canvas tool roll, containing some special spanners, was also dropped on the Salisbury road about four miles from Andover, on the 21st ult. Mr. E. H. Tindal Atkinson, C.B.E., "Redlands," Abbotsbury Dorset is the owner.

Abbotsbury, Dorset, is the owner.
Mr. R. P. Hornan, of Thames Cottage,
Thames Ditton, Surrey, left his vest
pocket camera on the grass at Wisley
Hut on Whit-Sunday.

We are informed by Mr. E. E. Holloway, hon, sec. of the Liverpool M.C., that a pair of motoring gloves and a camera case were found on the occasion of the club's open speed trials, and are now in his possession.

An Indian owner, H. Cordwell, Park Leigh, Alexander Road South, Manchester, wishes to return a King Dick spanner inadvertently picked up after helping a fellow motor cyclist at Pentre Voelas.

Week-end Petrol.

In view of the large number of motorists now using the roads during weekends, the A.A. recently communicated with over 3,000 garages holding the A.A. appointment in various parts of the country, urging the desirability of having some responsible employee available for meeting the requirements of passing motorists for whom Sunday is often the only day of the week that they can use the road. Most garages will do this.

Obstruction by Chars-a-banes.

Recently a char-a-bane driver was summoned at Doncaster for exceeding the limit of 12 m.p.h. for heavy vehicles, dangerous driving, and obstruction. The complainant was a solicitor, whose car was kept behind the char-a-bane for a considerable distance. The driver was fined £5 on each count.

REMINISCENCES OF A SPORTING TRIAL.

Jottings from Our Observers' Notes supon the Mountaineering Open Trial of the Ilkley L.C. and M.C.C.

OOD brakes, a powerful engine, a keen eye, and a steady hand are essentials if one is to bring a machine through to time, in a trial such as the Ilkley club places before competi-

R. T. Cawthorn put up a really won-derful performance by bringing his Autoglider into each check on time. The teat speaks wonders for both man and machine, but we wonder if many lady

Although the trial was perhaps rather too stiff for those who are not accustomed to such country, there was no test in-cluded which could not be accomplished by a good machine and a careful driver.

The only grumble we heard was that there were not enough people to push on the hills, but the organisers would have needed an army to supply only a few to

each single figure gradient.

At the time of going to press it is believed that the Ilkley club was the only one to get home a complete team without loss of marks.

Guy (Scott) punctured within ten miles of tes start, but regained his place in the line just after Skipton.

The M.A.G. Morgan, driven by J. R. Sylvester, climbed splendidly, but the loose surface proved fatal to his non-stop record.

Mr. A. A. Scott was an interested observer at the top of White Shaw Moss, whither he had come on an experimental

whither ne and Scott sociable. Scott whernside, Great Whernside, one to most Whernside, Great Whernside, Ingle-borough, and Pen-y-Ghent to most people are names in a school geography book, mythical mountains, dim reminiscences. To the competitors in the Ilkley trial the flanks of those hills, which were climbed and reclimbed, will now be a grim remini-

In the Yorkshire Wilds.

The route led by the shores of Semmer Water and Malham Tarn—the only natural lakes in Yorkshire. The latter is the source of the River Aine, while the former is situated in an inaccessible valley. Tradition has it that a city lies beneath the waters, which arose at the curse of a pilgrim who was refused shelter there.

Several competitors fell in the shingle at the edge of Semmer Water, Hugh Gibson amongst them.

One or two sportsmen made valiant efforts to get through on old pattern hubgeared machines, and succeeded, with sundry restarts on the hills.

Despite the fact that the course was unquestionably more severe than that of any previous one-day open trial in the history of English motor cycle competi-

tions, the percentage of private owners was greater than we have ever seen; moreover, everyone was cheerful about the difficulties.

It was essentially a solo trial, for the sidecars could not obtain wheel grip on the loose surface of such hills as The Stake, Park Rash, and White Shaw Moss, the gradients of which all approach 1 in 4.

Burnsall, where the tea stop and acceleration test were held, is, by popular vote, the second prettiest village in Yorkshire.

Hugh Gibson and F. E. Palmer on 2½ h.p. Clyno lightweights, and G. W. Wilkin on a 2¾ h.p. Wilkin, did wonderfully well in covering the course in the way they did on such small machines.

It is seldom that the famous Lakeland It is serious that the famous passenand hill-climber, W. Westwood, appears unhappy on a bad gradient, but it was "touch and go" with his Triumph for a few moments on White Shaw Mose.

The arrowing of the course was excel-lent, and the system of using red and blue arrows for right and left-hand bends and a black arrow for straight on proved very helpful on such a tricky and unfrequented course.

One competitor entered a 1910 Triumph with a Jardine two-speed gear. Paraffin was the fuel employed, but the test was not very satisfactory.

IN THE SCOTTISH LOWLANDS.

The First Reliability Trial of the Peebles and Tweed Valley M.C.C.

PEEBLES is perhaps most famous as a Scottish touring centre, and the Peebles and Tweed Valley M.C.C. with every variety of mountain road and Lowland scenery at its disposal, bids fair to hold a foremost place among Northern

motor cycle clubs. The route chosen for its first reliability trial, which was held on June 5th, was not a very severe one, as it was the desire of the trials' committee to encourage new riders. Leaving Peebles the competitors passed by Innerleithen and up Paddy Slacks—a long, trying route lay via the Devil's Beef Tub, so lightly dismissed by the London-Edin-

burgh, and Drumelzier (check) to Peebles.
Only one competitor failed on Paddy Slacks. Claude Duncan, on a Brooklands Norton, took it at speed, and the Douglas machines all made steady ascents. Robertson (4 Triumph) fell out shortly after, owing to ignition troubles, and Rutlidge (P. and M.) tore off his back tyre, Birnie (3½ Rudge) also retired ere St. Mary's Loch was reached, and here the road became very had in parts, owing to the loose stones displaced by sheep. Outside Moffatt, Ketchen (4½ B.S.A. sc.) developed magneto troubles, but managed to finish, while at the Devil's Beef Tub, J. Morton Roberts, who was wisely carry-ing his chauffeur in the sidecar of his Sunbeam, also experienced tyre troubles.

Twisting Roads and Low Average.

Quite a large number of riders had clean sheets up to the last check at Drumelzier, and thence they were pro-ceeding home with confident leisure by the tortuous valley road when a glance at their watches nearing Peebles surprised the great majority. This last check, indeed, was the knock-out of the trial, for though the road appears easy and the surface is good, the officials evidently realised its deceptive nature, and the difficulty of maintaining the legal 20 m.p.h. over it. Satisfaction was expressed, both as regards the route chosen and the organisa tion, for which H. M. Batten and J. M. Russell, the captain and vice-captain, were responsible. Results:

First Class Awards .- W. S. Dickman First Class Awards.—W. S. Dickman (4 Triumph), C. R. Duncan (B.R.S. Norton), A. Mathison (4 Coulson B.), J. Veitch (6 A.J.S. sc.), J. Hush (23 Douglas), and W. C. Pearce (35 Humber). Second Class Awards (lost under five marks).—J. C. Hume (35 Sunbeam sc.) and J. Ker-Paisley (35 Triumph).

Third Class Awards (lost over five and under fifteen marks).—W. Parsell (4)

under fifteen marks).—W. Russell (4 Douglas sc.), Miss N. Dougall (23 New Imperial), Russell D. Mack (24 Victoria).

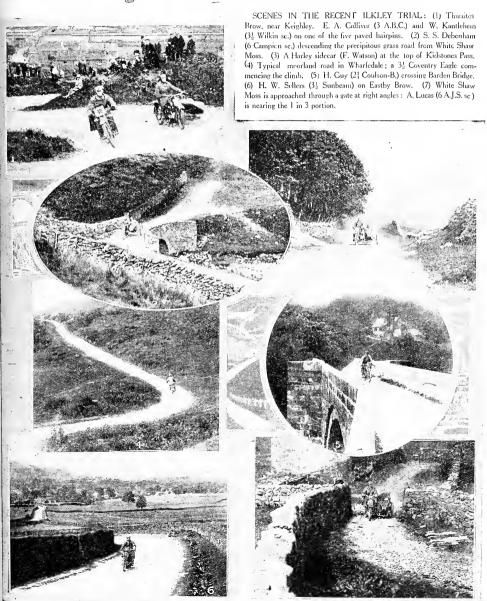
and H. H. Runciman (31 Triumph sc.). The lady competitor is to be congratulated, and we would suggest that the trials committee of other new clubs would do well to adopt the same measures, by choosing for their opening event an interesting and attractive, rather than a strenuous route, and by being as liberal as their finances permit as regards awards. In this case tyres and other useful equipment are to be given.

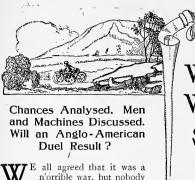
SHOULD BELTS RUN IN ONE DIRECTION P

R ECENTLY a number of expert motor cyclists were discussing transmission, and amongst other things it was suggested that rubber and canvas belts should always be replaced on the pulleys so that the direction of running should not be reversed.

One rider asserted that on his machine the belt refused to stay on the pulleys at all if put on in the opposite way, and another reminded the party that at one time it was customary to find belts with an arrow impressed to show the running direction. A belt maker's representative who was drawn into the argument con-sidered that the running direction was immaterial, while the wear on the belt ends was equalised by occasionally reversing it. What do other practical riders say?

A Rough Rider's Trial in Yorkshire.





E all agreed that it was a n'ortible war, but nobody held this opinion more firmly than the tame tipster of The Motor Cycle staff. His self-felicitations on Armistice Day at not having stopped one were more than balanced by the long fore-seen ordeal of having to find a winner for the 1920 T.T. with no public form later than 1914 to help him.

Do not talk to me, please, about those nasty little beach sprints of

a paltry kilometre or so. I have won such potty little dashes myself in my time; but between a half-minute burble on full throttle and a four-hour skelter round the Manx turns, there is nothing in common, whether we consider the machine or the man who rides it. Moreover, with only twenty-nine riders, distributed over no mote than seven different makes, nobody will feel a shred of pity for me if my final guess proves wide of the mark.

Possibilities of Individual Entries.

If any of our readers are turfites in the intervals of waiting for delivery or mending punctures, let them picture what Captain Coe would say if he was asked to spot the winner of the 1922 Derby before any of the entries had made their début as two year olds.

Turning with a sbrug of despair to the entry list, we may take it for granted that any makers who have decided to enter this year mean business in dead earnest, for they would hardly face the outlay and reduction of output unless they were pretty confident

they could win.

Of the seven makes entered, two do not appear to have any very energetic factory backing. A pair of A.B.C. machines are entered by individuals. Without being unkind, we will rule them out: first, since the machine is new, and a lot of long-distance work is needed to get a jigger staunch enough to stand 225 miles of the Manx buffeting; secondly, because the A.B.C. people are never half-hearted, and if they were behind these entries, there would be more than two of them.

For rather similar reasons I shall venture to strike out the 3½ h.p. Douglas. I see it is entered by one of the principal Douglas agents, and ridden by the





redoubtable A.H. himself. He might win; but if a solitary entry without solid factory support beats teams so thoroughly organised as the trio who absorb the bulk of the entry, his skill and luck would approach the miraculous.

Two further makes are trade entries, but are what my bridge-playing friends call singletons. One is Davies's A.J.S., the other is the Duzmo. We all know that the Duzmo engine goes baldheaded for all the hotstuff elements in speed design, and that when it is out for blood, it can make the best of them hop. But it is playing a lone hand in the Island, and, like

the A.B.C., it is rather young to win. It has the vantage of an old head, in the saddle, I was going to say, though I am not Irish—what I mean is that Le Vack will get the best out of it. Still, he cannot carry my money this year against the three big teams. Next year, perhaps, when he is backed up by three or four sister machines, so that one of them may skim the cream off the luck; but not in 1920.

The A.J.S. entry is rather more formidable. True, it is only a little engine, but 2½ h.p. can produce all the speed which the course can carry, except, perhaps, uphill, and then Davies has won his spurs over the T.T. course; a fast man; a steady man; not so young as he was, but the type which wears. This entry is puzzling. I am inclined to think that the A.J.S. people said to themselves, "Given a clean run, the little 'un is fast enough to give the big fellows as good as it gets. One more entry fee will not hurt, us, and if we are beaten by bigger engines, it does us no harm." I regard this entry as a sporting gamble, and fancy the A.J.S. people expect to finish well up, but would be startled if they won. So the pen goes through this entry too, and leaves the way clear to discuss the three big teams—five Sunbeams, five Indians, and fourteen Nortons.

A Standard Specification.

Nortons have always been formidable at Brooklands, though they have never yet played the expected part in the T.T. The fact that fourteen of them are entered suggests that no very intensive culture has been devoted to the Manx machines. The firm have evidently taken the line that their standard sports model, suitably adapted, is more than fast enough to win. They must have ignored some of the niceties



CET READY! 5-4-3-2-1. GO! The T.T. rider, awaiting the word to go, experiences sensations unlike those at the start of any other form of motor cycle event.

Who will Win the Senior T.T. ?-

with which other designers busy themselves in trying to produce a special engine for a special job; those engines cost too much and change too often during development for any one factory to deliver fourteen of them on the eve of a race.

But for two factors I would dismiss the entire Norton team from consideration for first honours. I consider three ''specials,'' prepared by good men, ought to beat six ''stocks '' prepared by equally good men every time. But with fourteen representatives you get more than your mathematical share of the luck; and when practically all the riders in the race are dark horses-for the T.T. is a young man's game, and it is six years since the last race—fourteen jockeys afford a big chance of discovering another Godfrey or Pullin. If there were only five Nortons entered, I would risk my credit by saving a Norton will not come in first, though the team will perform up to the high reputation of the machine. With fourteen entered, I am going to say just the same; but I don't like allowing so formidable a coterie to run unbacked. Let me add that a Norton win would be tremendously popular.

Wolverhampton v. America.

My previous analysis will have made it quite clear that I place the issue between the Sunbeam and Indian teams. I shall be genuinely surprised if one of these nine fails to win outright. None of the men can be said to have any public form. Eric Williams is years older than when he made his name in the Island. The pace will be hotter than ever, and it is doubtful whether even he himself can yet say if he is a better man than he used to be, or the reverse. If he was a shade inclined to take foolish risks in the old days Anno Domini may just have steadied him down so that to-day will find him on the absolute top-notch of his form.

Dance has an unrivalled name in short sprint work. Short sprint work is all to the good. It gives a man nerve. It accustoms him to the sensations of speed. It teaches him how to steer. But, hy itself, it never won a T.T. Balanced by restraint and a cool head it produces the top-notcher. But the man who is a

sheer sprint merchant and nothing more is lost in the Island. Nor can any of us be quite sure of this till the day.

Some men are brilliant bats at the nets, but never yet made a century in a big match. Dance will presumably start favourite, and nobody will be more pleased than myself if he wins outright; for, if he is as good at the long game as he is at the short game, we have got the Indians beaten; and my old friend, W. H. Wells, will quite understand that, as a Britisher, I am not keen on seeing a red tank finish first.

I know that the Springfield people were remarkably hot-stuff at the racing game before they annexed C. B. Franklin (I warn W. H. Wells that if his vermilion team swoop the first five places I shall shriek that C. B. Franklin is the wizard behind them).

Watch the Simple Engine.

On the other hand, for a four hour bump round the Island give me something as simple and substantial as possible.

There is less to go wrong about a single, and the race is quite likely to be so tight that a few seconds on the concluding laps may settle it. I feel no real confidence, but I am prepared to back the five Sunheams against the five Indians, and I feel heartened to think that there are a score of doughty, if "unexpected," Britishers supporting the Sunheam. Cowardly, when you come to think of it, that I don't feel more sympathy with the plucky Indians in their odds of five versus twenty-four.

I have to write this before I have had a chance to cock my eagle eye at any practising in the Island. After two or three chilly mornings up in the Snaefell mists I may be prepared to go a step further and name a Sunbeam merchant as my absolute tip to win cutright. Until I have seen Townshend, Dance, and de la Hay on the course, I daren't go further than to back them against the field; and shan't I just look silly about tea time.

T.T REPORT.

A detailed account of the Tourist Trophy Races, with many exclusive illustrations, will appear in *The Motor Cycle* next Thursday,

FLASHING ABROAD THE T.T. RESULTS.

Where to see "The Motor Cycle" Series of Telegrams giving the Positions of Leaders Lap by Lap.

Birmingham.—A.A. and M.U. Central House, New Street; Anna, "Ltd., Aston Cross; Colmote Depot. Colmote Bow; H. Cotier, and Son, 247. Depot. Colmote Bow; H. Cotier, and Son, 247. Depot. Colmote How; H. Cotier, and Son, 247. Depot. Son, 128. Depot

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Bedford.—J. Crawley and Sons, 4, 8t. Mary's Street.
Black Place.
Black Place.
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Street, Ponlymister, Risca.
Ryde (H.O.W.).—Downing and Donovan, Union
Criage, Innon Street, Street, Strewsbury.—J. C. Pickering, 49, Mardol.
Strewsbury.—J. C. Parker, M. Strewsbury.—J. C. Pickering, 49, Mardol.
Strewsbury.—J. C. Parker, and Str. Lid. St. Nicholas Road,
St. Albans (Herts).—Clarke's, 93, London Read,
St. 1ves (Hunts).—Parker and Soo, Station
Road Garage.

(More Percent Street Commercial Comm

Road Garage.

Sherborne (Dorset).—Dyer's Motor and Cycle
Works, The Parade.

Tadcaster.—Fred Snape, Motor Cycle Engineer,
Bridge Street.

Glogquy..—Nunn, Farmer and Co., 73, Union

Tunbridge Wells,-Read Bros., 4, Goods Station Road. Taunton.—Hewin's Garages and Eng. Co., Ltd., Corporation Street. Wolverhampton,-Cyril Williams, Chapel Ash

Worcester.-W. J. Bladder, 52, Sidbury; Eric illiams, The Motor Cycle Depôt, Lowesmoor. Ballaugh ! RAMSEY Old Church THE 1920 T.T. COURSE. Sulby Churchtown 37 Miles 6 Furlongs. milita SENIOR T.T. RACE: 6 Circuits = 226 Miles 4 Furlongs. Slieau Ravensdale onagi KIRKMICHAEL 1153 ROUTE: Douglas, Quarter Bridge, Crosby, Ballacraine, Kirk Michael, Bunger Ballaugh, Sulby, Ramsey, H Santail Sneefell, Cronk-ny-Mona, Governor's Bridge. 176 244 PEEL Laxey Ballacraine Connage Mullahig Crosby illastôn vilale Sta July Barrane FOXDALE & FINISH Quarter Bridge DOUGLAS Sharrale



The Blue Riband of the Motor Cycle World.

Lap Times and Winners in Previous Competitions Details of To-day's Great Race. for the Senior Tourist Trophy.

To-DAY the classic event of the motor cycle world is decided cycle world is decided. At 9.30 a.m. the first competitor in the Senior Tourist Trophy-will be sent away on the first of six circuits of a course chosen to bring out the most desirable features in the durable motor cycle for the man who would ride in ease and comfort without fear of mechanical trouble. The long distance road racing machine of to-day is the parent of the touring machine of to-morrow.

Every motor eyelist in this country and overseas will hope that the best man on the best machine will win, and that the fickle goddess of luck will be content to play a minor part.

PREVIOUS WINNERS.

1914. Cyril G. Pullin, single-cyl. Rudge (85 × 88 mm.=

499 c.c.), 49.4 ni.p.h. 1913. H. O. Wood, 2-cyl. 2-str. Scott (69.8 × 62.5 mm. = 486 c.c.), 48.2 m.p.h.

Date and Time of Start: 9.30 a.m.,

Thursday, June 17th, 1920. Distance: Six circuits of 37 miles 6 furlongs each. Total distance, 226 miles 4 furlongs.

Prizes: First, the Senior T.T. Trophy. to be held for one year, £50 in cash and special gold medal; second, £25; third, £15.

Team Prize: To be won by a nominated team, who must all finish the course within thirty minutes of the winner.

THE 1914 SENIOR RACE.

AVERAGE SPEED OF THE FIRST FOUR . FINISHERS.

I. Cyril G. Pullin (Rudge), 49.4 m.p.h.

[H. R. Davies (Sunbeam) tied] 48.39 m.p.h.

[O. C. Godfrey (Indian)] 48.39 m.p.h.

[H. V. Colver (34 Matchless), 48.36 m.p.h.

LAP TIMES. FASTEST LAP OF THE RACE.—H. O. Wood (Scott 2-str.), first lap 42m. 16s.—52.23 m.p.h.
FASTEST SINGLE.—J. W. Adamson (Rudge), 44m. 16s.

= 51.43 m.p.h. FASTEST V-TWIN.-H. V. Colver (Matchless), 45m. 13s.

FASTEST FLAT TWIN.—J. L. Emerson (A.B.C.), 47m. 26s.=47.99 m.p.h. FASTEST FOUR-CYLINDER,-R. G. Mundy (F.N.) 5om. 44s. = 45 m.p.h.

THE BATTLE OF THE TYPES.

1907. Singles and twins raced separately, Singles

1907. Singles and twins raced separately. Singles were limited to 1 gallon of luel per 30 miles; 1908. Singles and twins raced separately. Fuel limits: 1 gallon per 100 miles for singles; 1 gallon per known miles twins.

1909. Fuel limits abandoned. One class only. Capacity limits: 500 cc. singles, 750 cc.

1910. One class only. Capacity limits : 500 c.c.

singles, 670 c.c. twins.

1911. Capacity limits: 500 c.c. singles, 585 c.c. twins.

1912. Capacity limit: 500 c.c. for all types. 1913. Capacity limit: 500 c.c. for all types.

1914. Capacity limit : 500 c.c. for all types.

THE TYPES THAT HAVE WON.

1909—1st, V twin; 2nd, V twin; 3nd, single, 1910—1st, V twin; 2nd, V twin; 3nd, single, 1911—1st, V twin; 2nd, V twin; 3nd, V twin; 1912—1st, twin 2-stroke; 2nd, single; 3nd, V twin, 1913—1st, twin 2-stroke; 2nd, single; 3nd, V twin, 1913—1st, single; 2nd, single; 3nd, V twin, 1914—1st, single; 2nd, single; 3nd, V twin, 1914—1st, single; 2nd, single; 3nd, V twin twin, 1914—1st, single; 2nd, single; 2nd, single; 3nd, V twin twin, 1914—1st, single; 2nd, single; 2nd, single; 2nd, single; 2nd, single; 3nd, V twin twin, 1914—1st, single; 2nd, single;

THE NISBET AWARD.

S a memorial to the late Chairman of the A.C.U., Mr. J. R. Nisbet, the stewards will be empowered to grant the Nisbet award to such competitor or competitors who, in their opinion, exhibit such pluck and endurance, or such capacity, to triumph over difficulties as to deserve special recognition. The continuance in the race by a competitor suffering from severe injury will not be deemed a qualification for the award.

ENTRIES & DETAILS OF MACHINES IN THE SENIOR T.T. RACE.

29 Machines Entered, comprising 21 Singles, 5 V Twins, and 3 Flat Twins. No Two-strokes or Four-cylinder Mounts.

No.	Entrant, Make, and H.P.	No. of Cyls	and	Cubic Capa- city	Driver.	Make of Driving Chain or Belt.	Make of Magneto.	Size of Tyres.	Make of Tyres.	Make of Car- buretter.
51	Hendee Mig. Co. (31 Indian Scout)	2	mm. 68.2 × 67.8	c.c. 496.8	D. S. Alexander	Renold chain	Splitdorf Aero.	26×21	Hutchinson	Schebler
. 52	Hendee Mfg. Co. (3½ Indian Scont)	2	68.2×67.8	496.8	F. W. Dixon	Renold chain	Splitdorf Aero.	$26\!\times\!2_4^1$	Hutchinson	Schehler
53	Hendee Mfg. Co. (3½ Indian Scout)	2	68.2×67.8	496.8	H. R. Harveyson	Renold chain		26×21	Hutchinson	Schebler
54*	Hendee Mfg. Co. (31 Indian Scout)	2 '	68.2×67.8	496.8	Bert Houlding	Renold chain	Splitdorf Aero.	26×21	Hutchinson	Schebler
555 56 57 58 59 60 61 62 63 64 65 66 67 68 69	Vivian Olsson (3) Nortoon Norton Mobrs, Lid. (3) Norton Norton Motors, Lid. (3) Norton John Stepper (1914), Lid. (2) A.J.S. Harold Petty (3) Norton F. C. North (3) Norton F. C. North (3) Norton John Marston, Lid. (3) Sunbeam John Marston, Lid. (3) Sunbeam John Marston, Lid. (3) Sunbeam N. C. Sclater, Junr. (3) Norton The Director Motor Motor Motor Motor Motor Motor Reg. Rivowe (3) Sunbeam Frie Williams (3) Sunbeam Frie Williams (3) Sunbeam Frie Williams (3) Sunbeam	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	79 × 100 79 × 100 85 × 88 85 × 88 85 × 88 79 × 100 86 × 79 85 × 88 85 × 88	490 490 490 490 490 490 490 490 499 499	Entrant	Renold chain	C.A.V. C.A.V. C.A.V. C.A.V. TB. C.A.V. C.A.V. C.A.V. M-L	26 × 25 26 × 25	Hutchinson Dunlop Avon Dunlop Avon Dunlop Hutchinson Palmer Dunlop Cunchinson Dunlop Cunchinson Dunlop Cunchinson Dunlop Cunchinson	Senspray Senspray Amac Amac Amac Amac B. & B. Senspray Amac Amac Amac Amac Amac Amac Amac Amac
73 74 75 76 77 78 79	A. J. Moffat (3½ Norton) A. H. Alexander & Co. (3½ Douglas) Capt. Alexander Lindsay, M.B. (3½ Norton) Jack Thomas (3½ Norton) S. J. Redmond (3½ Indian Scout) Reg. Lucas (3 A.B.C.) Norman Black (3½ Norton)	1 2 1 1 2	79 ×100 68 × 68 79 ×100 79 ×100 68.2×67.8 69 × 54	490 491 490 490	Entrant A. H. Alexander Entrant Entrant Entrant Entrant Entrant	Renold chain Renold chain, Dunlop helt Renold chain Renold chain	C.A.V C.A.V Bosch Splitdorf Aero. C.A.V	26×21 26×21 26×21 26×21 26×21 26×21	Dunlop Hutchinson Dunlop Hutchinson Hutchinson Clincher Dunlop	Hobson Amac Senspray Senspray B. & B. Schebler Senspray

MOTOR (YCLE

Liverpool M.C.

The secretary of the Liverpool M.C. writes: "Mr. S. W. Phillpott wishes me to make an announcement that he does not hold any official position this year in the above club."

Nottingham and District M.C. and L.C.C.

An inter-club meet will be held at Dovedale on the 20th inst. There will be a picnic lunch and tea, and walking partics arranged to the adjacent beauty spots during the afternoon. All motor

North Cheshire M.C.C.

Two watersplashes and several stiff hills were included in the 70 mile reliability trial held on the 6th inst. The winner was S. T. Holland (23 Clyno), who made a fine performance on all observed hills, and was dead on time at all checks. O. Jessop (3½ Triumph) was second, and A. Booth (5-6 Indian) third.

J.B. (Liverpool) M.C.C.

J.B. (Liverpool) M.C.C.
On the 2nd inst. this club held a speed-judging competition over a secret two-lap course of seven miles. Nineteen members turned out, and the event proved very successful. H. T. Williams (6 A.J.S. sc.) secured first place with Im. 1s. error, while N. E. Williams (8 Zenith sc.) was second, and A. Bromhead (8 Matchless sc.) third.

M.C.C.

The seventh annual race meeting of the above club will be held at Brook-lands on July 10th. Nine events will be run, including scratch and handicap races for all classes of motor cycles, and also three light car and car events. A club championship race of ten laps, open to the first seven in each of the three solo handicaps, will be the principal feature of the motor cycle programme.

Neath and District M.C.

A large crowd of spectators witnessed the hill-climb at Crynant on the 5th the hilf-climb at Crynant on the 5th inst. over a course just under a mile in length. The results were as follow: General 250 c.c.: C. Salway (24 Levis), Im. 42\(\frac{1}{2}\)s. 350 c.c.: T. Thomas (2\(\frac{1}{2}\)s. Wooler), Im. 35\(\frac{1}{2}\)s. 500 c.c.: I. Thomas (3\(\frac{1}{2}\)Trimmph), Im. 7\(\frac{2}{3}\)s. 750 c.c.: A. L. Cranch (5 Rover), Im. 4\(\frac{3}{2}\)s. In 1,000 c.c.: S. Bush (7-9 Indian), Im. 7\(\frac{2}{3}\)s. Expert 500 c.c.: J. Thomas (3\(\frac{1}{2}\)Norton), Im. 4\(\frac{3}{2}\)s. 750 c.c.: J. Thomas (3\(\frac{1}{2}\)Norton), Im. 3\(\frac{3}{2}\)s.

Manchester M.C.

Some good performances were made at the hill-climb held on the 6th inst. at Heydon Bridge. The weather was fine, and good entries were received in all classes. Results: Class 1.—1st, S. all classes. Results: Class 1.—1st, S. A. Crabtree (2\frac{2}{4}\) Sunbeam; 2nd, G. E. Cowley (2\frac{2}{4}\) Douglas); 3rd, W. Cottrell (2\frac{1}{4}\) Levis). Class 2.—1st, R. Smethurst (3\frac{1}{2}\) Norton); 2nd, J. H. S. Gardner (4 Triumph); 3rd, E. F. Gunton (3\frac{1}{4}\) Duzmo). Class 3.—1st, E. F. Gunton and R. Smethurst tied; 3rd, J. H. S. Gardner (4 Triumph). Class 4.—1st, O. E. Carter (3\frac{1}{4}\) O.K.—J.A.P.); 2nd, H. Taylor (6 Bradbury); 3rd, G. E. Calf (3-10 Henderson). (8-10 Henderson).

CLUB NEWS.

Week-end Club Events.

June 19.—Mansfield and District M.C. and L.C.C. Run to Ashover. June 19.—Bury and District M.C. Run to Lan-

June 19.—Bury and District value.

Gaster.
June 19.—Hull M.C.O. Gull Ponds, Brigg.
June 19.—Pymowth and District M.C. and L.C.C.
Picnic.
June 19.—N. Lindsey A.C. Paperchase.
June 19.—Middlesbrough and District M.C.C. Hill-

June 19.—Middlestrough and District M.C.C. Reliability
June 19.—Yeovil and District M.C.C. Reliability
Trial.
June 19.—Middlesez M.C.C. Digswell.
June 19.—Sheffield and Hallamshire M.C.C. Wilkin

June 19.—Sheffleld and Indistance of the Coup.
June 19.—N.M.C.F.U. (Wolverhampton). GymJune 19.—Stalybridge and District M.C. Gymkhang.
June 19.—Stalybridge and District M.C. Cockweight of the CockLineary of the

June 15.—Edinburgh and District m.v. Com-burns 12.—Helensburgh M.C.C. Reliability Trial. June 18-9.—Interpool M.C. Week-end to Bettws-y-Cord. June 18-9. Corontry and Warwickshire M.C. Grand-

June 19.—Coventry and is arresessative M.C. Grand-borough. M.C. and J.C.C. Hill-climb. June 19.—Exeter M.C. and J.C.C. Hill-climb. June 19.—Westmoriand M.C.C. Balloon Race. June 19.2.—N. Wills M.C. and L.C.C. Bourne-

June 15-29.—N. Wilts M.C. and L.C.

nowth west Centre A.C.U. Picnic,
Rivington.

June 20.—Mansfield and District M.C. and L.C.C.
Dorodales. M.C.C. Picnic,
June 20.—Middlesen M.C.C. Picnic,
Lanc 20.—Middlesen M.C.C. Picnic,
Lanc 20.—Assert Counties M.C. Frensham Ponds,
June 20.—Accessite and District M.C. Race
Condens.

June 90—Restern Countries m...

June 90—Reversalte and District M.C., RunSunday,
June 90—Scarborough M. and M.C.C. Run to
Rosedale.

June 90—Bonbury and District M.C.C. Picnic at
June 90—Bonbury and District M.C. Hill-climb.
June 90—Reading and District M.C. and L.C.C.
Run to Bournemouth.

June 90—Harroyate and District M.C.C. Captain's
Run. 90—Rarroyate and District M.C.C. Run to

June 20.—Harrogate and District M.C.C. Capiam's Run. June 20.—Wakefield and District M.C.C. Run to Fountains Abbey. June 20.—N.M.C.F.U. (Portsmouth). Run to

June 69—N. M.C. E. U. (Portsmouth). Run to Stock-hape.
June 29—Northern M.C. Gipsy Run.
June 29—Basingstok M.C.O. Firajnia Water.
June 29—Basingstok M.C.O. Firajnia Water.
June 20—Hull M.C.O. Kilnsea and Spurn Point.
June 29—Rochester, Chatham, and District M.C. June 21—Rochester, Chatham, and District M.C. Gray Run.
June 21—North Derbyshire M.C.O. Speed Trials.
June 22—Leeds and District M.C. Plumpton
Rocks.
June 23—Auddlesbrough and District M.C.C. Reliability Trial.

June 33.—Middlesbrough and District M.C.C. Reliability Trial.

June 33.—Starborough M. and M.C.C. Reliability Trial.

June 23.—York and District M.C. Run to Bolton Woods.

June 24.—J.B. (Liverpool) M.C.C. Consumption Test.

June 24.-Eastern Valley M.C.C. Run to Barry
JUNE 24.-Eastern Valley M.C.C. Run to Barry
JUNE 24.-Eastern Valley M.C.C.
JUNE 25.-EASTERN THOUR OPEN RELIBILITY TRILL
JUNE 26.-M.C.C. LTD. INTER-CLUB **4EAM
TRIAL FOR "THE MOTOR CYCLE"
CHALLENGE CT. ******************************

Westmorland M.C.C.

Some clever riding was witnessed in the recent flexibility trial held at Hawkeshead. The average gradient of the half-mile course was 1 in 6, including two S bends. The best performance was made by R. Harrison (7-9 Indian), with B: Hill (Velocette) second.

Birmingham M.C.C.

Starting from Birmingham at 2.30 p.m. on July 3rd, a week-end touring trial will be held to Llangollen, returning the following afternoon. Three solo and three sidecar classes have been arranged; gold, silver, and bronze medals will be awarded in each class, and marks given will count towards the hest aggregate performance of the year for the Austin Challenge Cup and Autocycle Trophy.

Shrewsbury and District M.C.C.

An amalgamation of the motor cycling clubs in the Shrewsbury district took clubs in the Shrewsbury district took place recently, and a new club, under the above title, formed. The hon. secretary, Mr. L. D. Hughes, will be glad to hear from intending members at the Old Post Office Hotel, Shrews-

Warrington M.C.

All classes of motor cycles, three-wheelers, and light cars up to 1,500 c.c. are eligible to compete in the 180 mile reliability trial for the Melbonne Challenge Bowl on July 37d. There is no entrance fee, but all competitors must become members of the club. ticulars of the event can be had from Mr. H. Aldred, 58, Church St., Warrington.

Stockport and District M.C.

The results of the recent reliability The results of the recent reliability trial held by the above clnb were as follow: 1st, T. Davis (Royal Ruby); 2nd, W. Preston (Sunbeam); 3rd, H. Hudson (Scale). Miss Cowley (Donglas) was awarded a prize for a very meritorious performance. The above results are subject to the approval of the committee.

Lincolnshire M.C.C.

Over sixty entries were received in the speed trials held recently in Thonock Park, Gainsborough. The course was half a mile in length, with a flying pail a mile in length, with a flying start, and the winners on formula were as follow: 350 c.c., Mrs. M. C. Jennison (Velocette). 550 c.c., J. S. Plastow (A.B.C.). Over 750 c.c., J. Margrave (Harley-Davidson). Unlimited, J. S. Plastow (A.B.C.). Unlimited sidecars, A. W. Grocock (8 Zenith sc.). J. S. Plastow (A.B.C.) and the best performance of the control of the c S. Plastow (A.B.C.) made the best per-formance of the day.

Surbiton and District M.C.C.

The result of the "All-comers" Handicap held at Brooklands on the 28th ult. was as follows: On Handicap.— First (Dr. Low Cup and gold medal), F. R. Spikins (8 Harley-Davidson); second (gold medal), R. Deguin (6 Zenith sc.); third (silver medal), W. D. Hawkes (10 Morgan). Silver medals for fastest machine in class: 350 c.c., T. Simpson (Mctro-Tyler); 500 c.c., R. Green (Norton); 750 c.c., D. Davidson (Harley-Davidson); 1,000 c.c., L. Gummer (Zenith): 1,000 c. (sildears) F. C. Davidson); 1,000 c.c. L. Gummer (Zenith); 1,000 c.c. (sidecars), E. C. Baragwanath (Zenith sc.).

Southend and District A.C.

Five motor cycle events were included in the recent hill-climb held at Thundersin the recent hill-climb held at Thunders-ley Church Hill, the results being as follow: 350 c.c.—Formula, N. A. Lave (2½ Diamond); time, L. J. Lave (2½ Douglas), 500 c.c.—Formula and time, R. G. Comber (3½ Sunbeam). Over 500 c.c.—Formula, R. G. Picking (4 Triumph); time, T. C. Halley (4 Triumph). Scooters.—Formula (unannounced) and time, W. J. Startin (A.B.C. Skootamota). Three-wheelers and sidecars.—Formula, W. A. Webb (4 A.S.C.); time, Major A. Biddle (8 Roval Enfeld). Royal Enfield).



compliment to those who, in 1913, won so well for England. Several of the old riders

are able and keen to go over, and the above must be my excuse—as one of them—for making the suggestion.

FRANK A. HARDY.

A DOUGLAS HINT.

Sir,-Those of your readers who ride 1920 4 h.p. Douglas snip—those of your readers who ride 1920 4 h.p. Douglas motor cycles may be interested in the following experience.

After running about 300 miles, my machine started a slight squeak, developing later into a very audible screech, which I was mable to trace. Since I had obeyed the makers' instructions as to lubrication most carefully, I was completely baffled. However, on spec. I injected two gun-

this completely cured the fault. I now inject one gunful every 100 miles, instead of half a gunful every 400 miles as the makers advise.

Houghton.

AMERICAN CARS WITH LEFT-HAND DRIVE.

Sir,-May I give an instance of the risk attached to overtaking an American van with left side drive?

Recently I was about to overtake a Ford van, and blew my horn. The driver moved over to the left in order, as I thought, to allow me to pass, but instead of that he suddenly crossed over and went down a side road. Luckily my brakes were good, and I only skidded on to the grass at the corner.

My point is this—that our mode of signals is no use whatever when the drive is on the left-hand side, and I think that this type of drive ought to be prohibited.

Oxford.

the Editor, "The Motor Cycle," Hertford Street, Coventry, and must he accompanied by the writer's

POLICE PERSECUTION.

Sir,—Replying to Mr. Measures's letter re 'Police Persecution' in your issue of June 3rd, I entirely fail to see where his grievance lies. I presume he is aware that, by law, motor cyclists should have proper silencers, must have number plates with letters of readable size, must carry licences, etc. Unless motor cyclists are occasionally stopped on the road, how are the police to find out if these regulations are It these regulations are properly carried out? But I imagine Mr. Measures's letter is "rote sarcastick," and is a justifiable gibe at those road hogs who think they can tear about the

public roads at any pace they like without any restrictions whatever. I may add that I am a motor cyclist myself, but a law-abiding one.

F. PENNINGTON. a law-abiding one.

THE COST OF MOTOR CYCLING.

Sir,-Can one of your readers, through the medium of your valuable paper, give me some idea of the cost of running a machine for business purposes under the following conditions:

The machine to be a first-rate 4 h.p. single, costing, say,

The balance-sheet to extend over the whole period of the life of the machine, which is to be taken to be the total mileage run (before the machine becomes uneconomical owing to excessive wear) divided by eighty miles per week. The machine will be run mostly in fine weather on good roads and under a "sympathetic" driver. The following are the chief items in the account:

DEBIT. Petrol at current prices.
Oil at current prices.
Tyres.
Repairs. Insurance.

Tax. Other expenses (not garaging). Prime cost of machine. Interest at 5% on above.

CREDIT.
Total mileage multiplied by 1½d.
per mile multiplied by 1½d.
5% on the above for "trps," incidentals, etc.
The value of the old machine on
the assumption that it is taken
in part exchange for a new one
by the same maker.

If there are any points that I have overlooked I should be glad if attention could be drawn to them. J. P. C. DONE.

CII



Sir,-I should be glad if you would allow me through your columns to call attention to the state of affairs at Ulverston. Motorists are pulled up and fined for the least offence. My special reason for writing is concerning a recently imposed fine of £10 and costs against myself for "driving to the danger of the public" (according to their idea), but I can swear I was not travelling twenty, and they rated it at thirty-five. I pulled up in eight or nine yards.

This will show you how they treat us in the Furness

district. It is not only an excessive fine, it is an insult, and I think should be appealed against by all unions for future THE VICTIM. comfort.

Barrow-in-Furness.

REUNION OF EX-D.R.'S.

Sir,-I would suggest a meeting of old D.R.'s somewhere in the neighbourhood of the D.S.D., when a general idea could be made from the gathering as to the possibility of forming an Old D.R.'s Association.

The first Sunday in July-say at the monument in Ashridge Park, or Mentmore Park, would be quite a suitable rendezvous.

C. SMITH (late Sgt., R.E.). rendezvous.

PORTABLE HAND CLEANER.

Sir,-In a recent number of your paper, "Ixion" touches another sensitive (particularly so to some) spot when he speaks of the need of some portable hand cleaner.

Having at last entirely satisfactorily met this difficulty through the ideas and assistance of my "regular passenger," I hasten to offer her excellent recipe to any who disapprove of arriving at their destination "in oil": 1 lb. soft soap, I lb. whitening (both to be obtained at any grocer's or iron-monger's), and \(\frac{1}{2}\) lb. clean sand. Mix thoroughly in an old saucepan with just sufficient water to cover, and then bring to a boil and allow to simmer for twenty minutes. cool, it should be of soft pasty consistency, and if placed in airtight tins or jars will remain so. If too dry, use more water, or if in keeping it gets hard add water and perhapsaa little more soap, and boil up again.

I have found this most effective, cleaning out all cracks

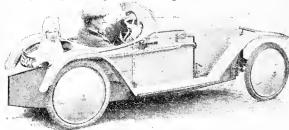
and crevices in the hands without in any way making them rough-in fact, the contrary is the case-so that now a small tin is always part of my equipment, and at the end of even a troublesome trip I can "shake" quite as readily as my passenger. QUADRANT.

Aberavon, Port Talbot.

Sir,—Apropos the paragraph "A Portable Hand Cleaner" in a recent issue of The Motor Cycle, do you remember the liquid soap called Lyxavon? It used to be put up in 6d. and is this by the Lyxavon Co., of Prospect Place, Barnsbury, but seems to have been off the market since the beginning of the war. I do not think it was ever advertised extensively.

In my opinion, it was the only grease and dirt-removing soap-whether solid or liquid-worth looking at. (and the smell of it) could be removed at one washing with either hot or cold water, and that is about the best test of all. One of its other good points was that in emergency it could be used without water at all, simply by using a slightly larger dose than usual and then wiping it off with a piece

I used to make a point of carrying a small tin filled with it in my toolbag, and using water from the generator if no



A neat monocar built by Mr. S. E. Walker, of Sleaford. It is fitted with an 8 h.p. J.A.P. engine, a two-speed gear box, and chain-cum-belt transmission.

other was handy for a final rinse. It also had no bad effect on the skin, and was once even used for shaving in preference to hotel soap when the Vinolia powder was accidentally left at home.

I should like to see it on sale again, because it was really good, so perhaps this may "ginger up" the manufacturers to get going again.

Coventry

BRITISH V. GERMAN PLUGS.

Sir,—As manufacturers of sparking plugs we were interested in the letter signed by "An Old Hand," re plug

We are open to send him two of our plugs, on receipt of the particulars of his engine, which will stand up equal if not better than the "Bosch"—and, further, we are open for his report to be published in the same column, as we are anxious to show that an English manufacturer can make a plug as good as any foreign make.

HOWARD S. COOKE AND CO.

DATES OF SECOND-HAND MACHINES.

Sir,-Recently I journeyed from Manchester to Preston to inspect a machine advertised as a 1920 model. Fortunately, I have sufficient knowledge about motor cycles to recognise I have suniceen knowledge about motor cycles to recognise their approximate age. On examining the machine, I found that it was certainly not later than 1915 model, but that the seller was attempting to sell it as a 1920. The journey involved me in some expense; besides the waste of time, and had I not known something about machines I might have been health wisled. been badly misled.

I think that this practice is very greatly against the interests of the trade, both from the buyer's point of view and the seller's, and that every possible means should be

taken to suppress this type of procedure.

Manchester. DISGUSTED. [This practice is very rare, but we have frequently warned our readers to make sure of dates before purchase so as to avoid disappointment. In many cases the misrepresentation is due to ignorance rather than design .- ED.]

INTER-'VARSITY HILL-CLIMB.

Sir,-With reference to the action of the Buckinghamshire police in stopping the Inter-Varsity motor cycle hill-climb at Kop Hill, Princes Risborough, on Sunday, June 6th, may we claim the hospitality of your columns to lodge a protest against the methods adopted by them?

a protest against the methods adopted by them? In the first place, no objection was raised by the same police in the case of the last Inter-Varsity hill-climb held at Aston Clinton on March 7th last, although the two cases are absolutely parallel. Both these climbs had been fixed for Sundays, as it is quite impossible for the two Universities to assemble on a week day.

Secondly, in the correspondence between the Secretary of the Oxford club and the Chief Constable of Buckinghamshire although it was intimated that a week day would be

shire, although it was intimated that a week day would be preferable, no refusal for a Sunday climb was either stated pretends, in crusal to a Sunday thin was refuel sacrated or implied. The police stopped the climb on the ground that the speed limit of 20 m.p.h. was being exceeded. Why should an objection be raised to breaking the law on Sinday the state of the state day, when the police are ready to connive at it on a week/ day? If their intention was to stop the climb in any case, they had three clear days in which to notify us—a course which would have saved both our visitors and ourselves

considerable expense and inconvenience. Actually no effort was made by the police to appear on the scene, in spite of notification of time and place until fully one and a half hours after the

commencement of the event.

J. E. G. HARWOOD, } Hon, Secs. G. A. JENKIN,

for the Oxford and Cambridge University Motor Cycling Clubs.

[The attitude of The Motor Cycle towards Sunday competitions—particularly hill-climbs—is well known. In view of the intimation of the Chief Constable of Buckinghamshire to the hon. secs. of the Oxford and Cambridge University Motor Cycling Clubs that a week day would be preferable, we confess that we cannot share the apparent surprise of the organisers at the interference by the police.-ED.]



THERE ARE HILLS IN IRELAND, TOO!

Little is heard of Irish hills as a testing ground for motor cycles, but it is not because they do not exist. The Cork M.C.C., for instance, found a "teaser" for inclusion in their recent do not exist. The Cork M.C.C., for instance, found a "teaser" for inclusion in their recent trial. The photograph gives a good impression of the gradient of the hill, which is in the neighbourhood of Kenmare

CLEANLINESS.

Sir,—Having read "Ixion's" remarks re muddy shoes and leggings, and also J. Graham's letter on the same subject, I thought the method of procedure adopted by my father might he of interest.

He travels from Kingston-on-Thames to Cricklewood and back each day, a total distance of twenty-eight miles. This

back each day, a total distance of twenty-eight miles. Inis he has done every day on a 2½ h.p. New Imperial ever since August last year through every kind of weather. He keeps perfectly clean by wearing, in addition to macintosh and leggings, a pair of goloshes. When removed at the end of the journey these leave the shoes perfectly clean, and the inside of the leggings are not dirtied by drawing the feet through them. R. H. CHAPLIN.

STATION APPROACHES ARE PRIVATE.

Sir,-Last March, when riding a solo machine up George Street, Croydon, Surrey, to business one morning, I found the road outside East Croydon (Main) Station entirely blocked the road outside East Croydon (Main) station entirely flocked by two trams and a 'bus, all stationary and in line. Seeing the station approach clear right through, I switched into this. Unfortunately, a gentleman, late for his train, ran out, and it was impossible to avoid a collision. The usual police procedure took place, and since that time the A.A. and M.U. has met the small claim made by this gentleman in a very satisfactory manner.

The main point of interest lies in the fact that the London Brighton and South Coast Railway Company summoned me last week for trespassing on their private property, and I, of course, pleaded ignorance of any station approach privacy, but was fined 21s., and 21s. costs.

I am taking this opportunity of asking you to publish my experience, in order that other motor cyclists may not suffer in a like manner.

The A.A., of which I have been a member for some years, stated the case was one they were not prepared to handle. A. H. HUNT.

PLUG EFFICIENCY.

Sir,-I give the following experience, which occurred some little time ago: On a fairly new two-stroke engine the plug suddenly went wrong after previously doing quite well. I tried five different plugs of the best known makes, and none lasted more than ten minutes. I then asked the garage people if they could suggest anything, and was advised to try a

Burton, which was unknown to me. never had another moment's trouble, I know nothing else whatever about it, not even the makers' name or address, but wish to give credit where it is due. Leeds.

Sir,-1 too have had a great deal of trouble with British plugs on a 6-7 h.p. twin, and, incidentally, with American and French ones also, and finally over-came the nuisance of having to change plugs after every long-distance run at speed by litting a pair of disreputable-looking igniters, supplied to me with an old American motor boat engine. This year I am using in another

engine the British plugs scrapped last year, which seems to show that engine design is a very important factor in plug efficiency-yet we never think to blame the engine designer. I know cases were plug troubles have been eliminated by fitting a larger magneto. True, there are plugs that will stand up in engines that are notorious plug eaters, and nobody seems to know the reasons why. If I remember rightly, Scott owners had trouble with plugs before the war, and when they finally found one to stand up to the work-it

was not German, but American. Earlsdon. CANADIAN. Earlsdon.

Sir,-I was much interested in "An Old Hand's" letter in May 27th issue

Old Hand's letter in May 27th issue of The Motor Cycle.

During the war I was using naphthalene in a B.S.A. combination, and had so much trouble with broken porcelains that I finally made my own porcelain and fitted it into an old L.M. case, which did me very well till the points gradually burned too short

I am now using an Oleo, which is all I can desire, and would recommend "An Old Hand" to try one. I have no BENZOLE.

Stoke-ou-Trent.

Sir,—I was much interested in a letter headed "Ping Efficiency," in The Motor Cycle of May 27th, having had

a similar experience myself with British plugs.

The plug fitted to my new two-stroke gave out at three miles; another of the same make lasted for five miles. I then fitted an American plug which stood up to the work perfectly. However, to give the British one a fair test, I subsequently fitted another, thinking the very oily condition of the new engine might have been responsible for the speedy collapse of the first two plugs; the result was the same, the plug giving out at seventeen miles.

I have had no trouble!

HENRY F. HARDY.

SUMMARY OF CORRESPONDENCE.

Lenses in Goggles.—A. S. Lyons and Son, 221 Shakes-peare Crescent, Manor Park, E.12, are added to the lists

of opticians who supply lenses for goggles.

COURTEOUS TREATMENT.—Further letters on the subject of satisfactory service and courteous treatment on the part of manufacturers and garages have been received. Edwyn G. Wilson gives an example of the promptitude and good treatment of Maude's Motor Mart.; another correspondent writes an appreciation of the service rendered him by Richardson's Garage, Derby Road, Nottingham; and a satisfied A.J.S. rider quotes the case of a tank which was supplied by the makers free of charge, although the guarantee had long expired. Another A.J.S. owner—in Newcastle-on-Tyne—eulogises Cyril Williams, the Wolverhampton agent, for prompt attention in the matter of replacement parts.

Complaints .- Although the number of complaints regarding the supply of new machines and spare parts are now considerably less than at any time since manufacturers resumed their normal occupations after the war, we have to record that there is still room for improvement. Several complaints from readers are being investigated.



Summary of the Pracising. How a "Record" Lap was Done. Mechanical Details and Features of Competing Machines.

PRACTISING for the Tourist Trophy Races ceased on Monday morning of this week, and competitors for the Junior event handed in their mounts for official inspection, the Senior riders submitting their machines yesterday (Wednesday) for the same purpose.

In watching the practising each morning one could not fail to be impressed by the splendid manner in which the majority of the machines hold the road and the fearlessness of the riders in cornering, which has been responsible for some high speeds being attained.

The lap times of the winning Rudge in the 1914 event were 45m 48s, 44m, 35s., 45m, 46s., 44m, 46s., 45m, 49s., and 46m, 3s. Total time, 4h, 32m, 48s.; the average speed being 49.49 m.p.h. The fastest lap (H. O. Wood (Scott) first lap) was 42m, 16s., equalling 52.23 m.p.h.

Fast Practice Laps.

Early last week Dance (Sunbeam) covered three laps without a stop at speeds of 50.7, 52.3, and 50.9 m.p.h. respectively. His time for the best lap was 43m. 15s., but, as the course is slightly longer than that of 1914, his average speed was better than H. O. Wood's figure given above. It should also be remembered that the alteration in the course has not improved the speed possibilities.

With such speeds as have been put up this year, one might be inclined to think that the chances of H. R. Davies's little A.J.S. would be small in the Senior event, but on the same day as Dance put up the performance just recorded, Davies covered the lap at an average of 50 m.p.h., which

was nearly 3 m.p.h. faster than the fastest lap in the 1914 Junior, his time being 45m.

For consistency and speed it is quite likely that Dance's record will not be broken during to-day's race.



Both the Dunlop company and the makers of the Clincher tyre installed buffets at the starting point during practising. Above are seen Norman Black (Norton) and P. G. Dallison (Ivy) taking an early morning It is interesting that John Marston, Ltd., have only six machines on the road, but they are long past the experimental stage, and nothing has been left to chance.

Several times the Sunbeam riders have visited the Island, and they are taking the event much more seriously than many of the competitors. It must be remembered that they were runners up for the Trophy in 1914, when Davies's time was only 6m. 24s. slower than the winner. If a Sunbeam wins its success will be well earned.

During the practising there was little of the spectacular about any of the Sunbeam men, and it was evident that Mr. J. E. Greenwood, who is in charge of the Sunbeam entry, has drilled his riders well, and that they have appreciated that a T.T. is not won by taking undue risks during practice.

As might have been expected, the practising attracted a good deal of attention from Manxmen and visitors to the Island, and at 4,30 every morning quite a large number of people turned out to witness the start, while Governor's Bridge was the venue of many interested spectators who congregated there to witness the cornering on this difficult part of the course.

The Story of a Hoax.

The T.T. would not be complete without its jokes, and in this connection D. S. Alexander (Indian Scout) very cunningly hoaxed the officials during the practising. Together with other papers no doubt, we received telegrams to the effect that the Indian rider had covered the course in

T.T. Notes and News .--

39½m.—a speed of over 57 m.p.h. We did not publish the figures. The time was too good to be true. The Scottish joker had overdone it.

It appears that the hoax was earefully arranged by Alexander and a few friends and caused something in the nature of a sensation. After completing his first circuit on the particular morning, he started on a second lap at a pre-arranged time and was timed in again 391m, later. The marshals round the course all reported that Alexander had passed them going well. The amazement continued throughout the day, but when it was discovered that the "news" was being wired te newspapers across the Channel it was decided to explain how it was done. Alexander did not go round the course, which he left at Braddan and journeyed to Hillberry by another route, a distance of eight miles.

The Art of Cornering.

As will be appreciated by all who aspire to be speedmen, to-day's good form has not been attained without much practice and a great deal of experimenting. Cornering has been reduced to a fine art, as it must be in the case when fractions of a second may be of importance. A little extra skill on the corners and a little greater accelerative ability on the part of the machine makes all the difference between the fastest lap and a mediecre performance.

Governor's Bridge made a good point from which to observe the various styles of cornering, and many spectators sta-

tioned themselves here.

At first the cornering at this point was "poor to middling," but each day saw a great improvement. The Ramsey hairpin did not give so much trouble, and the speeds of the majority at this point were somewhere in the neighbourhood of 25



The lap time of each competitor was registered on this board as he completed each circuit.

m.p.h. even in the early days of the practising.

The Norton Entry.

Almost all the Nortons ran very consistently during the practising, and consistently auring the practising, and shared with the Sunbeams and Indians a high place in Manx opinion. True, they did not put up remarkable lap times, but they have been fairly uniform, and mostly were well under the 50m., showing that until a few days before the conclusion of practising at all events no undue risks were being taken,

Aspirants for the Team Prize.

Six teams are entered for the muchcoveted team prize, in which connection the Norton has an extremely good chance, for there are no less than four teams on

these well-known singles against one team each on the Indian Scout and Sunbeam machines. The teams nominated are given below:

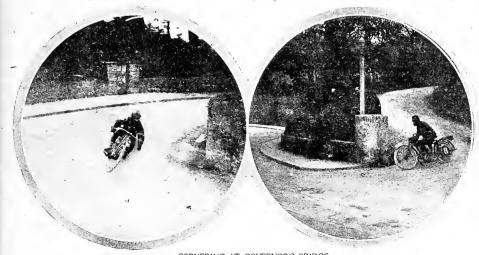
SUNBEAM. F. C. Townshend, G. Dance, and T. C. de la Hay. Indian Scout.

D. S. Alexander, F. W. Dixon, and B. Houlding.

Norton.

Norton Motors, Ltd., Team : D. M. Brown, J. W. Shaw, and Noel Brown. Capt. Lindsay's Team: A. Lindsay, J. Thomas, and N. Black.
T. Simister's Team: V. Olsson, F. C. North, and T. Simister.

Victor Horsman's Team : H. Petty, V. Horsman, and N. C. Sclater, jun.



CORNERING AT GOVERNOR'S BRIDGE. Each competitor had to complete a certain number of laps within a specified time to qualify for the races.

SOME NOTES ON THE MACHINES.



Sunbeam.

Among the many points of interest of the Sunbeam machines is the new detachable cylinder head held to the cylinder by bolts having square heads. This construction is so neat in design that at first one can hardly tell that the heads have a joint and are detachable. The cylinder is spigotted into the combustion chamber, the joint being made with a copper-ashestos washer. Slightly smaller flywheels than standard are used and the big ends have roller bearings.

and the big ends have roller bearings. With regard to lubrication, an oscillating pump driven from the cam gear provides a constant supply of oil to the crank case, and for emergency purposes a foot operated pump is fitted. We hear that the new Sunbeam engines are capable of 5,000 r.p.m. on the bench, a speed attained by virtue of their very light working parts. The cams are standard.

Two gallons of petrol and three quarters of a gallon of oil are carried, a small point of interest being the provision



C. G. Pullin, the 1914 winner of the Senior Trophy, who is not detending his title.

of a filter cock and petrol pipe for supplying the carburetter from both ends of the tank. The rear rim brake is operated by pedals on both sides of the machine, and the front V rim brake is controlled from the handle-bars.

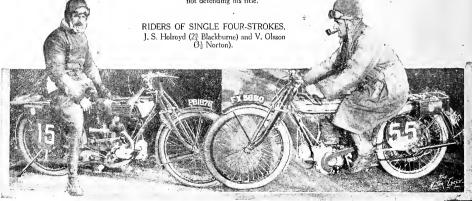
An entirely new type of gear box is used providing ratios of $4\frac{1}{27}$, 6 and 8 to 1. the number of parts being reduced to a minimum, so as to avoid friction.

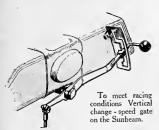
A hand-controlled five plate cork clutch, and the standard cush drive is retained, while the weight, incidentally, is between 180 and 200 lb.

Incidentally, Dance's wonderful Sunbeam, with which he has scored so many victories, will not be used in the race.

The Nortons.

There are fourteen Nortons, in all, competing for the Senior Tourist Trophy, but not all of them are under the supervision of Mr. O'Donovan at the Norton Depôt, several heing privately entered and ridden, and a comparison of the latter's performances will be instructive.





The Norton machines, however, are practically standard, a deviation being in the new Sturmey-Archer gear box which provides ratios of 4, 5, and $7\frac{1}{2}$ to one

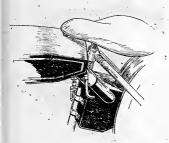
Each machies weighs about 230 lb. with full equipment. There is no change in the design of the engine, which will rev. up to 4,300 r.p.m. A speed of 76 m.p.h. on top gear is anticipated, and 55 m.p.h. is said to be possible on a five to one gear.

V Twin Indians.

Except for the fact that the cylinders have a smaller bore and stroke (i.e., 68.2 × 68.2 mm.), these machines are almost identical with the Standard In-dian Scout model. The cylinders were made specially for the T.T. machines at the Hendee factory in America, and have side-by-side valves and un-enclosed springs. Aluminium pistons with two rings apiece are fitted in place of the cast iron pattern used in the standard Indian Scout, while the tyre rims are of the Jin. type.
Weighing 270 to 300 lb., the Indians are on the heavy side.

The Douglas.

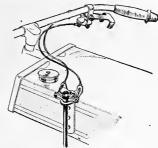
The Douglas to be-ridden in the Senior Race by A. H. Alexander is fitted with special cylinders, having detachable heads, and overhead valves. The cylinders are held to the crank case by four studs, another set of studs being employed for the attachment of the head to the cylinders. The created when the care wild walks are considered to the cylinders. der. The overhead valves are inclined to each other in the cylinder head, and operated by offset rockers and push rods, which extend to the standard Douglas type tappets in the upper part of the crank case.



Extra oil tank between seat-pillar and rear mudguard on the A.J.S. This reservoir is connected by a large pipe to the main tank.

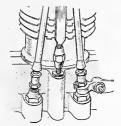
Bearing against a flange on the cylinder head are coil springs, which keep the tappet rod joints tight and free from end play, and the main tappets against the. cams in the crank case. A cradle bracket cast in one with the cylinder head carries the rockers, which are supported on long

Another feature of this engine is the exhaust heater in the centre of the induction pipe extending between the cylinders, and is in the form of a chamber built around the induction pipe, the Seuspray



The top and second gears of the A.J.S. are operated by cables and special handlebar control levers,

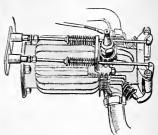
carburetter being monnted immediately below it on a short extension pipe cou-nected to a "T" pipe joint within the heater chamber. Exhaust gases are led through a pipe from the main exhaust pipe leading from the front cylinder, thence through the chamber, afterwards making an exit through a short tail pipe at the rear.



Details of attachment of cylinder holding down strap and adjustment on the A.J.S. Note the inclined tappet rods for the overhead valves.

A Six-speed Gear.

Alexander's Junior T.T. Douglas is the original 1912 machine on which he won the Spanish T.T., but is now equipped with a six-speed gear of a novel kind. A Douglas pattern three-speed gear box is fitted, but in place of the single chain between the engine and gear box there are two chains, one running on a sprocket on the inside of the flywheel, while the other is on the outside. The engine sprockets are of different sizes, and by means of a foot control arm operating a dog clutch between the two sprockets on the gear box shaft extension either of the chains



Overhead valves and gears on the only 31 Douglas in the race.

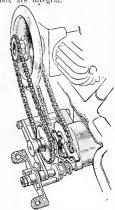
is brought into action and takes the drive. The gears in the gear box are, of course, operated by the horizontal lever above the tank, and by the use of both foot and hand controls any of the six speeds can be brought into action. The gear ratios thus obtained are $4\frac{3}{4}$, $5\frac{1}{2}$, 7, 8, 10, and 12

A.B.C.

The two A.B.C. machines entered by R. Lucas and E. S. Abram are practically standard machines, but the A.B.C. to be ridden by the former entrant has one or two points of special interest. To facilitate gear changing, a semi-circular hacket is bolted to the gear lever about an inch above the gate. This bracket is fits the right leg of the rider, and by a certain movement of the leg the gears can be rapidly changed from first to second, or third to fourth. A touch with the hand is necessary for moving from second to third; but this is relatively unimportant, since most of the gear changing at speed is from top to second gear, under conditions when control of steering with both hands is a necessity, and a foot or similarly operated control becomes a great comfort.

It will be remembered the A.B.C. has

four speeds and that the engine and gear box are integral.

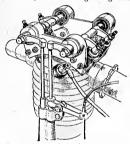


Double chain drive to three-speed gear box on A. H. Alexander's Douglas, giving six speeds in all.



Leg-controlled gear lever on the A.B.C. ridden by Reg. Lucas. The semi-circular bracket fits against the rider's leg.

Lucas has also fitted a combined foot and hand control to the A.B.C. clutch. Two Bowden cables from the handlebar lever and pedal on the left side of the machine, respectively, are connected to the outer end of the external clutch arm in a neat and simple manner. The lower end of the hand-controlled cable is fixed to the machine, the cable sheath depressing the clutch lever, when in action. If the pedal is used, the cable connected to it pulls the clutch arm down direct, its sheathing being station-



Overhead gear of the four-valve, single cylinder 24 h.p. Diamond. Two plugs and magnetos are used

ary, and either cable can operate independent of each other. Should the clutch be stiff to operate by hand, the pedal may be used for assistance and rice ersa should the pedal action be stiff. This competitor has also fitted an emergency cable alongside the brake rod

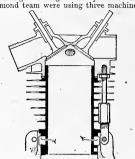


One of the Diamond riders in the Junior T.T.-P. Pike.

controlling the rear brake should the break from excessive road latter. vibration.

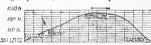
The New 21 h.p. Diamond.

Although during their practice the Diamond team were using three machines



Section of Diamond four-valve cylinder, showing one of the four rods and adjustment for securing head and cylinder to crank case. The arrows indicate feed of oil to piston from annular chamber at base of cylinder.

with different type engines, namely; an overhead valve twin, overhead valve single-cylinder, and a side-by-side valve



Contour of the Ramsey-Douglas section, showing the climb up to nearly 1,400 feet at the Bungalow.

single-cylinder, a new Diamond appeared in the practice mornings of the second week, and which was of a design totally different from the others. This engine is



R. O. Clark, a Levis entrant.

noteworthy on account of four valves situated in the head and the dual plugs fired by two magnetos. The cubical capacity of this new engine is 248 c.c., and the valve area is very large in com-parison with the bore, there being two inlet and exhaust valves arranged in the detachable cylinder head, each pair at an incline to the other.

Both cylinder and head are held to the crank case by four bolts hinged to pins in the latter, and provided with threaded hexagon sleeves for tightening purposes. The valves are operated in pairs by rockers, which resemble piccolo fingers, and two tappet rods jointed to tappets in a detachable camshaft housing at the side of the crank case. The camshaft is driven by bevel gear from the end of the crankshaft and runs on ball bearings.



Cylinder head of the Diamond, showing four valves and twin sparking plug holes. One of the valves is removed.

as do also the rockers above the cylinder head. The whole of the valve gear is most substantially designed and made. An aluminium piston with two rings in a single slot is used, and slipper type skirts are embodied in the design of the piston.

The magnetos are mounted side by side, one heing direct driven from the cam-shaft, while the other is driven by chain

from the spindle of the first.

The crankshaft is solid with light steel flywheels attached, which receive no stress from power impulses. A Sturmey-Archer gear box and chain-cum-belt transmission is used, the total weight being in the neighbourhood of 180 lb.

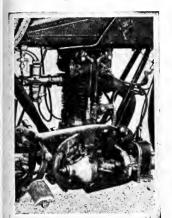
The New Twin Jap.

An entirely new engine which makes its début in the T.T. practising is the small V twin J.A.P. This engine has overhead valves, and the rocker pivots are fitted with ball bearings. The design of this valve convention graph is this valve operating gear is neat and workmanlike.



J. S. Holroyd, one of the Blackburne team in the Junior race.

MOTOR CILE



The new Diamond overhead valve engine, showing the ball bearing rocker shafts and twim magnetos. A four-speed gear is embedied

The Levis.

The Levis Junior T.T. machines used this week are not standard, but have been altered specially for the Isle of Man. With a bore and stroke of 67×70 mm., the cubical capacity is 247 c.c. The cylinder is east in aluminium with a cast iron liner, and two rings are fitted to the cast iron piston. The arrangement of transfer and exhaust ports is of standard Levis design, which also applies to the system of Inbrication employed. This little engine has behaved extremely well in the Isle of Man, while we are informed that on the bench its maximum speed is about 5,000 r.p.m.

The three-speed gear boxes provide ratios of 3\frac{3}{2}, 4\frac{5}{2}, and 7\frac{7}{2} \tau-1, all of which are comparatively high compared with an ordinary tonrist's two-stroke machine. No clutch is embodied.

The main tank is supported by a pair of horizontal tubes, and is wholly used for petrol, lubricating oil being carried in a small and separate tank above the top tube of the frame. The weight of this speedy little machine is approximately 140 lb.

The Duzmo.

This machine is the same which competed in the Liverpool Speed Trials and the London-Edinburgh, and has been altered very little. The Duzmo has already been described in The Motor Cycle, and is interesting as being the only single in the Senior T.T. with an outside flywheel. Amongst other noteworthy features of the engine are overhead valves in a detachable cylinder head, and mechanically-operated pump lubrication: points which all make for increased efficiency.

It may be mentioned that the gear ratios used are $4\frac{1}{2}$, $5\frac{1}{2}$, and 7 to 1, and that the machine weighs 270 lb. Le Vack stated that his engine can rev. up to 3,500 r.p.m. in a test, bench,

The Ivy Two-stroke. -

The Lvy machine used in the Junior T.T. is actually a 1921 model, which will make its appearance on the market in a few months time. The engine is of 349 c.c., and the bore and stroke are 75×79 nm. Maximum revs. are stated to be 5,900 under a brake test.

The Sturmey-Archer countershaft gear box provides three speeds, with 4_4^3 , 6, and 7_2^4 to 1 gear ratios. The transmission

is by chain throughout, and the Sturmey-Archer clutch is hand controlled, while the complete machine weighs 212 lb.



T. C. de la Hay (Sunbeam).

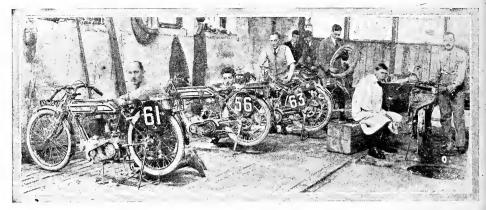


THE DAWN OF DAY. -

4.30 in the morning is not a time when one expects enthusiasm on the part of spectators, yet, as the pictures show, these morning scenes were quite animated. (Left) Eric Longdon effecting an adjustment before starting. (Right) V. E. Horsman (Norton) being timed away.

The Wooler.

In view of the recent long-distance records secured by McNab on the Wooler flat twin, the entry of a team of these new machines was of more than ordinary interest. It will be remembered that on Brooklands McNab averaged 42.84 m.ph. for eight hours, and 40.60 m.p.h. for twelve hours. These machines are all standard models.



An animated scene at the Norton depot.

The Blackburne.

The Blackburnes used in the Isle of Man are the first complete 23 h.p. machines to be turned out at the Blackburne works. The engine is a standard 23 h.p. model, with detachable cylinderhead and outside flywheel. Gear ratios of 5, 64, and 94 to 1 are provided by a Sturmey-Archer gear box, and the usual hand control is used with the clutch. The petrol and oil tank is very wide at the front, and tapers to the rear. Two gallons of petrol and half a gallon of oil are carried. The weight of the machine is 250 lb.

Three of these machines were entered, and they are standard in design in all particulars, and were drawn from stock.

The Aurora.

Fitted with a two-stroke Dalm engine of 73×76 mm. bore and stroke and 318 c.c., the Anrora is the production of Messrs. Aurora Motors; Rainsey, I.O.M. The cylinder is of the three-port type

with twin exhanst pipes. An enginedriven pump supplies the engine with oil, and the feed is controlled conjointly with the throttle movement. A two-speed Burman gear box with clutch is fitted, and chain-cum-belt transmission is used. An external contracting brake and a belt rim brake are fitted at the rear. There were two of these machines entered in the Junior T.T.

New Comet.

This machine, of which only one model was entered in the Junior Race, being an almost standard production, was worthy of close attention. The Climax engine fitted, although of two-stroke three-port type, is unusual in having inside flywheels. An Amac carburetter faces forward, a large air-scoop being arranged with the object of getting forced induction. All the other details of the machine are standard, including C.A.V. magneto and Albion two-speed gear box with chain and belt transmission. The gear

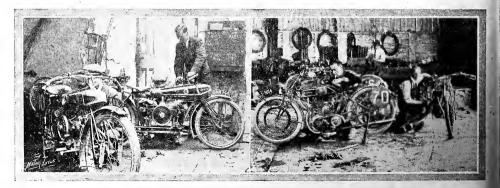
ratios employed are normal, and the equipment is similar to that of the ordinary stock models with the exception that special mudguards and flatter handle-bars are used. The rider, Leonard Clements, is a newcomer to motor cycle racing circles.

The Dot-Jap.

The engine of this motor cycle is a new J.A.P. production, referred to elsewhere, and has overhead valves located in a detachable housing. The valve seatings are cast in one with the cylinder, and the tappet rods have ball and socket joints instead of the earlier type of fork joints used on the rockers. The bore and stroke are 60×61½ mm. and the cubical capacity 348 c.c. This was the only V twin entered in the Junior race, and, indeed, it would appear that in the battle of the types this form of engine is gradually losing its popularity.

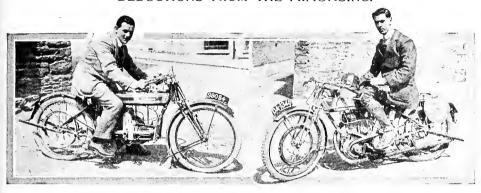
The machine is equipped with a two-speed Albion gear box and chain and

belt transmission.



FINISHING TOUCHES. Right up to the last minute the work of preparing went on at all depots. Competitors and mechanics busy on the Woolers and Sunbeams.

DEDUCTIONS FROM THE PRACTISING.



"Flat twin" and "single" in the Senior Race. A. H. Alexander (Douglas) and G. Dance (Sunbeam).

U NLESS practice times and general performance during the preceding fortnight are wholly misgurding, one can reasonably assume that the main struggle will be between the Sunbeam and Norton machines in the Senior T.T.

and Aorton machines in the School 1.7.

The Sunbeams have performed consistently well: moreover, they are specially designed throughout for the stremous Isle of Man course, but numerically the Nortons have the advantage, and they are ridden to-day by good men, as practice

All the Nortons, with one exception, are purely standard machines, and have not been altered for the purpose of the race. Even the one which is the exception is a machine with belt drive and variable pulley.

We have J. E. Greenwood in charge of his Sunbeam team. He has seen that each of his men is up to the mark, and that machines are always in "condition."

The Norton machines are almost all of them under the Norton expert, D. R. O'Donovan, who is not likely to forego chances in the race, and the Norton engine has always possessed a reputation for speed records in competitions both for duration and hill-climbs.

A Battle of Singles.

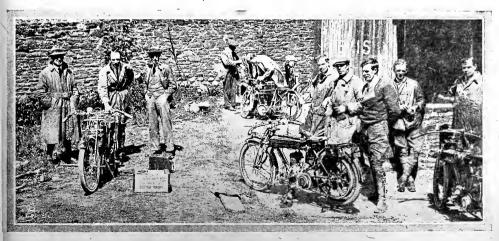
Comparing the two makes of machines and their practice performances, the odds are slightly in favour of the Sunbeams as regards speed and other factors; but should the Sunbeams meet with bad luck during the six laps in the race, then the

numerical strength of the Nortons may bring in a winner. It is not unsafe, then, to presume a tough struggle between the two teams and a very exciting win for the first man.

the first man.

The Indians, A.B.C., Duzmo, and Douglas, are all comparatively "dark horses," but their relatively slow performances during practice cannot be taken as an absolute guide to their ultimate chances. The Indian machines are handicapped by extra weight, but even so, they may not yet have shown all their cards for a win, and possibly their team work may produce unexpected results.

These entrants have not had the advantage of organisation and assistance in their preparation and practice, but



STABLE COMPANIONS.
Blackburnes share the same depot as the Levises

Arrangement of Bowden cables on the clutch control of Lucas's A.B.C. The

Competing against all these riders of 500 c.c. mounts is the 23 h.p. A.J.S., which on one occasion made a lap in forty-

five minutes, at approximately 50 m.p.h.

upper cable is connected to the hand control lever and the lower to a pedal.



The Diamond team on different types of machines used in the practising.

none of them have been slow on the conrse

Of the particular riders to be favoured Of the particular riders to be favoured in the Senior race, one has only to compare the practice times of one or other of the men, such as Dance, De la Hay, Eric Williams (winner of 1914 Junior T.T.), D. Brown, Shaw, etc., to know that some fast riding will be achieved.



The Degory "no-jet" carburetter fitted to A. E. Wills's overhead valve Douglas. The central portion of the induction pipe is an aluminium casting, and fits flat against the timing case cover.



Reading from left to right the riders are: H. R. Harveyson, F. W. Dixon, and A. H. Alexander.



Douglas Promenade makes an ideal speedway for teamorrow's flying kilometre. Early morning practising for the event.

This compares favourably with some of the best practice performances of the Senior machines, and provided the engine

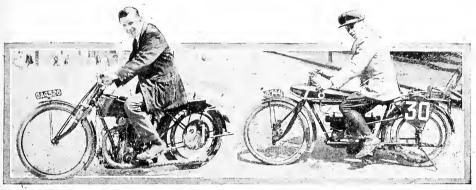


To obtain alternative riding esitions, three rubber grips were used by Dallison (Ivy) on each side of the handle-bar.

can stand six laps "all out" in the race. can stand six haps an out in the later this machine will prove a very serious competitor, and, given good luck, should finish quite well up even though it may not win.



emergencies by fitting an extra cable alongside his brake rod.

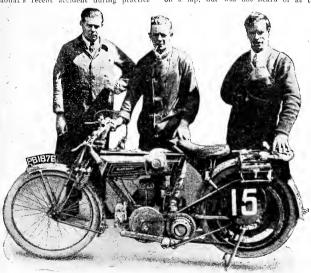


Two four-stroke types in the Junior Race-Milner's 23 h.p. Diamond and Clayton's flat twin Wooler,

THE LAST DAY'S PRACTISING.

Monday morning was wet and gloomy, and, with the exception of one or two competitors who pottered round the course, there was actually very little practising. Of Senior competitors three had not qualified by the previous Saturday—A. J. Moffat (Norton), J. Thomas (Norton), and S. J. Redmond (Indian)—and only Thomas turned up on Monday morning. Despite the wet weather, Thomas covered two laps, one of which he made in less than one hour, and he thus qualified for the Senior race. Moffat's recent accident during practice

was evidently responsible for inability to complete the necessary number of laps, while Redmond, we understand, decided not to compete in the Senior. Harveyson, Dixon, and D. S. Alexander (on their Indians), and Lucas (A.B.C.), each put in a lap of the course; and T. Simister (Norton) covered two circuits without stopping, also Milner and Marks went round on their four-valve Diamonds. The former, however, decided to ride his 250 c.c. J.A.P.-engined o.h.v. model in the race. Oates, on the Aurora, started on a lap, but was not heard of at the



The new $2\frac{\pi}{4}$ h.p. Blackburne machine made its debut to the public in the Senior T.T., for although a large number of makers have been using this engine for the past year, it has not been included in the Blackburne range. The central figure is P. J. Enticknapp, and to the right is seen J. S. Holroyd, both well-known competition riders.



After morning practice competitors were fully employed tuning up and adjusting their machines.

official cessation of practice. Excluding those competitors who suffered accidents and are out of the Junior race, there remain four riders who have presumably not qualified. These are J. S. Clayton (Wooler), E. Greenwood (Douglas), J. W. Oates (Autora), and J. H. McDowell (Wooler). F. A. Applebee, the one-time trophy holder, went over the course on his touring Indian in 57m., which is an excellent performance, considering he has not seen the course for some years. Despite the weather, a large number of spectators assembled at the start on the last morning of practice, and, incidentally, the carpenters were busy putting the last touches to the grandstand.

IMPRESSIONS OF THE COURSE.

Condition of the Roads immediately before the Commencement of the Races.

Sunday in the Isle of Man was not exactly a day of rest, for the competitors, particularly those in the Junior race, were busy putting finishing touches to their machines. Though motoring was restricted to those possessed of a permit, there seemed no real obstacle in obtaining these, and many took the opportunity of following the course. Trade people particularly were in evidence, and here it may be stated that interest in the event was never more pronounced.

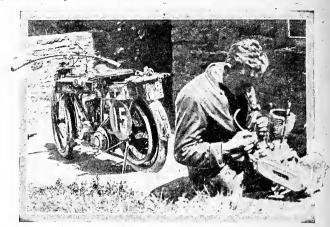
Crowds of Visitors.

Despite the somewhat scanty entry, the many boats have never been so crowded with visitors. On Saturday, for instance, one thousand people were left behind when the first boat left, so that two relief boats were necessary; the afternoon boat, too, was thronged.

On Monday morning, machines in the Junior race were weighed, examined, and numbered, these operations taking place at the starting point. Prior to the race, we took a final trip over the course.

Notes on the Course.

Generally, its condition is good, the state of the surface at the end of the practising proving the negligible amount of damage motor cycles do to roads. After Quarter Bridge there is a perfect surface, often tarred. In Glen Helen occasional wavy stretches are encountered, and under the trees there were patches of wet; after Creg Willey the very fast stretch to Sulby Bridge is in excellent order. From there on to Ramsey the going is not so good, due to abnormal rains. (A slight change of route in Ramsey itself involves a further right-angle turn.) The stiff climb over Snaefell is in wonderfully good condition, though very loose in parts, and stiff head winds are usually encountered at one point or other of the simous climb, which factor has troubled comitted.



AT THE BLACKBURNE DEPOT.

P. J. Enticknapp busy on a dismantled engine during the practice period.

petitors not a little in selection of gear ratios. So carefully are these calculated that in similar makes of machines the ratios vary according to the weight of rider. From the signost onwards are two right-angle bends, and a narrow road approaches the Z bend at Governor's Bridge. Every rider must literally crawl round the bends, for they are far more acute than the Snaefell bend at Ramsey.

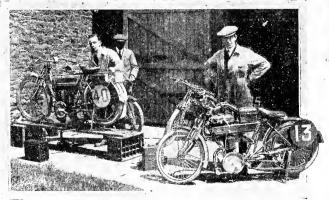
A Downhill Swoop.

Then follows a straight wide stretch to the starting and finishing points in the terrific swoop now made possible down Bray Hill. Considering the additional bends and slightly longer course, it is doubted by successful exponents whether the speed records for the course will be broken. Last week-end we saw on the Island, Tim Wood, Hugh Mason, F. A.



Reg. Brown (Sunbeam).

Applebee, P. J. Evans, and Eric Williams—all previous heroes, and still as keen as ever on the most sporting motor cycle event of the year. At the smoking concert organised at the A.J.S. headquarters at Crosby, £100 was realised on the spot in aid of the local hospitals.



AT THE LEVIS DEPOT.

One of the machines bears the number least desired by the superstitious rider.

INCIDENTALLY.

The Dunlop and Clincher Co.'s motor vans located at the start provided competitors and others with hot drinks during the whole fortnight of practising.

Magneto cut-outs were made optional by the A.C.U. in the second week.

Weird mascots have been worn by a number of competitors, and one rider has green and yellow spots painted on his racing helmet.

F. W. Applebee was, with few exceptions, the first man off on each practice morning. He used upturned handle-bars. Governor's Bridge has been proclaimed the worst course on the course by the riders, although not the most dangerous.

G. Dance has easily upheld his reputation as a speed man in the practising.

Despite the early hour of the commencement of practice, the utmost joviality existed amongst all and sundry at the start on Bray Hill.

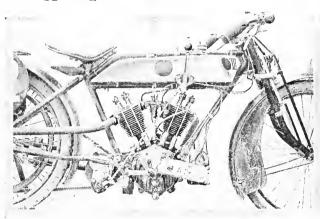
The Sunbeam men use a leather peak on their racing helmets.

"Half Europe on a Norton"—a competitor's opinion of the fourteen Norton entries.

Norman Black's belt-driven Norton with Philipson pulley made some excellent lap times in competition with three-speed machines.

The Sunbeams have coil springs instead of leaf springs as in the standard model.

MOTOR (YCLE



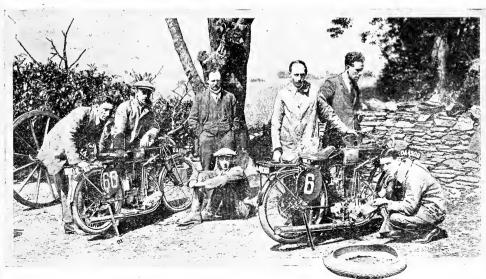
The only British V twin engine in the races—the new overhead valve 350 c.c. J.A.P., of which little was known before it made its appearance in the Isle of Man.

Sidney Haden, age eighteen, reserve rider for the New Comet, was the youngest rider on the course.

A brand new Bosch racing plug was found in a competitor's garage. It had been lying there since 1914.

There has been a rather musual number of accidents during practising this year, and, strange to say, most of these have occurred to entrants in the Junior Race.

These include Heath; Haddock, and Cowell of the A.J.S. entry, and Clement, who was entered to ride the New Comet. In addition, Rice, one of the Sumbean reserve riders and a Manx marshal, made up the rest of the hospital party. True, none of the "casualties" were really serious cases, and all of them are making very satisfactory progress towards complete recovery. It is remarkable that falls from motor cycles, even at speed, result in comparatively little injury.



The A.J.S. depot is situated midst rural surroundings. Mr. Harry Stevens is seen standing in the centre of the picture, with Eric Williams and H. R. Davies on the left.

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CLUB NEWS. (Continued from page 676.)

Newcastle and District M.C.C.

Thousands of spectators assembled at . the start of the all-night run to Edinburgh and back on the 5th inst. Fifty vehicles started, and thirty-seven completed the course. The outward journey was via Alnwick and Berwick, returning via Jedburgh and Otterburn.

The night was cold and dark, but fine, and the run proved most successful. The winner of the Baker challenge cup and special prize was R. H. Johnson (4 Triumph).

Gold medals were awarded to the following competitors checking at each control within one minute of schedule time: A.

(3½ P. and M.), and J. G. Edminson (25 Hudson Six car).

Twenty-two competitors were awarded

bronze medals.

Coventry and Warwickshire M.C. The following are the official results of the Manville Trophy competition held on the 5th inst. Owing to the number of competitors qualifying for this award, the winner has to be chosen from reports on a secret check. This was C. Mansfield (3 a secret check. Inis was U. Mansheld (of A.B.C.). Special class prizes were awarded: Solo, W. W. Brandish (4½ Humber). Sidecar, D. S. Heather (4½ B.S.A.). Car, Miss Vera Hathaway (11.9 Hillman). The following competitors Hillman). The following competitors gained special awards, having lost no marks: T. H. Meakin (4 Triumph), N. Rycroft (4 Triumph sc.), F. L. Allen (5-6 Rover sc.), H. A. Smith (4 Triumph sc.), T. R. Gibbins (8 Acme sc.), H. Finch (4 Triumph sc.), D. A. Atkin (8 Acme sc.), J. W. Ravenhall (5-6 Rover sc.), C. R. Little (4 Triumph sc.), W. J. Montgomery (5-6 Rover sc.), A. R. Grindlay (7-9 Harley sc.), and F. H. Brown (8 Ressc.). The following also got awards, having lost not more than five marks: W. F. Smith (22 Hobart) and A. P. McCowran Smith (23 Hobart) and A. P. McCowran (4 Triumph sc.).

Bradford M.C.C.

This club has now been reorganised, This club has now been reorganised, and at a recent meeting seventy-five new members were enrolled, bringing the total over 100. A flowicee' reliability trial was recently held for the Triumph cup, resulting in a win for S. Jowett (Norton sc.). Prizes were awarded to C. Haigh (P. and M.), G. R. Grundy (Triumph), and S. Haigh (Ariel sc.).

North London M.C.C.

The outstanding performance in the The outstanding performance in the recent Staley cup trial was the consistent driving of Miss D. Busby (23 Douglas), who tied with R. H. Baxter (24 Radco) for the trophy with full marks. Silver medials were awarded to F. J. Watts (5 Brough) and H. F. Hammond (6 Zenith), while the following gained bronze medals: F. F. Jones, F. A. Jelks, J. F. Hull, F. W. Turner, R. L. Richardson, and M. J. Wilkes.

PRINTING TRADES' DISPUTE AND THE MOTOR CYCLE.

The printing industry as represented by its various Unions has, for some time past, been negotiating for an increase in wages.

Some twenty or more Unions are involved, and a basis of settlement has been reached which the Executives of every affiliated Union, with one exception, are recommending their members to accept.

The exception is the Typographical Association, who have issued strike notices which become operative at a future specified date, but in the meantime their members are not permitted to work overt-me.

This step is universal wherever members of the Typographical Association are employed. London and Scotland; however, are not affected, as they are not in the area in which the Typographical Association operates.

Owing to the large circulation of our papers and the difficulty of securing adequate labour, it has been impossible for some time past to produce them without very considerable overtime, and the reduction of output entailed by the lessened number of working hours may, we are afraid, cause delays in production. In order to meet the difficulty to some extent we have been obliged to hold over a large number of pages of advertisements from the present issue, and to delete a number of pages of editorial matter. and we must in consequence ask our readers' indulgence during these difficult times.

ILIFFE & SONS LTD.

The Scottish Six Days Trials.

Up to the time of going to press over eighty entries have been received, and the following makes of machines will be represented by teams: New Imperial, P. and M., Rover, Ariel, Indian, and two B.S.A. teams.

Leeds and District M.C.

A minor speed trial was held on the 6th inst. This event was run in classes and the class winners competed in the final under a handicap framed from their class times. A separate class, with perclass times. A separate class, who personal handicapping, was also run for novices. Results: First, silver cup, Gregory (23 Douglas); second, gold medal, Stanhope (Stanhope runabout); third, silver medal, Almond (4 Trimph); a novices' prize was awarded to Ridgeon (23 Douglas).

THE LONDON-EDINBURGH RUN RESULTS.

WHEN the London-Edinburgh results were published in this journal it was announced that certain cases were held over for further consideration. Since this announcement was made the M.C.C. committee has met and the following awards have been made: -

A. E. Walker (23 Hobart) has been awarded a gold medal, and not a silver as previously announced.

D. Bradbury (4 Norton) is awarded a silver and not a gold medal.

H. B. Browning (3\frac{3}{4} Scott) and J. A. Watson-Bourne (4 Blackburne) have been awarded silver medals.

awarded silver medals.

Competitors who have earned gold medals either in the London-Edinburgh or London-Land's End runs are entitled to receive gold medals, gold sleeve links, or silver ash trays, with the club's silver medal in the centre. Medal winners should communicate with the secretary, Mr. Southcomb May, 34, Gower Place, Loudon, W.C.1, regarding their choice in this direction, by July 1st.

TAXATION.

R EPLYING to a question put to him in the House of Commons last month, Sir Eric Geddes admitted that in an interim report, the Departmental Committee of the Ministry of Transport which dealt with the Taxation proposals, "indicated their preference for a petrol tax.'

It now transpires that the Committee the foundation of their preference for maintaining the principle of the petrol duties. Sir W. Joynson-Hicks, M.P., in the last issue of *The Sunday Times*, points out that the Committee's actual

recommendations were as follow: (1) Taxation of motor spirit should be

continued.

(2) A flat rate per gallon should be levied on all imported motor spirit used by mechanical road vehicles of every description.

The principle to which the Committee endeavoured to make their original pro-posals enforced was that "as far as posaise sniorced was that as far as possible taxation should be proportionate to user in the case of all mechanical road transport," and they stated at the very beginning of their interim report that "We consider that the taxation of

of charging proportionate to user."

Sir W. Joynson-Hicks states that it can be shown conclusively that the revenue which the Government desires to obtain can be secured by a flat rate of 4½d. per gallon upon all imported petrol, coupled with a small increase on licence duties for private cars and a low schedule for commercial vehicles. "Indeed," Sir W. Joynson-Hicks continues, "I doubt whether any tax on the vehicle itself will be needed next year to produce the re-quired revenue, if the Ministry's own estimates as to the number of vehicles escinates as to the number of vehicles that will then be on the roads are realised. Why, under these circumstances, does the Government insist upon forcing its alternative scheme upon the country against the wishes of the enor-

mous majority of the users of mechanical road vehicles?"



A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d, stamped addressed envelope for resily. Correspondents are utged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Lost in Transit.

A motor cycle having a Bosch magneto was advertised recently, and I wired cash to owner of machine, which was then put on rail per passenger train. On arrival here it was minus magneto. Who is responsible for the loss?—

C.P.J.

Either the sender or the railway company is responsible for the loss of the magneto. If the machine was sent at sender's risk, it is his responsibility, but if it was forwarded at the company's risk, the company are responsible, provided the machine was complete when handed over to them.

Timing a Single.

I should be grateful if you would settle a point relating to the valve setting of a motor cycle engine. The engine in question is a single-cylinder 3½ h.p. Rex (85×90), which I took down at the end of last year, and finding that the rockers and cam wheel were rather worn, sent for a new set from the makers. I\set these so that the exhaust valve closes, if anything, just a shade past the top of the down stroke, and the inlet valve opens in. further down. As both valves are operated by one cam, I concluded that this was correct, and boxed it up. Afterwards, however, measuring with a wire, I am surprised to find that the exhaust opens 3in. from the bottom of the firing stroke, and the inlet closes stroke. These measurements I am absolutely certain of, but the closing of the inlet and opening of the exhaust seem to be late and early respectively .-W.J.M.

Time the engine by the following method: Rotate the flywheel until the piston is at the top dead centre, then in-sert the cam wheel and rockers in such a way that the exhaust valve is just closing and the inlet valve just commencing to open. If you adopt this setting you nced not consider the opening position of the exhaust or the closing position of the inlet valve. For timing the ignition, rotate the engine forward one full revolution from this point, when the piston will again come to the top dead centre. Retard the ignition control lever twothirds of its movement, rotate the magneto armature until the contact breaker points are just separating, and then con-nect up the magneto drive. This setting will give you the best results for general running.

Starting an Old Machine.

I have a 6 h.p. Bat-Jap motor cycle with which I have some trouble in starting off. It has an epicyclic gear which is fitted on the engine shaft. When ntted on, the engine snatt. When pushing off, with low goar in, I cannot get back wheel over compression, causing it to skid on the ground. When high gear is in, compression is easier, and the machine will start off with a good sprint. Can you

inform me what is the cause of this? -R.W. The difficulty you experience when en-deavouring to start off in low gear is,

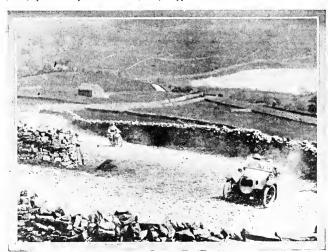
of course, due to the fact that, in a given distance; not only is there a considerable increase of friction due to the higher engine speed, but in the same distance you have to overcome the resistance of a greater number of com-

pression strokes. Probably the bad starting is due almost entirely to the engine being out of adjustment, and we would recommend that you obtain "Motor Cycles and How to Manage Them," published by Iliffe and Sons, Ltd., 20, Tudor Street, E.C.4, by post 2s. 10d., wherein you will find many hints on the management and tuning of old pattern machines.

The Sidecar Taxi.

Is it permissible to obtain a hackney carriage licence for a sidecar outfit, used sole'y for hiring out and business purposes? If four wheels are necessary, would the addition of another wheel to the sidecar bring the outfit to the legal status ?-H436.

We very much doubt whether you would be able to obtain a hackney carriage licence for a sidecar outfit used solely for hiring out purposes. It is a matter, however, which is covered by the local byelaws of the particular locality, and you should see the Chief Constable or the Town Clerk where you reside. Even if a hackney carriage licence was obtained, full licence duty would have to be paid. Up to the present we have not heard of a motor cycle and sidecar being licensed as a hackney carriage, although several applications have been made.



IN THE YORKSHIRE WILDS.

A stiff climb with a I in 4 hairpin near Semmer Water, included in the recent Ilkley open trial. J. R. Sylvester (8 Morgan-M.A.G.) made a good climb,

Replacing Fork Spindles.

How do you relieve the strain on the Druid spring forks when installing a new set of spindles and shackles? The local repairer here has stripped the thread of one of four new spindles, and I cannot get the nut to hold. All these nuts, to my mind, should be castellated and the spindles drilled and split pins inserted.—W.D.P.

In order to facilitate the fitting of new

spindles to the Druid forks, it is necessary to take the weight off them by raising the to take the weight off them by raising the front of the machine and supporting the engine on a box. You will then find that it is quite easy to remove the side links and spindles of the fork, especially if you loosen the springs. The nuts on the spindles do not usually give trouble by coming loose, although some makers do secure them by means of split pins.

Testing Bearings.

I find that, although there is not the slightest up and down play in either the big or little end bearings of my engine, I can tilt the piston a little, not in the direction of travel, but across, the top of connecting rod, so to speak. Also the connecting rod can be tilted across the crank case (which indicates a free bearing, in my opinion), yet I cannot lift either the piston or the cannot lift either the piston or the connecting rod. I can push the engine sprocket in and out for perhaps even less than a 1-th inch, yet I cannot move this in the direction of travel, to show wear in general. Are the bearings in good order ?—P.E.T.

A small amount of side-play or rocking play in the piston and connecting rod may be disregarded, provided you are unable to lift these parts. The small amount of end-play in the main shaft

may be ignored.

70 m.p.h. Wanted.

The number of teeth on the sprocket of my gear is thirty-two, and on the engine sprocket there are sixteen teeth. The belt pulley on the gear box is 6in. across. My present belt rim on the rear wheel is 20in. across. What size belt rim shall I require on the rear wheel to obtain 70 m.p.h. with the engine running at 3,600 r.p.m.?—L.R. engine running at 3,000 r.p.m.?—LR. The present top gear of your machine is roughly 63 to 1. To get 70 m.p.h. with the engine running at 3,000 r.p.m. you would need a 4 to 1 gear, and to get this you would require with the existing sprockets and countershaft pulley a 12in, belt drum on the rear wheel. It is most unlikely, of course, that you will obtain 70 m.p.h. with your machine, as the speed calculated does not take into consideration the effect of the greatly increased wind resistance at high speeds. Moreover, it is not likely that a small engine would run efficiently on such a high gear.

READERS' REPLIES

A Recurring Engine Trouble.

It may assist "F.F." and others if it is pointed out that the loosening of the rivets in their flywheels is owing to the crank pins not being a tight fit. Riveting is absolutely useless if the crank pin

is not a really tight fit in the flywheel. I have had three cases lately of this kind. One customer had had his crank pin riveted four times. I have fitted new crank pins in each case, and no further trouble has been experienced .- C. NEW.

Roc Gear Adjustments.

I have had the same trouble as "H.S." with slipping high gear of my 1910 Roc hub. This I cured by fixing a piece of steel on the low gear pedal, thus extending by threequarters of an inch the point which engages with the high gear pedal. The effect of this is to give a longer thrust to expand the to give a longer thrust to expand the high gear band, and therefore a greater release when in free. Another improvement I found was to remove the quick thread thrust nut and engage it on another lead of the screw forward, and I also fitted a longer adjusting screw (made from a bicycle spindle) to this part .- Roc (Southampton).

EXPERIENCES WANTED.

"G.W.S. (Balham).—Binks carburetter on 4 h.p. Norton (solo). Best jet settings and comparison in results with standard carbetter.

RECOMMENDED ROUTES.

CARDIFF TO BOURNEMOUTH .- R.P.J. CARDIFF TO BOBENFAMOUTH.—R.P.J.
Cardiff, St. Mellons, Newport, Caerwent, Chepstow, Lydney, Blakeney, Newnham, Westbury, Gloucester, Quedgeley, Frocester, Stone, Alveston, Bristol, Bath, Bradford, Trowbridge, Westbury, Warminster, Longbridge Deverill, E. Knoyle, Shaftesbury, Compton Abbas, Durweston, Blandford, Carlton Marshall, Poole, Representation Poole, Bournemouth.

IMPORTANT DATES.

Thurs. June 17th-Senior T.T. Race, Is'e of Man.

Fri. June 18th—
Speed Tria s on Douglas Promenade, Fri. au 1 Sat.. June 25:h-26th—
Dublin and District M C.C. Open Twentyfour Hours Reliability Trial.
Sat.. June 26th—
M.C.C. Team Trial for "The Motor Cycle"

Cup.

Mon , July 5th, to Sat., July 10th-

Secritish Six Days Frial.
Wed., July 7th—
Union Motocyclist de France et Automobile Club de l'Ouest, Grand Frix Race
for Motor Cycles and Cycle Cars.
Wed. and Thurs., July 7th and 8th—
Arbutbnot Trophy Trial.

Arbutbuot Irophy Irial,
Thurs., July 15th—
Essex M.C. Jaint Open Speed Trials,
Westcliff-on Sea.

Thurs., July 15th, and Fri., July 16th-lrish End-to-end Trial

Sat., July 17th—
Cumberland County M.C.C. Open Re'iabifity Trial
Sat., July 24th—
Luton and South Beds, A.C. Open Trial
at Luton Hoo.

Sun., July 25th, to Aug. 1st -luternational Six Days Trial in France.

Sun., Aug. 1st, to Wed., Aug. 4th-Anglo-Dutch Trial in Holland, Sat , Aug. 7th— S.A C.U. Inter club Meet at Callander.

Mon., Aug. 23rd, to Sat., Aug. 28th -A.C.U. Six Days Trial.

Sat., Sept. 4th -Scottish Speed Championships at St. Scott Trial in Yorkshire.

Lubrication of Record Breaker.

McNab used Castrol on his record-breaking Wooler when he established so many new long-distance records. Ripault plugs were also used.

Extensions.

EARCHISIONS.

In order to cope with the steady increase in its business, the Beldam Tyre Co., Ltd., has formed an enlarged company entitled the Beldam Tyre Company (1920), Limited, with a capital of £500,000.

Four-cylinders in the "Edinburgh."

H. G. Bell, who has ten consecutive successes in the "London-Edinburgh" to his credit, seven of them on F.N. four-cylinder machines, has rejoined the makers of this machine as sales manager of the motor cycle department in London.

Sidecar Covers and Aprons.

The Waterproof Co., Rutland Street, Nottingham, are prepared to send samples and quotations for sidecar covers on receipt of pattern or measurements, and state that new covers will be despatched the same day as order received.

Free Chain Lubricant.

The County Chemical Co., Ltd., Chemico Works, Birmingham, are offering 1,000 free tubes of their new chain lubricant to anyone who cares to apply for them enclosing 2d. for postage and mentioning the name of dealer through whom the lubricant is to be supplied.

Peto and Radford, Ltd.

Notices have appeared lately of the liquidation of the late firms of Peto and Radford, Ltd., and the New Peto and Radford Accumulator Co., Ltd. We understand that these are only formal, and in consequence of the amalgamation of the business with those of Pritchett and Gold and Electrical Power Storage, Ltd.

A Record Breaking Sidecar.

Sidecarists who desire an extremely light and at the same time amply strong chassis might well consider the sporting model (K4) Canoelet, manufactured by Messrs. Mead and Deakin, Tyseley, Bir-mingham. One of these, a standard model rom stock, was fitted to D. R. O'Donevan's 3½ h.p. Norton when he broke four-teen sidecar records at Brooklands.

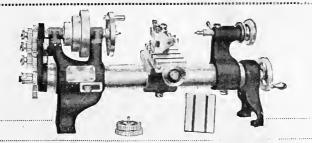
London-Edinburgh Echoes.

R. G. Mundy (G.N.) made a clean scent of Kirkstone. There was a misascent of Kirkstone. placement of an asterisk in the official results. He was, however, credited with

results. He was, nowever, credited with a gold medal.
W. Patison (10 G.P. Morgan) and B. Gold (23 Wolf) were awarded silver medals.

The rider of the Norton with Philipson pulley, who made such a meritorious ascent of Kirkstone, was Stanley Lawrence, and not J. Boult as stated.

An Accurate
Lathe because
a Drummond
Lathe.



THE DRUMMOND 4IN. MULTI-PURPOSE LATHE

YOUR REPAIR WORK

will be done better, more quickly, and at much less cost if you do it yourself on this lathe; the machine will save its first cost many times over during its long working life. The Drummond 4in. centre Screwcutting, Milling, Drilling, and Boring Lathe, is fully capable of all motor cycle repairs.

Free instructions and advice on the use of the lathe are given where necessary, on request.

Arranged as Bench, Stand-Treadie, or Power Lathe, to order -

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Write for Fully Illustrated Catalogue.

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YOU will have no cause to complain about your Control Levers, Wire Mechanism, and fitments if they are made by the original patentees.

We have specialised in Motor Cycle Controls for over Twenty Years and know all there is to know about them.

You will find our Trade Mark on the Controls used by all the leading Motor Cycle Manufacturers.





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In answering these advertisements it is desirable to mention "The Motor Cycle."

Godbolds

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BIGGEST DEALERS IN THE SOUTH.

IN STOCK

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ZENITH, 8 h.p., Kick-start & Clut	ch,	List ;	price
BLACKBURNE, 4 h.p	-	-	,,
NEW IMPERIAL , Kick-start and	Clu	tch	,,
LEVIS, Popular Model	-		,,
CLYNO, 2-speed & Clutch -	-		,,
NEW HUDSON, 2-stroke, 2-speed	-	-	,,
CEDOS , 2-speed	-	-	,,
CALTHORPE , 2-stroke, 2-speed		-	,,

We hope to be able to give delivery of the following before AUGUST BANK HOLIDAY.

POWERPLUS INDIAN COMBINATION.
ARIEL, 3½ h.p. FRANCIS-BARNETT.
MARTINSYDE COMBINATION. O.K. UNION.
ZENITH. JAMES.

H. JULIAN

84, Broad Street, READING.

'Phone: 1024.

ARIEL, all models, ently deliveries; all parts stocked.—F. Speakman, Ariel Expert, 7, Rocchaine Rd., Barpurbey, Manchester.

[7414]
ARIEL 6-7h.p., late 1919, splendid order, mileage ubout 1,000, go anywhere; 1155.—Stewart, 94, Clockheuse Rd., Beckenham.

Clockhouse Rd., Beekenham.

[7084]
[1917] Ariel S.6hp., Combination, engine recently overhaulted by makers; £135, or best ofter.

[81] Shelp., 1920, countershaft combination, combination, and the price—Brown, Moor House View, South Elmsull, ur. Pontefract.

[7977]
[74] Sh.p., Ariel, 1912, Philipson, F.E. pulley, new pure price of the price o

A RIEL 3h.p., single, disc wheels, T.T. bars, round tauk, long exhaust, running order; first £24 secures.—Jenkins, 39, Caerau Rd., Caerau, Bridgend.

ARIEL 3 h.p. Combination, delivered May, 1920.

A scancely used, list price, lumps, hern, etc., if disired.—Write Ceryn, Walken, Herochurch, Essex.

1020 386h.b. Standard Acid Combined (7515)

19 20 34th.p. Standard Ariel Combination, of wheels, only done 200 miles; £152/10.—Miland Motor Co., Ropewalk, Nottingham. Phone 4600.

A RIEL 31-h.p. Combination, 1919, in first-class condition, for disposal by private treaty.—Full purticulars on application to H. E. Fellows, Food Control Office, Braintree, Essex. [7062

19 20 (March) Ariel 6-7h.p. Combination, done age that a new; 2165, or near ofter—Roth Locate Av. East, Bognor.

19 20 Ariel 3 hp., new and unused, with Milford Corvette sidecar, Lucas horn and all lamps, everything brand new and unscratched; £150 gos.— Welford, 28, St. James St., Brighton. [7473]

F.O.C.II have a 1919 Adel Combination, electrically equipped, ready tor the road—Fair Offer Car House, 5, Heath St., Hampstead (Tube Hampstead Tube Station). Thouse, Hampstead 3752. Hours 9-7, including Saturdays.

19²⁰ Armis, 3'2h.p. Precision engine, Burman gear, must sell; nearest to list accepted.—31. The Drive, Roundhay, Leeds.

Arno.

A RNO 315h.p., ride away: first £29 secures.
Wood Vale, Honor Oak.

Auto Wheels.

A UTO-WHEEL, good condition: £12, or nearest offer.—Macleod, Downham Hall, Brandon. [7825

A UTO-WHEEL, \$10: another, Bs.A. de Luxe, \$16.

-8a, Blue Bull Yard, St. James' St., Piccadully.

A UTO-WHEEL, \$-50: another, Bs.A. de Luxe, \$16.

-124, Stondon Park, Honor Oak Park, S.E.

A UTO-WHEEL de Luxe and Gent's 3-speed cycle, excessories; calls/10.

A UTO-WHEEL de Luxe and Gent's 3-speed cycle, excellent condition; \$25.-F. Bell, Durper, Workington.

A UTO-WHEEL, as new; £15; excellent condition throughout.—Slessor, Inverugic, Peterbead, Aherdecushire.

MOIDEL de Luxe Auto-Wheel and Gent's Cycle, thoreuse, and throughout.—Slessor, Inverugic, Peterbead, Aherdecushire.

MOIDEL de Luxe Auto-Wheel and Gent's Cycle, thoreuse, Longaled, Kent.

MOIDEL de Luxe Auto-Wheel, 216; anto-Wheel separate, £12, £15; anto-Wheel separate, £12, £15; anto-Wheel, £25.—Jackson Brown, Horsbann, Sussex.

(7614)

WALL Auto-wheel, 1914, complete and in first-thas thorist of the Auto-Wheel, B.S.A. specially thorist of the Auto-Wheel, B.S.A. and gent's B.S.A. specially Luxe Model bleycle, all as new, scarcely used: £27/10.—Bradley Dyne, 135, Sloane St., London, S. (X3556)

A UTO WHEEL, A. Model de Luxe attached

-Bradley Dyne, 135, Sloane St., London, S.W.1.

AUTO Wheel, B.S.A Model de Luxe attached
Premier cycle, 3-speed gear, all accessories;
accept £20, real bargain.—Apply by letter, 24, Harks
evy Grovs, Jane St., Hackaey, E.S.

Rat.

BAT-J.A.P. 8h.p. 2-speed Combination; £45 cash.— [X3582

6 h.p.: Jap-Bat, 2:speed and free engine, with Montgomery sidecar, in exceptionally nice order, and been well kept; £70; any trial.—A. J. Young, High 8t, Newmarket.

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IMMEDIATE DELIVERY.

NEW 1920 MODELS

VERUS, 2-stroke, single-speed £60	0
VERUS, 23 h.p. Blackburne engine £110	5
P.V., spring frame, 21 h.p., 2-speed £78	15
METRO-TYLER, 21 h.p., 2-speed £69 18	8
PORTLAND, 23 h.p., 2-speed £60	0
CLYNO, 21 h.p., 2-speed, clutch £75	0
BLACKBURNE, 4 h.p., standard model £127	10
DOT, 23 h.p., J.A.P. engine, 2-speed £74	11
QUADRANT, 4 h p., complete with Side-	
car £135	0

Second-hand Models SOLO.

SIDECAR COMBINATIONS

1912 model, 2-speed, Millford DOUGLAS, 1914 model, 3! h.p., 2-speed, kick-start, Bosch magneto £110 0

mey-Archer gear box, complete with accessories£145 0

BLACKBURNE, 1920 model, 4 h.p. Stur-mey-Archer gear box, all-chain drive, coachbuilt Sidecar, windscreen, Lucas

lamps, and horn, as new £155 0 NEW IMPERIAL, 8 h.p. J.A.P. engine, 3-speed, W.D. model, complete with Sidecar £145 0

F.OVER, 6 h.p., J.A.P. engine, 3-speed, all-chain drive, complete with Sidecar .. £145 0

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100, Great Portland Street, LONDON, W.1.

'Grams—" Abdicate, Wesdo, London."
'Phone—May/air 552. Museum 557.

100, Paris St., EXETER. 'Grams-" Combustion, Exeter.'
'Phone-Exeter 933.

MOTOR CYCLES FOR SALE.

Bat.

B AT-J.A.P. 6h.p. Combination, 2-speed, Roc gear, ride away, trial; price 200.—Write, 23, Streatham Rd., Streatham, S.W.16.

Box o.h.v. Batolup, just reemandled and rebolunds, lapped Brochands at 90, adjustible pulley, 250.—Ontaled Speed Corporation, Albert Research, Brimandled

B AT-J.A.P. 4h.p., Bosch, B, and B, Cowey speed-ometer, P, and H, lamps, horn, spring footbeards, good tyres, parket condition; £47/10. Davies, 10, St. James Rd., Bermandsey, S.E.

only, recently of the problem of the

Blackburne

EGERTONS, Northgate, Ipswich.—Place vour order own for earliest delivery Blackburne.—Phone: 962

To ow for earliest delivery businesses. [8155]
WAUCHOPE'S, 9, Shoe Lane, London.—Early delivery of 4h.p. and 8h.p. Blackburne machines.
[8652]
23h.p. Blackburne, thoroughly overhanded, good mining order; £25.—45, Chitton Rd., Crouch Pad., [8944]

N. [6942]

1920 (April) 4h.p. Blackburne Combination, unstantial production of the control of th

Grinstead.

EARLY Delivery of the Celebrated Blackburne machines from the accredited agents.—The Lankester Engineering Co., Motor Cycle Dept., 63, Brigbon Rd, Surbitoo.

[2089]

Burbito.

BLACKBURNE, 1920, 25/th.p., 2-speed, clutch, kick start, electric lamps, knee pad, mudshields, shop solied only: £95, exchange, or half down-bunting's Motors, Wealdstone, Harrow. [7884]

Bown.

Bown.

F.O.C.H. have a Bown-Williers, sporting little 'bus, teady for the road; barrain, £38—Fair Offer Car House, 5, Heath St. Hampstead from Hampstead Tube Station). 'Phone: Hampstead 5752. Hours 9-7, including Saturdays.

Bradbury.

BRADBURY.—Older now to avoid disappointment.—The Walsall Grage. Welerbampton St., Walshill, St. Walshill, Walshill, St. Walshill, Wals

BRADBURY 3' h.p., running order; £50, or offer. Russell, 14, Horntyc Rd., St. Leonards-on-Sea. [7683

BRADBURY Combination, 444h.p., Bosch mag, running order; £80.-286, Whitehorse Rd., Croydon.

don.

4 h.p. Bradbury Combination, conclibuilt, 2-speed, perfect condition; 60 gas.-42, Hamlet Rd., Chelmsford. (7481)

tord. See Section 1988 and B. Berling mag, very 1988 and B. Berling mag, 1988 and 19

4 1h.p. Bradbury Combination, N.S.U. 2-speed, free 44 engine, Boseb, B.B., new belt, recently over-hauled by makers at a cost of \$222; price 75 gns.—H. Warden, Alport Rd., Youlgrave, Bakewell. [8001]

1915 Bradbury 6h.p. Combination, 3-speed C.S., feet and hand clutch, lamps, and spares, good tyres, sidecar underslung, wind seven and apron, good condition.—33, Halslow Rd. E. Greenwich, S.E. [6973

dition.—33, Halslow Rd. E. Greenwich, S.E. [6973]

6 hp. 1914 Bradbury C.B. Combination, fully excellent condition; ctll.12, or exchange lighter power.—90, Claremont Rd., Moss Side, Manchester.—790, Claremont Rd., Moss Side, Manchester.—790, T.T., and 1920 super sporting torpedo, sideen, tothen enamelled blue and silver, lamps, flora, spares, nearly new tyres, under 1,000, excellent conditions, proceedings of the property of t

Brough

Brough, new engine, 2-speed countershaft model, pump, speedom-ter, lamps, tools; £80.—Manwaring, Garage, Horsmonden. (7397

1920 Brough 5h.p., fitted with Henderson sidecar, lamps, horn, tools, etc., as new; £190, or offer. 'Phone: 308.—Wootten's Garage, Oxford. [8236]

Brough.

Brough.

Brough Combination, 5h.p., April, 1920, speedometer, tools, horn, spares, Cameo windscreen, mileage 900.—Gladstone, 90, Dule End, Birminghem. (X.560)

BROUGH Combination, 1916, 700 c.c., c.h.v., 3-speed Sturmer-Archer, all following new 1920-Middleton C.B. sidecar, single lever Amac, electric lighting, speed ometer, gnaranteed mechanically perfect.—Letters over \$100, West, 245, Barry Rd., Pullwich. [6943]

Brown.

3½ h.p. Brown, good condition; ride away; £28.— Forest Rd., Walthamstow. --494, [7937

BROWN 4h.p., T.T., equal new, very fast; £35.— Shilcocks, 100, High Rd., New Southgate, N. 31h.p. Brown, 2 speeds, kick start, Bosch, Binks; 2 £35; good order; or exchange P, and M., cash adjustment.—Rance, New Rd., Amersham Common, Bucks.

B.S.A.—The Walsall Garage, Walsall, booking orders for all models; rotation deliveries. [5761

B.S.A. 4/4n.p. Model K, coach sidecar, Easting, complete; £132.-69, London St., Sonthport. (X3608

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4, 41/4h.p. B.S.A. and sidecar, 1916; £130. [68 62 GNS.-1915 41/h.p. B.S.A., countershaft, good tyres, lamps, horn.-King, Egrove, Oxford.

TX3623 B.S.A. Combination, clutch model, fully equipped, good condition, ride away; £56.-22, Birdhurst 18346.

B.S.A. 3/h.p. and Sidecar, clutch, free engine, spare tube; £50, or sell solo:-41, Erpingham Rd., Putney, S.W.

19 19 B.S.A. Combination, lamps, born, wind screen, spares, perfect condition; £130.—Drysdale, Biggleswade, Beds. [596]

19¹⁴ 3½h.p. B.S.A. and Sidecar, in excellent run-ning order, 2-speed; £75; trial given.—Green, 48, Liverpool Rd., W.1. [6891

41h.p. B.S.A. Combination, in splendid condition, all accessories; £100; exchange solo machine.—7, Hardwick St., Cambridge. [7139]

19 16 B.S.A. Cancelet Combination, accessories; best offer over £75.—Letters, Eyre, 194, Inchmery Rd., Catford, S.E.6. [7728]

19²⁰ (May) B.S.A. 4/4h.p., 3-speeds, chain drive, coachbuilt sidecar, unsoiled; £150.-294, Kennington Park Rd., S.E.11.

1920 B.S.A. 3-speed Combination, mag-dynamo, special 3½1.p. engine, absolutely periest; £165.—16, Hesper Mews, Earl's Court. [7941

B.S.A., late 1918, 4¼h.p., 5-speed, K.S., Canoelet sidecar, accessories, spares; £110.—Danesfield, Hersham Rd., Walton-on-Thames. [7844]

19 15 B.S.A. Combination, Canoelet sidecar, 3-speed countershaft, lamps, etc., any reasonable trial.

-F. C. Lingley, Woodbridge, Suffolk. [8162]

B.S.A. Combination, 2-speed, lovely sidecar, coachemistry, in perfect condition, rebushed throughout; £100.—W. Booth, Post Office, Burwardsley, Chester. [7901]

B.S.A. Canoelet Combination, 3-speed countershaft. B lamps, Stewart speedometer, luggage grid, tools, spares; trial; £100.-12, Hurst St., Birmingham. [X3437]

19 19 4h.p. B.S.A. Combination, countershaft, complete with 3 lamps, horn, Easting screen, etc., all as new; £145.—Lewis, Yelford, Witney, Oxon.

B.S.A. Combination, Nov., 1919, Model K, 5-speed, clutch, kick start, accessories, mileage 1,500 Cancelet 2-seater sidecar; £20.—35, High St., Dart ford.

B.S.A. 1916 414h.p. All-chain Combination, good condition, recently overhauled, re-enamelled; £110; after 7 p.m.—78, South Croxted Rd., W. Dul-

B.S.A. 3½h.p. and Sidccar, overhanled, N.S.U. gear, splendid order; bargain, 60 gns, exchange, or accept half down.—Bunting's Motors, Wealdstone, (7855

B.S.A. 31/h.p. 1912 Combination, belt drive, Mill ford siderar, Capac carbutetter, Bosch mag., 2 speeds, pedal start; £68.—Mandes', 100, Gt. Portland St., London.

B.S.A.—Early delivaries of new models, B.S.A.—in stock.—County Cycle and Motor Co., 307,314, Bros. St., Birmingham. [4691

1917 4/h.p. B.S.A., coachbuilt sidecar, K.S., coupped; any trial; £110; Derbys.—Box 5,054, c/o

1 0 17 44h.p. B.S.A. Combination, all-chain, No. 2 sideour, bood, screen, electric licht, perfect condition; £130; seen by appointment—P., 80, Vanbungh Park, Blackheath, S.E.

B.S.A., 1915, all-chain, C.B. sidecar, Easting throroughly overhauled, splendid condition; a reasonable trial allowed; £105, or offers.—Park Baxterley, Atherstone. [X34] Easting

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MOTOR CYCLES FOR SALE.

B.S.A.

19 16 B.S.A. Combination, in splendid mechanical order, and tyres good, fully equipped, lamps, tools, any trial; £95.—Aero Motor Repair Works, Burghley Lane, Stamford, Lines. 77938

B.S.A. Combination, 3½h.p., Millford coachbuilt sidecar with wind screen, 3-speed and chetch, Bosch, 3 lamps, 2 generators, horn; 60 gns.-6, Suppndale Gardens, Mill Hill, N.W.7.

19 17 B.S.A., 4/h.p., 3-speed, countershaft, kick start, clutch, etc., in perfect condition, plating and enamel as new; bargain, £85.—Montrose, Windmill Rd., Clapham Common. 7738

B.S.A. 1917-18 4½h.p., coachbuilt sidecar, h screen, apron, 3 speeds, countershaft, clutch, start, lamps, horn, tools, splendid condition; £12 32, Hambledon Rd., Southfields, S.W.18.

19 20 B.S.A. Standard Combination, only done 200 miles, complete with 3 lamps, horn, wind screen, mirror, and tools; £178.—Midland Motor Co.. Ropewalk, Nottingham. "Phone: 4500. [8180]

B.S.A. 1920 Combination, only week or two old, speedometer, all lamps, luggage grid, several pounds worth spares, absolutely as new, guaranteed any trial; £165.—125, High St., Woolwich. [7857]

B.S.A. Combination, 1920 model, complete with speedometer, wind screen, hood, luggage grid, and lamps, ridden for 2 months only, owner buying carry what offers?—Hemming, 134, Birchfield Rd., Reddict.

P.S.A., 1915, 3-speed, chitch, kick storter, remoty vated, and it splendid running order, as new, gootyres and tubles, new Bonglas sidecar and fittings; se as colo or combination; £120.—16, Southdean Gardem (766)

B.S.A. Late 1919 Combination, 3-speed, clutch, kick starter, fully equipped with lamps, Stewart horn and epsedometer, watch, luggage grid, apron, spare belt, valve, tools, smart, nowerful machine, little used; £140. -22, Courthorpe Villas, Wimbledon. [7639]

-22; Coursingpe Vinas, Timesteron.

B.S.A. Comhiantion, 1916, recently overhauled and in meta-scoolent condition, including wind screen, speech control of the control of t

3. A. 4½h.p., oct., 1919, rnn 1,400 miles, all-chain, str. oct., s

Ton.

B. S.A. 1920 (January) 3-speed Model K Combination, Millford sidecar, Easting de Luxe wind sereen, Miller's 31H lamp set, new model Cowey mechanical horn, full kit of tools, spares, perfect, run 800 miles only, all as new, Palmer cord tyree throughout; £165.—Gordon Cox, Rayne Rd., Bräintere, Essex. Phone: 92.

Buchet.

BUCHET 3h.p., o.h.v., B.B., adjustable pulley and tappets, horn, pump, running order; 18 gns.—23, Radipole Rd., Fulham, S.W.6. [7788

Calcott.

CALCOTT 23/h.p., 4-stroke, excellent condition, lamps, horn, new tyres, Grado gear if desired extra; £30, or nearest offer.—Oliver, 4, Baker St., Nottingham. [7085

Calthorpe

19 20 New 25h.p. Catthorpe, 2-stroke, 2-speed; 270.— Ross, 86. High Rd., Lee. [7366 CALTHORPE Junior 4-stroke, 2-speed, lamps, good condition; 223.—24, Williagdon Rd., Wood Green.

condition: £29.-24, Willingdon Rd., Wood Green.
[8242]
CALTHORPE 2-stroke, Enfield 2-speed, splendid condition: 45 gns.—Haywood, 42, London Rd., Ccal[7595]

ville.

CALTHORPE 2-stroke 21/h.p., 2-speed, tyres as new lamps, etc.; £48.-S. P. Driver, Buntingford, (7399) Herts CALTHORPE 254h.p., 2-speed, new January, 1920 accessories, perfect; £53.-36, King David Lane, Stepney, E. [8209

Stepney, E.

19 13 41/4h.p. Calthorpe, 2 speeds, overhauled, rebushed, with coach sidecar; £58.—Montgomerie,
17673

CALTHORPE Junior, 21/2h.p., 2-speed, excellent condition, 235, or near offer.—C. Dowling, 71, Attey Rd., Chertsey. [7295]

CALTHORPE-PRECISION 21/2h.p., 2-speed, new tyres, splendid running order; £30.—Norrie Villa. Holly Rd., Aldershot. [7145]

CALTHORPE Lightweight, 2 speeds, countershaft gear, good condition, lamps and horn; £28.—H. Middleton, Wymondham. [7532

19 18 Calthorpe-Jap, 2-speed, clutch, lamps, mechanical hora, tools, new tyres, as new; £56.—Seea et 151, Kingston Rd., Teddington. [7926]

CALTHORPE, 1920, J.A.P., Enfield 2-speed, by new, just arrived; at makers' price.—Will brand U new, just arrived; at makers Simpson, opposite Olympia, London.

CALTHORPE-J.A.P. 2%h.p., 1915, Enfield 2-speed countershaft, Lucas lamps, horn, splendid condition; £45.—70, Lenthall Rd., Dalston. [7459

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Douglas.

19 19 honglas Combination, 4h.p., electric lakitung; 12 120; niso 1917 bonglas 4h.p. solo, 173-180s, 86, High Rd, bec. 23 h.p. douglas, 2-speed, semi-T.T. lamps, horn, speciagnets, tools, good condition, -42, Syledgian

Rd, North, Crydon. [789] 19 Nov.] 25 hp. Danglas, nof done 500 mbes, tyres and machine as new; accept 85 gas,—73, 8onthfield Rd., Oxford.

Southfield Rd., Oxford.

1920 Donglas Combination, brand new, unreflected; list price plus accessories,—2, Nightiale Rd., Lower Clapton.

4h.p. Douglas, believed 1918, 3 speeds, indisting guishable from new; £95.—Roland, 71, Windermere Rd., South Ealing. (7852)

DOUGLAS Combination, 1919, lamps, horn, discs, splendid condition and appearance; £150.-35, Greenfield Rd., Harborne. [X3472]

19¹⁶ Denglas 2³4h.p., perfect order throughout, excellent appearance, footboards; 260, no offers, 17. Belgrave Rd., 1 fford. [8124]

1016 25,h.p. Donelas Motor Cycle, in splendid condition; price £55.—Apply, Canty, Butcher, Crockenhull, Swanley, Kent. [7022

DOUGLAS 1919 4h.p. Combination, lamps, horn, speedometer, legshields; £135.-2, Banossa Terrace, Church St., Chelsea. [7749]

DOUGLAS 25,h.p., 2-speed, late model, practically new, perfect; £55; after 5 p.m.-34, Mariborough Rd., Old Kent Rd., S.E.1. [7947

T.T. Douglas, 1915, perfect condition, lamps, tools, long exhausts; £65, or nearest.—Seea 99, Summer Lane, Wombwell, Barnsley. [7228]

Lane, Wondwell, Barnstey.

19 19 houghts 234 hp., 2-speed, mileage about 300, hentiful and perfect machine: 72 sns.-60, Wallingtod Av., North Koesington.

1920 25 hp., Douglas, 3-speed, dises, electric lighting, Kinacon, Wattord trip, Tan-Sad; £115—Friend, 29, Bond St., Brighton, (7732)

1920 4hp., Douglas, Combination, delivered last

Friend, 29, Bona St., Brighton,

19 20 4h.p. Douglas Combination, delivered last
week, mileage 100, lamps, born; £175.—11,
gueen's Rd., Kiogeton Hill, S.W. [7804]

D'UGLAS 4h.p., 1918, 3-speed, K.S., in excellent
condition, very fast; £90.—Williams, Bryn-Haul,
Chirk, Denbiglishire, North Wales,

(X3504)

19 20 Douglas 25/h.p., clutch, 3 speeds and kick starter, brand new and unregistered; £110.-2, Nightingale Rd., Lower Clapton. [8174

DOUGLAS 1918 4h.p. C.B. Combination, new tyres, spare wheel, lamps, tools, any trial; £130.—Sibley, 106, Market Place, Romford. [7831

DOUGLAS 25th.p., 1915, Douglas colours, very smart, plated hars, new tyres; £58.-7, Exhibition Rd., South Kensiogton, S.W.7. [8329

DOUGLAS 1916 4h.p. Combination, 3-speed, clutch, kick start, first-class condition; £100.-38, Maplethorpe Rd., Thornton Heath. [7612

DOUGLAS 4h.p. and Sidecar, just repainted cost £11, recently overhanled, splendid condition; £115, no offers.—12, Hilldrop Rd., N.7. [7800]

GIBB, Douglas Specialist, Gloucester, gives personal attention to all orders. All spares at makers' price-trocked. No profiteering.—'Phone: 852.

£95.-1917 4h.p. Douglas C.B. combination, 3-speed, new tyres, new enamelled and plated; any tital.19. Wilcox Rd., South Lambeth, S.W.8. [8094] 23h.p. Douglas, 1915, complete lighting, mechanical horn, excellent condition; 58 gns.; trial evenings.—Cooper, 27, Sistova Rd., Balham. [7521]

DOUGLAS 254h.p., 2-speed, footboards, long ex-haust, splendid condition; bargain, £55; no offers.—Brooker, jeweller, New Malden. [7629

19 19 254h.p. Douglas, lamps, horn, mudshields, discs, knee grips, copper exhaust pipe, many extra fittings; £85.—114, Brixton Hill. [7980] DOUGLAS, W.D. model, 1916, unused, lan Veeder, perfect condition; £75, or near offe N. Neale, Salisbury Hotel, Hatfield, Herts. [7

19 20 Donglas 4h.p. Combination, speedometer, lamps, Klaxon, legshields: £170, or near offer.—Symondson, Wccaside, South Hul, Bromley, Kent. [7231

DOUGLAS, 1912, overhanled and renovated May, fast, sporty, discs, lamps, Tan Sad, new, trial; £50.—78, Meanley Rd., Manor Park, E.12. [8296]

1919 4h.p. Douglas Combination, in spotless condition, as new, only done 500 miles; £149.—Rhosha Motor Co., Bank Mews, Romford. Tel.: 95. [5968 23h.p. Douglas Combination, overhauled, enamelled, plated, lamps, born, accessories; £75, offers; any triel.—43, Grantham Rd., Chiswick, W.4. [7174]

1 D19 Brand New 25th.p. Douglas, not uncrated; owner's destination altered; 4.78, crated.—Major Allan, Indian Army, Club, Richmond, Surrey. [7074

19¹⁴ 2⁵4h.p. Douglas, 2-speed, kick starter, Bosch mag., only used leave, fast, splendid condition; £55.—Lieut., 4, Somerset Rd., New Barnet. [7275

DOUGLAS 1920 4h.p. Solo Model, electric lighting and houss, indistinguishable from new.—Parker's, Bradshawgate, Bolton; 245, Deansgate, Manchester. [X3552



MOTOR CYCLES FOR SALE, Douglas.

3 h.p. 2-speed Semi-TT Toughts, thoroughly over-d hauled, new rings, gudgeon jans, bushes; £50, or neur offer, any trial, Portt, Midhatst, Sussex, [6931 3h.p. Douglas 2-speed, free engine, lamps, horn, and tools, plended machine, a new, not rub-hish; £75,-309, Seven Sitters Rd., Finsbury Park, 17615

DOUGLAS Combination, 1917-1918, complete Lucus lamps, horn, seldom used; pure for sale, £100, 129, Rescheroft Rd., Upper Tooling,

DOUGLAS 4h.p., 1917 model, 3-speed, clutch, re-enamelled, completely overlanded, guaranteed running order; £85; bargain.-592, Holloway Rd., N. (7605)

1961 Dongles, exceptionally good nucline, Paimer tyres, P. and H. hamps, all abressories; £58.—Hynard, Draper, 116, Askew Rd., Shepherd's Bush.

DOUGLAS 1915 25(h.p. 2-speed, new head lamp set, new back tyre, recently overhanded, nast: £63.— Seen by appointment, 46, Kidderminster Rd., Crowlon.

DOUGLAS 4h.p. Combination, latest 1920 model, brand new, for immediate delivery at list price. -Vivian Hardie and Lane, Ltd., 24, Woodstock St., W.I. (X3263

W.I.

TWO 4h.p. Donglas Combinations, 1918 and 1914;
£115 and £75; two 25h.p. Donglases, 1916 and
1914, £63 and £53.-374, Grove Green Rd., Levtonframe [7216]

LATE 1916 Douglas 2 l.h.p., exceptionally fast, 2 speed, lan.ps, new sparc belt, just overhauled, perfect condition, spares; £66.—Brinklow, Vernlum Rd., fittebile perfect of

DOUGLAS, W.D., just overhauled, re-enamelled and plated, new bars, saddle and belt, like new; £50; between 5 and 8-21, Windsor Rd., Denmark Hill, S.E.5.

Hill, S.E.5.

D'UGLAS 1914 2¹4h.p. 2-speed, free engine, received yearhanled, mechanical horn, good Dunlop tyres, etc., excellent value; £46.-22, Albert St., [7768]

DOUGLAS 25th.p., 1916, 2-speed, £56; also 1915 model, £50; and 4h.p. -3-speed model, £65; all perfect order; bargains.—Owen, 59, Scholefield Rd., Upper Holloway.

19 20 (May 12th) Douglas Combination, inditioguish able from new, perfect; any examination; nearesto list price; cash needed; after 5.30.-64, Glad-mui Rd., Highgate, N.13.

DOUGLASES 22thp. always in stock at competitive prices, open. till 7 p.m. week days, 5 p.m. Saturdays.—Smith.'s, 86. Chalk Farm Rd. (opposite Chalk Farm Tube Station).

DOUGLAS 25thp., 1919, 2-speed, buffer forks, fully equipped, perfect condition, like new, and iosured; seeks, owner bought car.—14, Leamington Av., Hoo 8k, Walthamstow, E.17.

19 16 25/h.p. Douglas, 2-speed, T.B. mag., Amac carburetter, Dunlops, and lootboards, machine in splendid running order; what offers?—45, Temple Rd., Cricklewood, N.W.2.

19 20 Douglas Combination, light blue sidecar, P. and H. acetylege head lamp, electric sidecar and rear lamps, horn, perfect condition; 170 gus.—Lougwood, Hurst Rd., Bexley, Kent. [8325]

DOUGLAS 25,h.p. T.T., 1914, Bosch, fast and re-liable, excellent running order, climbs splendidly, the used during war, terently overhauled; 54 gus.— Orn, Mail, Midenhall, Suffolk.

10 19 (September) Douglas Combinatioo, complete, wind screen, electric lighting, 2 horns, etc., splendid condition; 2160, or near offer.—Webber, 6, Raymead Av., Thornton Heath.

7 3h.p. Douglas, late 1914, very little nsed, Bosch, 41 Lucas horn, lamps, tools, etc., thoroughly overhauled, exceptionally fine condition throughout; bargain at £60.—7, Cleverley's Rd., Clapton, E.5. [8024]

DOUGLAS 4h.p. Combination, very late 1919, new type clutch, thoroughly overhauled, in excellent condition throughout, strongly recommended.—Vivian Hargie and Lane, Ltd., 24, Woodstock St., W.I. (X226)

19 Douglas Combination, speedometer, lamps, tools, spartes, tyres unpannetured, milenge 2,000. Cameo seriere, all in perfect condition; 4135—Rickards, 55, Leytonstone Rd., E.15, 'Phone: Broadway 2512.

S.E. T Appears Ridiculous to Advertise when you have I no stock, but we are giving deliveres to the early hirds. Place your order at once if you want delivery. Eli Clark, Douglas Agent, 196. Cheltenhum Rd. (2016)

Douglas.

NEW 1920 4h.p. Douglas Combination, latest model, clutch, and one-lever Amac carburetter, fitted wind sereen and Stewart hour, registered rendy for road; best offer over £180.—Withers, 60, Orchard St., Westonsper-Mare.

DOUCLASES.—I always know of several good 234, b.p. Douglases. You are safe as to date and good condition of any machine I recommend.—Robert Bambord, consulting engineer, 345, Edgware Rd London, W. [4265]

Bamford, coasilung engancer, leading the London, W. 1948.

1017 Ah.p. Doughis Combination, 1918 engine, the following are quite ever, C.B. sidecar, soddle. 5 lamps, tool bars, belt, horn, new corks to clutch, etc., perfect; £120.—Curtis, 109, Manor Rd., Lea Bridge (7488)

DOUGLAS 2%h.p., 2-speed, T.T. hars, long exhaust, hour, knee-grips, spleadd condition; any trait £55; evenings after 6.—Walker, 24, Broxash Rd., West Side, Clapham Common.

Ap. 1918 Sporting Solo Douglas, 3-speed, clu and kick start, discs, footboards, 6 in. lamp Klaxon, Tan-Sad, smart appearance, complete ac sories, iccluding insurance; £110.—Weller, 4, Mount Bethnal Green, London, E.

Bethnal Green, London, E. [7992]

F.O.C.H. hare a 1919 4hp. Douglas Combination, latest type clutch, fully equipped, ready for the road—Fair Offer Car House, 5, Heath St., Hampstead (near Hampstead Tube Station). Phoee: Hampstead 5752. Hours 9-7, including Saturdays.

BARGAINS.—2½hp. Douglases, completely overhauled and enamelled makers colours, brand new tyres, £67/10; also 4hp. 1918 combination, rehammled makers colours, coachbuilt side-ar, fully equipped, good tyres, discs; £115.—5, Courtlands Av., Lee, S.L.12.

28h.p. Doughase, frames store enamelled, transfered to the mandic-bare, medipardia, tyres, sedies, tanks, and toolbags. We are in a position to supply immediately, prices from 270. Also we can supply any Douglas spares, including one or two frames. Apply to R.L., Motor Works, 36, Frogmore St.

Ab.p. Douglases, 1917-18, from £40, only 20 left; come scon and have your choice. Also 25th.p. 250 mm £50 mm £50 mm £60 m

DUGGLASE.—We are in a position to supply you with rebuilt Douglases, granauteed as new, enguenew, tanks, wheels, frame, toollags, curriers, handle larg, and tyres. We give a full guarantee to replace any defective parts found. Terms £10 with order, remainder when machine is ready for dispatch. Our price is £70.—Rt. Motor Works, Offices 55, Frogmore St., Bristot. Works: Borns' Head Yard, College Green. Communications to Offices.

Duzmo

DUZMO Sole Agent for Northauts and Ruthand; best deliveries.—Turnill and North, Peterborough, Inc. LEICESTER and County Agent for Duzmo's 3'shp. and 8h.p. sporting, overhead valves.—The Tr. Naylor's Garage, Austey, Leicester. Thone: 52, [6535]

DUZMO 31/h.p. Single and 8h.p. Twin. Orders in strict rotation. Deliveries commence July.— All Lancashire and Cheshire enquiries to Leach and Seed, 16, John Dulton St., Mauchester.

Edmund.

23h.p. Edmund, spring Irame, 3 models.-Lists free from Gourlay's, Fallowfield. [8991 EDMUND 24h.p., spring frame, all lamps, just de livered; £110.-Beacon Garage, Penrith. [7380 EDMUND J.A.P., 1920, used once; selling through illness; great bargain, £88.-71, Saxon Rd., [7651]

19²⁰ (January) Edmund, spring frame, 2⁵/₄h.

John St., Chester. Edmund, spring frame, 2⁵/₄h.

Edmund, spring frame, 2⁵/₄h.

10 20 Edamad 25th.p. J.A.P., Enfield 2-speed, spring trame, run 200 miles, oversize Dualops, lamp, greg. 285, or nearest; bought can.—68, Otto Terrace, Sudderland.

EDMUND Spring Frame Combination, coachbuilt.

L 4-5h.p. M-A.G. cogine, Enfield gears, good tyres, mechanically perfect; any trial; 74 gns.—81, Little Ealing Lane, Ealing. [7988]

Enfield.

19 20 214h.p. Enfield, brand new, horn, tools £67/10.—9, Wood St., Swindon. [7306 19 18 3h.p. Royal Enfield, K.S., all on; £65, or offer.—49, Well St., Hackney. [6885]

E NFIELD 3h.p., M.A.G., Bosch, Amac; £40.-48 Gresham Rd., Brixton. After 6. [7662 7662 ENFIELD 5-6h.p. Combination, complete; £140.— Eyles and Eyles, St. Aldate's, Oxford. [8232

E NFIELD 2-stroke, 2-speed, 1920, new, in \$273/10.—George, Motor Agent, Dover.

Twin Enfield, good condition and running ler: £34-Whitegate Farm, Mirfield. [7718

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MOTOR CYCLES FOR SALE. Enfleid.

ENFIELD 2-stroke, 2-speed, 1919; 260; little used -25, Davisville Rd., Askew Rd., Shepherd's Bush. [6907] E NFIELD Combination, 6h.p.: a bargain, £87/10.

-Wilkins, Simpson, opposite Olympia, London.
[7544 ENFIELD 25/hp. 2-speed; any trial: £50.-1, Nor wood Rd., Herne Hill. Phone: Brixton 1989.

E NFIELD 6h.p. C.B. Combination; £85.—59. Pal-frey Place, Dorset Rd., Clapham Rd., S.W.8.

19 Prace, Bolista La., 17837 19 De Enfield 2-stroke, 2-speed, P. and H. lamps, hore, tools; £75.—110, Foster Hill Rd., Bed. [7427] Enfield 3h.p. Twin (1916), excellent condition, speedometer, spares: £60.—Powell, Yynnstey, Montgomery.

FNFIELD 6h.p. Combination, splendid c £125.—Shilcock's, 100, High Rd., Ne gate, N. condition; 19²⁰ 2) (h.p. 2-stroke Royal Enfield, 2-speed, immediate delivery; list price.—Morriss, 159, Finchley Rd., N.W.3.

THREE Enfield Combinations, one 8h.p., two 6h.p.: prices £150 and £165.—374, Grove Green Rd., Leytonstone. [7215

19 20 Enfield Combination, 8h.p., brand new unregistered; at £200.-2, Nightingale Lower Clapton. Lower Clapton. [8175]

P.NFIELD 1920 2-stroke brand new, just arrived; The makers' price.—Wilkins, Simpson, opposite O'vmpia, Londoo. [7546]

ENFIELD 3h.p., K.S., 2-speed, condition as tools, etc.; call evenings; any trial; £70.-

RYFIELD Combination, 1916, July equipped; £120; guaranteed.—51, Maplethorpe Rd., Thoreton Heath, S.E.

ROYAL ENFIELD Twio, single speed, just over-hauled; ride away; £28, or near offer.—837, Garratt Lage, Tooting. [7651]

E NFIELD 2-stroke, latest model, just delivered, at makers' price: £73/10.—Eagles and Co., 275, High St., Actoo, W.3. [X3636]

E NFIELD 1918 6h.p. Combination, perfect condition, only wants seeing; £135.—V., 33, Hartington Rd., Southend-on-Sea. [7443

19 20 Enfield Combination, 8h.p., brand new, just delivered, not been on road; £195 cush.—Box 5,107, c/o The Motor Cycle. [8134 WAUCHOPE'S, 9, Shoe Lane, London, E.C.4,—21/th.p. Royal Enfield, new 1920, £75/10; also 2/4h.p. Royal Enfield, 1919, £60. [6863]

E NFIELD 1916 2-stroke, 2-speed, new tyres, all accessories, excellent condition; nearest £82.—261, Shrewsbury Rd., Forest Gate, E.7. [7435]

Enffeld 3h.p. Twin, late 1916, excellent order, engine just overhauled by makers, 60 gps.-Moss's Agencies, 20, Regent St., Leamington. [X3578] FOR Sale, 1917 Enfield and sidecar, fitted with dynamo £145.—Apply, H. [7161 hghting set, in very nice order: £145 Dix, Arcady, Highworth Av., Cambridge.

1914 Enfield Combination, 6h.p., excellent condition, screen, lamps, tools, born, tyres new; £110.—Murrell, Finaey Green, Wilmslaw. [7877] 10²⁰ 8h.p. Enfield Combination, dyanmo lighting, new and norresistered; offers.—626, Lea Bridge Rd., Leyton. 'Phone: Walthamstow 800. [76.8]

3 h.p. Twin Enfield, just overhanded, florm, meter; exchange for heavier machine, ca justment.—101, Francis Av., Southses, Hants. speedo-

6 h.p. Enfield Combination, late 1914, running order, tyres as new, lamps, etc.; £110, or nearest; bargain.—Dawson, Market Place, Settle, Yorks. [X3545]

1920 8h.p. Enfield Combination, mag., dynamo, speed-ometer, horn, wind screen, legshields, everything as new; £220.-16, Hesper Mews, Earl's Court. [8216 1914 Enfield Combination, 6h.p., thoroughly over-hauled and re-camelled, splendid condition; £120.—Haylor, Laburnham Cottage, Handcross. [7765

Enffield 234h.p., 1913, single speed, Bosch, nearly new Kempshall and Avon, Lucas, splendid condition; £32, offers.—18, Hilldrop Crescent, N.7. [7775 dition: £32, oners.—10, Annually

6 h.p. Royal Enfield Twia Combination, been standing
5 years of war, very good condition: £120.—H.
Graves, Elston House, Victoria Rd., Mablethorpe.
[7141]

E'NFIELD Late 1919 Combination, fully equipped, just overhauled, appearance new; £180; after 6.30.—33, Orlando Rd., North Side, Clapham Common, S.W. [7259

10 16 Royal Eafield Combination, 6h.p., speedometer, Lucus lumps and horn, Cameo wind screed, etc.; owner going abroad; £145, -15, Hainault Rd., Leyton-ENFIELD 6h.p. Combination, 1913-14, coachbuilt side Car, speedometer, Bosch mag., 2 lamps, been stored 4 years, perfect coodition; £110.-15, Deva Terrace, Chester. [7102

Chester.

ENFIELD Combination, 6h.p., spleadid condition, lamps, horn, etc.; £125, or very near offer for quick sale; illness cause selling.—1, The Gardens, Peciquick sale

All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue.

Haziewood,

920 Hazlewood-Jup 5-6h.p. Combination, 3-speed countershaft, just delivered; £186,—Raynham

56hp, Hazlewood Combination, 3-speed, clutch, and kick starter at manufacturers list price, or on say payments 42 extra. Harrods Motor Showtoons, 16-118, Brompton Rd. (opposite Main Building), ondon, SW.1. (914 Hazlewood, 5h.p. J.A.P. twin, C.B. sidecar, Rosch, Amac, 3-speed hub, K.S., sidecar and art lights from accumulator, recently overhauled, in any use Plymouth; what offers 1—Box 5,082, c/c he Motor Cycle. (8186

H.B.

3h.p. H.B., new; list price.—95, Dartmouth Rd.,
Forest Hill, S.E.23. Phone: Sydenham 59. ARGAIN.—Brund new 1920 H.B., 25 h.p. Black burne engme, hand clutch, kick start, 2-speed gistered, but unridden; hist price 299/15, sacrifice 9C is.—Reynolds, Waterbeach, Cambs. 77006

HENDERSON Combinations actually in stock, brand new.—Grunes and Co., 18, Bruton Place, New and St., W. [8243] ond St., W. HENDERSON, 4-cyl., 1916, discs, long plated ex-haust, accessories, spares, splendid condition; 115.—Stevens, Woodcroft, Springfield Rd., Windsor, 7239

HENDERSON Combination, lamps, Stewart signal, speedometer, painted violet, lined lilac, very andsome outfit; £140. — Conyers, Montgomery, 2746.

ENDERSON 4-cyl., 2-speed, handle start, lamps. horn, splendid condition; £110.—Newaham Moto o., 223, Hammersmith Rd., W.6. Phone: Hammer-(7193)

sith so

EXDERSON 10h p. 4-cyl. Combination, 1920.

Mend and Deakth latest model addecar, bulbous tek, 3 lutup acts, Stewart mechanical horn, tools, just brand new; \$220.-43, Grove Rd., Sparkhill, Buttand new; \$220.-45, Grove Rd., Sparkhill, Butt

Hobart.

19 Hobert, rnn ooly about 300 miles, as new; bargain, £50,-22, South End, Croydon. [702] HOBART 2-speed 2-stroke, lamps, practically new, any trial; £40, or near offer.—Radcliffe, 15, Dean

TOBART Lightweight, Bosch, Druids, and lamps, good condition; examination; £29/10.—Hipwell, stock, Leicester.

stock, Leicester.

920 Hobart 2-stroke, 2-speed, in stock, £75.: 1920
Hobart 2-stroke, T.T. model, in stock, £63/15.iepherd and Co., Enfield Highway. Waltham Cross 31
[8349]

(933)
15 6b.p. Hebart-Jap Enfield 2-speed, magnificent of coachbuilt sideors, hood, sereen, lamps, horn, the coachbuilt sideors, hood, sereen, lamps, horn, the coachbuilt sideors of the coachbuilt sideors of the coachbuilt sideors.

P. Garage, 40, Murray Mews, Murray St., Camden wm, N.W. Humber

1h.p. 1915 Humber, excellent appearance and dition; £38.-62, The Grove, Ealing. 1h.p. Humber, good going order, B. and B. Bosch; £25.-44, Stratfield Rd., Oxford. [7176]

m.
13h.p. twin Humber, 3-speeds, clutch, fine condi-4 tion, very fast; £40.-54, Babington Rd.,
W.4. [7523]

11h.p. 1913 Humber, single speed, perfect condition 12 tools, spares, accessories; £45.—Goode, 652, Abber-le Rd., Sheffield. [3436

913 314h.p. Humber. 2-speed Roc gear, handle start, engine recently overhauled; £35.—Apply. 1cker, 67, Holly Rd., Aldershot.

TUMBER 1911 31-2h.p., Roc 2-speed, good running order, tyres practically new, all accessories: £45, 215, Broadway, Bexleyheath, Kent. 47701 TUMBER Lightweight, Bosch, B. and B., guaranteed perfect condition, £30: lamps, tools, rares, £33.-68, Hyde Vale, Greenwich.

TEW 1920 414h.p. Flat Twin Humber Combination, unridden; best offer round list price; owner nnot afford.—Box 935, c/o The Motor Cycle. [X3531

HUMBER 512h.p., 2 speeds, clutch, 1913-14, over-hauled, new tyres, belt, piston, and rings, good addition; £45.—Williams, Roberts Wall, Penally. [7094 JARLY Delivery of the Celebrated Humber machine-from the accredited agents.—The Lankester En-acering Co., Motor Cycle Dept., 63, Brighton Rd., uphton

ITUMBER (July, 1919) 31 h.p. Flat Twin, very bowerful, would take sidecar, 5-speed, chain drive; 5.–F. H. Crubhe, 17, Douglas Rd., Acock's Green, rmingham.

914 Humber 3½h.p., 3-speed, clutch (S.A.), XL'all, lamps, toolbags, footboards, Bosch, B. and B., dlers, perfect, £50—Deller, 16, Camden Gardens, epherd's Bush.



"All machines quoted below tor immediate delivery and at fixed prices. Do not be disappointed at the prices going up. We can quote you the machine you require, for immediate delivery, at a price that will suit you."

Combinations.

1920 H Model MATCHLESS Combination, Lucas Magdyno, complete with horn, as new.
1920 H Model MATCHLESS Combination, Lucas acctylene lamps. Lucas horn, been ridden

1020 A.J.S. Combination, complete with hood,

windscreen, 3 lamp sets, and horn; all ready or the road; never been ridden, 1920 5 h.p. A.J.S. Combination, screen, no acces-

1926 5 h.p. A.J.S. Combination, screen, no accessories, as new.
1920 8 h.p. ENFIELD Combination, Lucas Magdyno, all complete, as new.
1920 AMERICAN EXCELSIOR, fitted Henderson Elite Stdear, dynamo righting, electric horn Brund New.
1920 INDIA. Combination, fitted with Swan Status Sidear, disa wheels all road, T.T. Lord Company of the Company of the

new Very smart ot.

1920 3½ h.p. SUNBEAM fitted with Dinky Sidecar,
black and gold to match bike, not done some black and gold to match bike, not done 20m. 1920 4th.p. B.S.A. Combination, all chain drive,

1920 4f h.p. B. S. A. Combination, all chain drive, not register NFIELD Combination. Lucas of the combination of the combination of the combination of the combination, fitted with electric lights, electric horn, also Klaxon, brand new, 1920 A.J. S. combination, fitted with electric lights, electric horn, also Klaxon, brand new, 1920 A.J. S. combination, three lamp sets, Klaxon horn, specodmeter, Easting windscreen, done doe miles.

Solo Machines.

1920 32 h p LEA-FRANCIS. J.A.P. engine, only done a few miles.

1920 4} h.p. B.S.A., complete, as received from

makers.

1920 34 h.p. SUNBEAM, not been ridden.

1915 34 h.p. SUNBEAM, just been thoroughly overhauled by makers, complete with lamps and horn, splendid condition.

1920 solo A.B.C., 4-speed, brand new, immediate

delivery.
1920 6 h.p. countershaft ZENITH. Sidecar for same if required.

Cars.

Aero Model MORGAN. Brand New. For Immediate Delivery.

HENDERSON ELITE SIDECARS IN STOCK FOR

We are Agents for the ramou. DINKY SIDEGAR. Ali models in stock.

We are London Agents for CASTLE 3-wheelers. Deliveries commence soon,

First-class Combinations Wanted for spot cash - High prices paid for good machines.

J. SMITH & CO., 15. HAMPSTEAD RD., LONDON, N.W.1.

Phone No.: Museum 3419.

MOTOR CYCLES FOR SALE.

Humber

1014 Humber 31-h.p., thee engine, handle start, per-net order, stoned greater part of war; may la-spection; £65, or effer; also wicker sideenr, good, £7.— Noakes, Crowthorne. (6970

HUMBER, 1916, 6h.p. water-cooled flat twin, 6.B. start, quick detachable wheels, perdometer, lamps, horn, excellent condition; £120.—Randull, 88, Church Rd., Barnes, 8.W.

Hutfield.

HUTFIELD-LAP: Sh.p. Combination, late 1913, and R. senjine N. 40265, 2-spec, little and tyres good R. senjine N. 40265, 2-spec, left, and tyres good R. senjine human senj

Indian.

19 20 7-9h.p. Indian Combination, brand new; list price.-3, Parker Lane, Barnley. [X3591 INDIAN 7-9h.p. Combination, as new; £115, offers. -8, Homesdale Rd., Bromley, Kent. [7821 19 Indian Combination, good condition; £165.
Wright's Garage, Saffron Walden. [826]

5 h.p. Indian Combination, new April, 1916, 5 new tyres; £110.—Beech Hill, Mayford, Woking, £8090 INDIAN Combination, 1914; £90,—Tellings' Garage, Southgate, N.14. 'Phone: Palmer's Green 786.

INDIAN Combination 7-9h.p., 2-speed, clutch model, hood, screen, Klaxon; £85.-6a, Duncan St., Islang-

INDIAN 7-9h.p. Powerplus Combination, speedomet 1, spares; £135, offers.—Nodder, Ashover, Chesterfield.

7-9h.p. Indian Combination, 1916 (f), 3-speed, hauled and re-enamelled; £110.—315, High [6899 Lewisham.

19¹⁷ Powerplus Indian, thoroughly overhauled, fine condition, guaranteed; £120.-60, Cecil Rd., Northampton.

EGERTONS, Northgate, Ipswich, are booking early deliver for Indian Scout and Powerplus medels, Phone: 962.

TNDIAN 1914 T.T. 7-9h.p., 2-speed, clutch lamps, born; any trial; 270.—The Lodge, Ravensbourne Park, Cuttord. Park, Catiord. [8286]
19 20 Indians; immediate deliveries.—E. Brown, Indian Specialist, 3 and 7a, Purker Lane, Bunjey, Tel.: 1032.

19 20 Solo Indian 7-9h.p., dynamo lighting, unscratched, perfect, mileage 700; £160.-4, Murray Rd., Rugby.

7-9h.p. Indian Combination, clutch model, spring frame, lamps, wind screen, hood; £94.—Inglewood, Lythalls Lane, Coventry. [X3507 I NDIAN Sidecar Combination, 7-9h.p., good running order, complete; £120.—Frank Whitworth, 139, New St., Birmingham. [X3568]

L order, complete; £1 New St., Birmingham.

7-9h.p. Clutch Model Indian Motor Cycle, 1916, in first-cluss condition, lamps, horn, etc.; £65.— Armitage, Alford, Lines. [6964 INDIAN 1915 7-9h.p., clutch, powerful, lamps, tools, etc., excellent condition; £75.—Mills, 20, Leaside

Av., Muswell Hill, N.10. Av., Muswell Hill, N.10. [7801. \$\mathbb{Q}\$85. Indian 1914 7-9h.p., 2-speed, spring frame, coarbabilit sidear, electric starter, lighting-103a, High St., Wandsworth.

103a, High St., Wandsworth.

103b, High St., Wandsworth.

104b, High St., Wandsworth.

105b, High St., Wands

1914 7-9h.p. Indian Combination, privately owned, recently overhauled: £85, or nearest offer.—
Owen, Temeside, Knighton, Ruds. [7097]

19²⁰ 7-9h.p. Indian Solo, electric lighting, speedo-meter, only ridden few miles, as new; £175.— Wright's Garage, Saffron Walden. [8267 Wright's Garage, Santon National Park The Glax C.B. Combination, 1914, just overhauled, electric lightner, hood and screen; £95, or offer. The Glen, Putcey Heath Lane, S.W.15. [8016]

INDIAN Combination, 1919. Powerplus, spring frame, practically new; £150 for quick sale,—Chubb, 6, Southwood Lane, Highgate. [X3651]

1914 T.T. Model Indian Combination, in perfect condition, lamps, tools, spares; what offers?—Bridgwater Hotel, Moses Gate, Bolton. [8002]

POWERPLUS Indian Combination, drnamo lighting, new Canneo and apron, tyres all good; nearest £150.-374, Grove Green Rd., Leytonstone. [7218]

19 20 7-9h.p. Indian Combination, Model NE20, latest enlarged valves, un-statched, 230 miles only; offers.—Stanbridge, Agnells, Hemel Hempstead, X3609

INDIAN Combination, 7-9h.p., discs. hood, screen, etc.; £85, or offer; good condition; after 6; must sell.—58, Wellington Row, Bethnal Green, E. [7591 INDIAN, T.T., 1915, 5-6h.p., 3 speeds, clutch, no K.S., new Binks, Dunlop heavy, £10 new engine parts; £90, offers.—54, Euston Rd., Northampton, [X5641]

Indian. INDIAN 4h.p. Single, spring frame, new tyres, new carbinetter, just been overhauled, repainted, good condition; £50.—Ayling, 21, Bond St., Arundel.

NDIAN 1920 Combination, Powerplus model, electric lighting, speedometer, tools, etc.; £175.—
Cope and Sons, 15, Upper Hagley Rd., Birmingham.

10 le Indian Powerplus, electric model, not W.D., good as new, too powerful for owner; £130, or near; must sell.—19, Primrose Hill, Northsunpton.

1915 Indian 7-9h.p. Clutch Model, discs, tyres as new, lamps, tools, speedometer, very fast, condition perfect throughout -6, George St., Reading.

1916 7-9h.p. Indian, clutch model, Mills-Fulford torpedo sidecar, discs, accessories, splendid condition; £135.-84, Melrose Av., Wimbledon Park, S.W. [7621]

NDIAN, 2-speed, 7-9h.p., new tyres, screen and hood, needs slight repairs; any reasonable offer considered.—12, Tatam Rd., Stonebridge Park. [6365]

7-9h.p. Indian Combination, 2-speed, clutch, in first-class running order, including all lamps, etc., seen any time; £90.—8. Agate, Nursery, Firs Lane, Edmon, N.9.

INDIAN.—For early delivery of the famous Powerplus motor cycle, with electrical equipment, write to P. J. Evans, Indian Agent, 83-91, John Bright St., Birmingham.

7-9h.p. Indian Combination, 1916, not Powerplus, 3-speed, stored 2 years, entirely re-enamelled, re-plated, overhauled, perfect; £140.—194, Camberwell tirove, S.E.5.

1916 7-9h.p. Indian Combination, 3-speed, K.S., foot clutch, electric light, horn, Cowey, speedometer, replendid condition; £118.—Frater, Albenwick, Almwick, Northumberland. [724]

INDIAN 1916 7-9h.p., T.T., clutch, just overhauled, Lucas lighting set, in grand condition: 70 gns., or near offer.—Apply, 18, Little Welbeck St., Carendish Sq., London, W.1.

INDIAN Combination, 5-6h.p., 1916, 3-speed, clutch, K.S., Canoelet, sidecar lamps, etc., just overhauled; £110.—The Palm, 241a, Lewisbam High Rd., Brockley, S.E.4.

TNDIAN 7-95.p., 1913, 2-speed clutch, just thoroughly overhauled at cost of £8; will accept £55 for quick sale.—Whitehead, 1, Montague Mews North, Crawforf, E96; Baker St., W.1.

N'DIAN 7-9h.p., with Millford sidecar, spring framer electric lighting, Easting screen, tyres excellent, in splendid condition throughout; £140.—Lees, 10, West bourse Place. Hove.

19 14 7-9h.p. Indian, clutch, 2-speed, spring frame, Binks, new Dunlops, Tan-Sad, lamps, Klaxon, speedometer, good machine; £35.—Apply, Tucker, 67, Holly Rd., Aldershot.

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Q 15 Indian 7-91.p., and Mills-Fulford sidecar, East-clutch, fig. wind screen, launs, horn, hand and foot clutch for overtailed; any trial; best over £100. Springford's datage, Devise.

100.— [7154 namo, lition, 1 920 Indian (Powerplus) Combination, dynamo, speedometer, electric horn, splendid condition, pillion seat; sell, or exchange lower power with cash.—61, Moister Rd., Blackpool. [7352]

INDIAN 6h.p., 2-speed, free engine, overhauled, new pistons fitted and cylinders reground, Binks carburetter, lamps, horn, sidecar; £70.—Simpson, 20, Parsonage St., Bury, Lancs.; [7552]

INDIAN 7-9h.p. 1916 Combination, 5 speeds, clutch, kick starter, electric heads and tail lamps, new tyres and chain, splendid condition; £130.-A. Alderman, Thorney, Peterborough.

TNDIAN Coachbuilt Combination, 7.9h.p., 1915 electric equipment sylendid condition, powerful reliable, any trial; 100 gns.—Manager, Cabinet Stores Birkheck Rd., Kingsland, London.

1920 Indian (7-9h.p. Powerplus) and Henderson Ehter sidecar, dynamo lighting, Binks carburetter, discs; £220, or nearest offer.—W. S. Cattell, The Poplars, Montagu St., Kettering. 8083

19¹⁵ 7-9h.p. Indian Combination, 3-sped, spering frame, in good condition, ready for touring electric lighting and horn: £120; appointment.—J.W., 27, Norman's Buildings, Old St., E.C.1. [6927]

POLLOCK & MACNAB 65in. Friction Geared Capstan Lathes for 15in, bar.

New 10×24in. CHURCHILL type Universal Grinders.

New 10in. × 36in. LANDIS Plain Grinding Machine.

New No. 2 CINCINNATI Vertical Milling Machines.

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KEMPSMITH No. 2 Universal Millers.

ARCHDALE PLAIN MILLER. table 25½ in × 10in.

No. 3H LE BLOND Universal Miller.

PRATT & WHITNEY Automatic Millers, 10in. size.

No. 11 B.&S. Plain Grinders.

No. 34 VAN NORMAN Automatic Bore Grinders.



TELEGRAMS -"LATHES, HYDE." 78, HYDE.

40, Bennett's Hill.

7, King St., Cheapside, E.C.2.

MOTOR CYCLES FOR SALE.

Indian. INDIAN 7-9h.p. Bowerplus, 1917, 3-speed, dns clutch control, discs, small mileage, cylinders no litted, original tyres, stored 2 years; £90, no offer after 6 p.m.—127, Victoria Rd., Charlton, S.E. 1763

GENUINE Bargain, Indian, 1916, spring frame, speed, clutch, and kick starter, just overhaude with all accessories, nearly new sporting sidecar, a tyres good; owner going abroad; £83.—58, Elmbond Rd., Balham.

Rd., Bainam. 1915. Sch.p., Indian, 3 speeds, hand and foot clutted. Tracks, Tanks, 1916. Indian, 4 speeds, hand and foot clutted. Tracks, recently overhauled, very fast, splendid condition coachbuilt sidecar to match; £90, lot; would separate—Berrett, Halter, Potton, Beds.

TNDIAN, sidecar, 7-9h.p., 2-speed, hand-foot clutch P.H. head, tail lamps, newly overhauled and pe feet, complete with brand new Kerry coachbuilt sidecan never used, whole finished dark green; £130.—Thom sou, View Camp, Dalkeith, Scotland.

LATE 1916 Fowerplus Indian, 3 speeds, hand an foot clutch, electric light, Klaxon, Schebler calburetter, Tan Sad, Swan sporting sidecar, disc wheal throughout, just overhauled; £135—Green, 6 and 8 Albion Buldings, Aldersgate St., E.C.1? [76]

1915 Indian Combination, 7-9h.p., spring frame, 2 speed, electric light, top-hole condition, 2110 or offer, May, 1920, 7-9h.p. Indian combination, mile age 250, best offer over 2205; either machine to 8 sold,—Wile, 52, Shellom Rd., Edmonton. [630]

NOISON THE STATE OF THE STATE O

must self.—165, Muswei Av, Buswei Auf,
1020 Indian Combigation, Powerplus, electric model, dynamo, etc. Easting wind screen
Tan-Sad, electric sidecar lamp, speedometer partube, 319 miles only 100 powerful for owner.—Ganged
171, Seven Sisters Ed., Finabury Park, London (725)

171, Seven Sisters Rd., Finsonry Park, London, 258, 5, 6-bp. 3-Speed Indian Combination, 1916, new pixtos tyres, luxurious Milliord sidecar, whole in excellent corder, lamps, horn, trois, etc.; £10; appointment an Enogetica, Paversham. Supersham Suppointment and Enogetica, Paversham. Supersham Suppointment and Sidecar, in every fine condition throughout, over hauled by makers, bill over £41 produced, with 4 lamps, generators, Stewart horn, spare chain as sprocket, and all tools; £135.—Jayes, 9; Finness Mewes, Behate Creecent, Hampstead.

NIAN Combination, 7-3h.p., December, 1318
mileage 2.500. Easting wind screen, special case, all in perfect running order; 2.175; owner sating laids June 16th, must effect sale immediately; or view and trial at Reid and Evans' Garage, Exeter-Captain. Whitaker, Broadclyst, Exeter (756)

Captain. Whiteker, Broadelyst, Exeter. 2 (T585.

THIS Combination Almost Given, Away.—1915 7:8

h. Indian combination, 3 speeds, kick starter, and the combination of the combination of

Invicto

21h.p. Invicta, 3-speed Sturmey-Archer counter Sturmey-Archer counters, J.A.P. engine. 2-speed Sturmey-Archer countershaft.—Williams, Motor Engineer, Exeter. [805]

INVICTA-J.A.P. 1919 25th.p., 2-speed, drip libri-cation, Brampton Biffex forks, fast, flexible, ap-pearance new, Klaxon, lamps, buying higher power; £62.-6, St. George's Rd., Golders Green. [7325

E62.-6, St. Georges Rd., Gonors Green. (7262)
INVICTA Lightweight, fitted with the famous high results of the state of the

IVY.—The Walsall Garage, Walsall, can supply early dates.

I VY 2-speed 2-stroke in stock.—Rothwell and Milbourne, Cowleigh Garage, Malvern.

IVY 2-stroke, 2-speed, 1917, Tan-seat, as new, complete, all on; £62/10.—Seen, 43, Dinsmore Rilbalham.

BRAND New Ivy 2-stroke, 2 speeds, K.S., clutch, discs; owner bought combination.—Bennett, B. High St., Hull. [7208

Matchless.

19 20 Model II Machies Combination, hood with side curtains, wind screen, spare wheel, Lucas acceptene lighting and hora, and sheds, run about 500 miles, perfect turn-out; 2215. Smart, 2006, Promisgrove St., Ilaleswout;

19 20 Matchless, Model II, spring frame combination, electric acetylene lighting, 4 interchangeable wheels, horn, screen, tools, small mileage; £2.25; heaght ear.—1d. Chrk, Orthanec Dept., Gatwick, Herkey, Surrey, Phons; Horkey 47, between 10 miles.

1914 o.h.v. 6h.p. Matchless, speed over 75 m.p.b., excellent condition and perfect m-edunical order, a true spertsum's mount, price 278; also a sporting Harby and a Hebart combination; see missedlanceus.—B.P. Garage, 40, Marray Mews, Murray St., Canden Town, N.W. [8316]

Matchless Combination, 7-slip, M. A.G. engined by the state of the sta

MATCHLESS Combination,—Book your orders with frame 8h.p. Matchless combination. A model always on view at above address. Deliveries guaranteed strickly as per order received. Retail price as ruling at time of delivery. A large assertment of accordingly motor cycles of all makes always in stock [2242]

MATCHLESS Combination, M.A.G. engine, in period and period and set of the set

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METRO, frame and parts, Albion 2-speed, wants N.W.4. SECOND-HAND MACHINES.

METRO-TYLER, latest 1920 model, deliveries from stock.—Hewin's Garages, Ltd., the real service firm, Taunton and Totaes. [7508]

METRO 1920, single speed, nearly new; good leason for selling: £60; after 7 o'clock.—101, Upper Tol-lington Purk, Finsbury Park. [7083

SPECIAL 1920 T.T. Metro-Tyler, beautifully tuned, long exhaust; must sell; £65, or near offer.—9, Bedford Rd., Bedford Park, W.4. [7156

19 20 Metro-Tyler (M.T. on tank), 2-speed, long exhaust, Lucas horn, perfect, done 100 miles; £70.—Richards, High St., Marlborough. [7041]

19²⁰ Metro-Tyler, 2-speed, lamps, horn, only ridden 100 miles; £70, or nearest; letters, or after 5.—Gauld, 33, Temple Rd, Windsor. [7136 METRO 1919 274h.p., single-speed, only done 300 miles; £45.—Phone: Latchmere 4312, 12, Temple Sheen Rd., East Sheen, S.W.14. [X3647]

METRO-TYLER, 1919, 2-speed, good condition, lamps, Klaxon, tools, etc.; £60.—Hewin's Garages, Ltd., the real service firm, Taunton. [7511

19 19 Metro-Tyler, long plated exhaust, lamps and tools, splendid condition; first £70 secures.—
Fallowfield, Fairfax Drive, Westcliff-on-Sea. [7100] 1919 (Nov.) 2½h.p. Sporting Metro-Tyler, long exhanst, lamps, horn, spares, very little used £70.—22, Torbay Rd., Challon-cum-Hardy, Manchester. [7721

Minerva.

5 h.p. Twin Minerva, Bosch, B. and B., 2-speed; £40, on nearest offer.—Jackson, 158, Halifax Rd., Tod-mordea. [X3606]

mortes DBTVA 315hp., 4-speed, free engine, Boach, LA, MARCHAND, A. 1840,—Webb, Roselands, Newcome db, Finchley, N. 3.

24 hing bireva, mag., B. and B. carbartetter, run-draing order, ride away; £19,—15, The Promende, Palmers Green, London. [725]

M INERVA Combination, 4 2h.p. twin, Roc 2-speed, handle start, good order throughout; £50.—Rev. Barnard Smith, Carlton Colville, Lowestoft. [8117

MINERVA 44h.p., Bosch, and sidecar, £24; Moto-sacoche lightweight, £20; bargain: offers, room wanted.—12, Cheshire, St., Bethnal Green, E. [7465] FOR Sale 25thp, Minerva, mag., B. and B., modernised, drop frame, running order, needs order, heads order, the shall good tyres and belt; £17, or near offer, lengther, by College, Kent. [7341]

Monarch.

MONARCH-VILLIERS 2-stroke, 2-speed, new Januart, mileage under 1,000; £60, or near offer; weekend.—4, Waterside, Evescham. [7720]

Motosacoche.

MOTOSACOCHE 24;h.p., in running order, with acetylene lighting set; £23, or near offer.—Deacon od Co. Leicester Rd., Xuneaton. (X3258
MOTOSASCOCHE, 24;h.p., M.A.G., Bosch, variable pullsy, new pulley control and whitele belt, pulsy new pulley control and whitele belt, pulsy overhauled 30 gns.—Trythall, Chapel St., Penzance.

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MOTOR CYCLES FOR SALE.

New Hudson

NEW HUDSON Tourist Model; £75; In stock Godwin Bros., Woking. [7793

19 15 New Hindson 6h.p., 3-speed, chain cum; £75. 21, Spencer Rd., Acton. [7333 19¹⁶ T.T. New Hadson 4h.p., fast, only needs seeing £55,-25, Gertrade St., Chelsen. [691]

N EW HUDSON 1920, in stock, at list price, £7: Sait, 82, Dalling Rd., Hammersmith. [7] LATE 1919 New Hadson Condomstron, tally equipped, indeage low; £150. -A. Alderman, Thorney, Peterborough.

NEW HUDSON 1913 27(h.p., 3-speed, clutch, Dun-lops, excellent condition; £45.-2, Railway St., Hertford.

NEW HUDSON 2-stroke, Olympia sporting model, T.T., only ridden 50 miles; £67.—Pratt, Royal Hotel, Ross.

3½ h.p. P. & M.'s from 80 Gns. NEW HUDSON 4h.p. Combination, nearly new, side-ent foundhuilt; £85.—Marine Garage, Worthing. Phone: 350 Gns. [795]

1920 New Hudson 2-speed Lightweight, in stock; \$75.—Shepherd and Co., Enfield Highway. [8350]

6 h.p. New Hudson 1919 Coachbuilt Combination, mileuge 500, lamps, Klaxon, Easting, legshields.— 1a, Barry Rd., Dulwich.

3½ h.p. Sunbeam and Sidecar, NEW HUDSON 2-stroke, good tyres, first-class order and appearance, will go anywhere; £18, [7925] than a papearance, will go anywhere; £18, [7925] than a papearance, will go anywhere; £18, [7925]

3½ h.p. Humber Combination, NEW HUDSON 4h.p., Sept. 1919, built for iddeen, Transkal seat, little need; 295.-Hill, 9a, (7655) for Ed., Lutten, Deck.

NEW HUDSON 4h.p., 2-speed, clutch, recently overhanled, perfect condition; £65.—Trimmer Station, Bishopsgate, E.C.

NEW HUDSON 3//h.p., 1919 sidecar combination, and all complete, fine condition; £130.—Frank Whitworth, 139, New St., Birmingham.

Chater Lea, Triumph, Allon, 59, Melville Rd., Walthamstow, E.17. [7432] NEW HUDSON 6-8h.p., 1914, 3-speed, K.S., clut (hub), C.B. sidecar; cheap, £65, or near.—Welfi Cycle Co., Barmouth Rd., Wandsworth.

NEW HUDSON 6h.p. Coachbuilt Combination, 3-speed, clutch, K.S., in excellent condition through-out; bargain, £85.—Lees, 10, Westbourne Place, Hove. [6988]

16983
20 Letest Model New Hudson, 2½h.p., 2-stroke,
2-speed, complete with lamps and hore, as new;
2-to.-M. H Watson, Burnleigh, Leake St, Castleford,
Yorks. (3352)

Lea-Francis, Rex. G. MUNDY.—1920 New Hudson, 2-speed, 2-speed, 2-stroke, Cowey hora, speedometer, lamps, disex, tro, Coulson-B. luke st., Richmond.

NEW HUBSON 4h.p. 1920 Sporting Combination. practically unused; best over £130; write appointment; Midlands; will deliver to buyer.—Box 5,065, e/o The Motor Cycle.

NEW HUBSON 1919 4h.p., with nice torpedo side-car, 3-speed countershort, hand clutch, kick start, perfect condition and running order; £120, or nearest ofter, Tart, Delabordes Farm, Westerham. [6984

NEW HUDSON 1916 Sh.p. Conchbuilt Combination, 3-speed countersharf, K.S., overhauled completely, new Bunks, good tyres, Lucus dynamo, 3 lamps and horn; £140.—Mineus Arms, Morley, Leeds. [7810

New Imperial.

CROW Bros., Guildford-New Imperial Jap agents and expert repairers since 1914. (2066)

NEW IMPERIAL, 2%h.p. J.A.P., 2-speed Albion, 1917; £50,-71, Saltoun Rd., Brixton, S.W.2. (7824 SECOND-HAND New Imperial 8h.p. Combination, Some done 1,000 miles.—Williams, Motor Engineer, Exeter. [3034]

10 20 New Imperial, 2-speed, done under 100 miles, Place, Evaluation of the Place, Evaluation of Andover.

T.T. New Imperial 25th.p., 2-speed, accessories, over-hanled, perfect; £55; offers.—25, Prince's Av., Chester. [X3544]

135.544 19 15 New Impetial-Jap 25th.p., 2-speed, just over-hauled; seen week-ends; £45.—16, Box Ridge Av., Pinley, Surrey. (7719

19 New Imperial Jap 8h.p. Combination: £140.—
19 8a, Blue Ball Yard, St. James St., Piccadnlly. Phone: Gerrard 6536. [7663

Page : Cerrard 0500.

1919 Now Imperial Combination, complete, first-class condition: £150, or best offer over.—Muuro and Cherry, Yiennage Rd. Eglam. [6952]

N'EW IMPERIAL Sh.p., unused, W.D. and latest type new Millerd sidecar; £157/10.—91, St. Margarets Rd., Twick.nham.

19 17 New Imperial-Jap 254h.p., 2-speed, lamps, horn, tools, etc., good condition: £50 cash; trial.—Wilson, 1, The Sycamores, Wimbledon Common, [7266]

New Imperial.

TMPERIAL-J.A.P., 2%h.p., excellent condition, all complete; £42; owner purchased 2-stroke.—Miss Dayrell, The Hale, Chiddingly, Sussex. [7963]

1015 Imperial-Jap 2½h.p., little used, excellent appearance and condition, all accessories; £45, or best.—Webster, South View, Govilon, Mon. [8042]

1920 New Imperial, 234h.p., 2-speed, wide mudguards, head lamps, Klaxon, etc., scarcely ridden, reasons kealth; burgain, £70, or best offer.—Raymont, Thornleigh, Sharples Park, Bolton. [7897

Sharples Fark, Bolfon.

19 20 New Yungerial 254h.p., 2-speed, chutch model; immediate delivery from stock—Call or write, or "Phone: Greenwich 751.—Clapham (Motors), 27, Stockwell St., Greenwich, S.E.10.

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New Ryder.

NEW RYDER 21/2h.p. 2-stroke, C.A.V. mag., Villiers engine, lamps, etc., splendid condition; \$40.—
Harmer, Swiss Cottage, Broughton, Hants. [7272]

10¹³ B.R.S. Norton, discs, lamps, Klaxon, engine overhauled, new piston; £55.—Buckland House, -[8012

1 9 20 Big 4 Norton Sporting Combination, lamps, horn, delivered January; offers.—Pedder, 15, Holvwell, Oxford.

Norton Big Four Sporting Combination, special turnout, tria: or examination.—Parker's, Brad-howeste Rolton. [X3554] turnout, tria shawgate, Bolton.

NORTON, 1917, T.T., Philipson pulley, C.A.V. mag., lamps, horn, and knee pads; £85.—Worthey, Mount Villa, Elsecar, mr. Barnsley. BIG Four Norton, 1919 (Nov.), only done 30 miles, perfect; highest offer over £135.—G. Hilton, e/o Ellison, 55, Newhall St., Birmingham. [7121

£65.—4h.p. Norton Combination, 2 speeds, engine overhauled, rebushed, good tyres, belt, lamps, horn; any trial.—Mumford, Normandy, Guildford. [7723]

1916 B.R.S. Norton, discs, sporty mount, race anything, only needs seeing; price £85.—Apply after 6 p.m., Smith, Hazel Wood, Kingston Rd., Leatherhead, Surrey. [7357]

N ORTON Big Four, Canoelet sidecar, delivered December, excellent condition, D.A. lighting, spares, etc., Bouniksen speedometer; £156, no offers.—Brown, 64, Albert Rd., King's Heath, Birmingham. [X3659

Albert Rd., Aungs neutu, Diagrams.

1920 T.T. Noviton, Philipson, or countershoft model: next on list for choice of these models; delivery expected daily; will transfer order for \$15, or hest offer over, including deposit.—Box 5,087, clo The Motor Cuct.

(822).

NORTON 3½h.p., 1916, Millford C.B., Sturmey 3-speed, B. and B., C.A.V. lamps, Klaxon, tools, new tyres, in fine running order; £110, or offer; trial by appointment.—Write, Clarke, 16, Rita Rd., Vauxhall Park, S.W.S.

N.U.T.

N.U.T. Motor Cycles from Stock.—Sole agents for Cambridgeshire, A. J. Young and Co., Ltd., Heath Garage, Newmarket. 'Pitone: 214.

1920 N.U.T. 3'4\h.p. Twin, dynamo lighting; list price.—Newnlam Motor Co., 223, Hammersmith Rd., W.6. 'Phone: Hammersmith 60.

N.U.T., 1920 model; early delivery from the City agents at list price. — Elec and Co., 15-16. Bishopsgate Av., Camomile St., E.C.3. [0065] Bishopegate Av., Camonine Se., Sect.

W. SPARROW, Ltd., Osborne Garage, Yeovil, official
N.U.T. agents, new booking orders for early de-livery.-Write or 'Phone for particulars. Tel.: Yeovil (8395)

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SHROPSHIRE.—N.U.T. sole agents for the county;
Sdemonstration model in stock. Orders booked in strict rotation for early deliveries.—James Garages, Church Stretton.

N.U.T. 1916 5-6h.p., with Swan sidecar, 3-speed gear, just overhanled, as new, acetylene and electric lighting, accessories: price £130.—Apply, F., 4, Jews Walk, Sydenham, S.E. (X3657

Nun, 590cman, 5-2.

Nu.T. 1920 Model 31/sh.p., Lucas dyoamo lighting, electric horn; 140 gns, complete.—Authorised Loudon ageots, Vivao Hardie and Lune, Ltd., 24, Woodtck St. (off Oxford St.), Bond St., W.1. "Phone: Mayfair 6559. Book now for early delivery."

N.S.U. 6h.p. Twin, mag., perfect; £45.—Quilter, 8, The Village, Charlton, S.E. (8237 N.S.U. Twin and Sakear; £35, or near offer.—E. C. Slanghter, Marlborough Hotel, Croune. [7055 N.S.U., B. and R., Rosch; £19; ride away; after 7 e'clock.-54, Marcellas Rd., Hoinsey Rd., N.7. [7484 p. N.S.U., overhauled, re-enamelled, tyres very good; 455.—Hall, Hawthorns, Cheslyn Huy. [23618]

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6 h.p. N.S.U. 1914 Twin, C.B. sidecar, lamps, horn and speedometer, good condition; after 5; £65-148, Lorrimore Rd., Kennington.

N.S.U. Twin, 2-speed gear, Bosch mag., suitable for sidecar or solo, splendid condition, ride away or reasonable offer refrised—Ormston, Broadway Garage, 65, High St., Hounslow.

ase, od. High S., Hollasow, A. Hollasow, A. S. U. 2-speed gear Boach, Binks carburetter, Dinlor tyres, can Boach, Binks carburetter, Dinlor tyres, can be seen to be

O.K.

O.K. Union 234h.p., 2-stroke, new; 48 gas.-15. Set Rd., Bexhill. BROOK Brothers, Burnham-on-Sen, have new O.F.

O.K. UNIONS, district agents; models in stock.-Turnill and North, Peterhorough. 1741: O.R.-J.A.P. 24h.p., 2-speed countershaft, lamps horn; £40.-27, Ormeley Rd., Balling, S.W. 1764

O.K. for immediate delivery; 48 gns.—Dudley-Davi Motor Exchange, 103a, High St., Wandsworth

19 20 O.K. Union, hrand new, for immediate deliver from stock; 48 gns.—Birch's Garage, Wolve

O.K.-UNION, the marvellous lightweight, in stock list price. — Meeten, O.K. Ageots, Dorking Phone: 163. O.K. Junior 1914 2h.p., 2-speed, economical rue ning, all accessories; 235.-23, Belsize Av. Bowes Park, N. [729

O.K. Union 2%h.p., latest model, just delivered, a makers' price; £50/8.—Eagles and Co., 275 High St., Acton, W.3. (X363)

High St., Acton, w.s.

19 20 O.K.-Usion, 2-stroke, immediate delivery; lisprice; 251.—A. J. Yongr and Co., Lid., 75 Albany St., Regent's Park, London, N.W.1. (023.)

O.K. Junior, October, 1919, 2 speeds, excellen machine, very little nied, all oc; neatest £50 buying combination.—24, Gerald Rd., Bourcenoth.

1914 21/h.p. O.K. Junior, 2-speed, new carburette drip feed, private owner, manble to ride; sacrifice £32/10.-V. Callaneo, 5, Rosary Terrace, York, O.K.-UNION, 1920, brand new, fully equipped; owner, bought another mechine owing to late delivery owner, list price, 48 gns.; first cheque secures.—White Corn Merchant, Banbury.

Omega
19 20 2%h.p. Omega-Jap Model, 2-speed, at list
hridge. Carb.
[7197]

hridge.

19 19 Omega-Jap 2 h.p., 2-speed, lamps, and good condition; £65.—Ward; Upper Stratton, Swindon.

19 20 Omega-Jap 27(h.p., 2-speed, new May last, ridden under 100 miles; £70.—Box 5,066, e/c 7/hc Motor Cycle.

19 20 Sporting Medel Omega, lamps, horn, kace-grips, drolng exhaust, tools; £70, or nearest.—Perrins, Architect, Redditch. [X3580]

OMEGA-J.A.P., 2-speed and model de luxe; at 71 and 79 gns. respectively; early deliveries.—Lloyd and Son, 29, Station St., Lewes.

O MEGA-J.A.P. 2%h.p., late 1919, 2-speed, clutch, kick starter, lamps, hore, tools, etc.; 79 gas.—Compton, 116, High St., Wootton Bassett.-

1920 Omega-Jap 2;h.p., 2-speeds, clutch and kiet tools, Dunlo extra harbor mechanical horn, keee gurgs, tools, Dunlo extra harbor soratched; 27 abeliet overs; bwner buying combination—Smith, 11, Guild St., Stratford-on-Avon, hination—Smith, 11, Guild St., Stratford-on-Avon, 17505 P. and M.

P. and M. 1918 Combination, C.B., good condition, lamps; £83.-10, Baronsmead Rd., Barues. [7812]

P. and M., good condition, R.A.F. model; £65,-8a, Blue Ball Yard, St. James' St., Piccadilly. [6913

P. and M.-Brighton, Hove and district; prompt de livery.-Turpin's, 29, Preston Rd, Brighton.

19¹⁹½ 3½h.p. P. and M., sidecar, lamps: 100 gas. lyson, Royal Herbert Hospital, Woolwich.

19¹³ Sysue, Royal Herbert Hospita, 1992a P. and M., 1919 model, in splendid condition 270-The County Garage Co., Gerrards Crees, Bicks.

P. and M., 1914, 2-speed, engine and gears have been recently overhauled; £55.—Apply, 13, Avondale Rd., Chesterfield. (X3430

Royal Ruby.

1920 Royal Ruhy, 3h.p., spring frame, just de-livered; £115, or offers. — Boulton, Saffron Walden. ROYAL RI'BY 21sh.p., lamps, horn, splendid con-dition; £38/10.—Godfrey, 2, Millais Rd., Bush Hill Park, Endeld, [7722

WAUCHOPE'S, 9, Shoe Lane, London, E-811.p Royal Ruby and sidecar, late 1919, equipped, all best accessories; offers.

ROYAL RUBY 8h.p. W.D. model, and sidecar, all klaxon, ouly done 500 miles, perfect condition; £145. —Waldock, Hertford College, Oxford. [X3557

Rudge.

RUDGE Multi and Sidecar, complete; £100.-Eyles and Eyles, St. Aldate's, Oxford. [8234 19²⁰ 7-9h.p. Rudge Combination; £190; beautiful machine,—3, Parket Lane, Burnley. [X3587]

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4[686] 19²⁰ Rudge Multi, accessories, spares, as £86,-Walter Jones, Newport, Salop.

19 20 3 hp. Rudge Multi, 1.O.M., under 600 miles; £115 secures.—21, Woodville Rd., Ealing. (7949

R UBGE 3'sh.p., 1913, clutch; any trial; £48.-1, R Narwood Rd., Herne Hill. Thone: Brixton 1964. 5 -6h.p. Rudge Combination, equipped, milcage 420; £150.-77, Carlton House, High St., Birmingham. 19²⁰ 3¹h.p. I.O.M. Rudge Multi, just delivered £110/5.—29, Montford Place, Kennington, S.E.11

RUDGE 312h.p., 1913, clutch model, accessories, stored 5 years; £42.-27, Palace St., Westmin

RUDGE Multi, 1920, graduate gear; price £110.— Russell, Sherington Bridge, Newport Pagnell, [7207]

RUDGE 31th.p., and C.B. sidecar, kick start, Multi pulley; £45.-16, St. Mary Abbott's Terrace, Ken-sington.

RUDGE Mutti, 1914, fast, sporty, overhauled, pe fect; £62, or near offer.—Bourne, c/o Danby Wickford.

RUDGE Multi, I.O.M., 1916, sloping frame, latest tauk, te-enumelled; £70.-374, those Green Rd., Leytonstone. [7219]

RUDGE Multi 5-6h.p. Combination, 1.O.M. mode perfect condition; apply after 6.-102, Gordo, Peckham. [7300

R UDGE Multi 5-6h.p. 1916 C.B. Combination, like new. all accessories; 95 gas.—Sibley, 106, Market Place, Romford. [7830

RUDGE Multi 314h.p., brand new, just arrived; at makers' price. — Wilkins, Simpson, opposite Olympia, Loodon. [7543

RUDGE 1913 31 h.p., clutch, new cylinder and tyres; £40, or nearest otter.—Goldie, 8, Park Rd., Hampton Hill, Middlesex. [6942]

19 20 Rudge Multi 5-6h.p., just delivered, not ridder So miles; £115; bargain; horn, lamps,—Walker, Carter St., Uttoseter. [7466]
19 20 Rudge Multi, 31-h.p., T.T., all on unstatched; £105.—Madgwick, Biltmore, Bramshott Chase; Hindhead.

RUDGE Multi, 1920, only a month old, faultless, and complete; £110.—Hewin's Garages, Ltd., the real service firm, Taunton, [7510

7-9h.p. Rudge, new, ideal sporting solo; list price with extras £157, best offer.—Vincent Gatty, Brandlingill, Cockermonth. [X3535]

RUDGE Multi 3½h.p., 1919, in perfect condition, lamps, speedometer; £105.—Seen Bell Motor Works, Brent St., Hendon. [7332]

REDGE 31/2h.p., Philipson pulley, very fast; £50.— Newman Motor Co., 223, Hammersmith Rd., W.6. Phone: Hammersmith 80,

RUBGE Multi, I.O.M., April, 1920, lamps, Klaxon, Rd., tene grips, folly insured; £115.—172, Elthorne Rd., Upper Holloway, N.J. (7573)

1920 Rudge Multi, T.T. I.O.M., brand new, complete with accessories; £122.—Heath [Xu3666]

3 1h.p. Rudge, clutch, new piston, cylinder, trres and belt, perfect order, lamp, horn, speedometer; £47/10.—Gas Manager, Athy. [7065]

1920 Rudge 5-6h.p. Multi Combination in stock; makers price.—Shepherd and Co., Enfield Highway, Tel.: Waltham Cross 31.

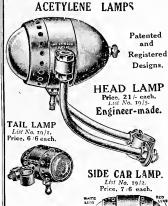
19¹⁴ Rudge, clutch model, just been overhauled and enamelled, excellent condition; £50, or offer.—
537, Earlsfield Rd., Earlsfield. [6910]

5 6h.p. Rndge Multi and Sidecar, new condition; £95; exchange Indian combination.—Morgan, 35, Wootton Bassett Rd., Swindon. [8054]

Wootton Bassett Rd., Swinger.

1920 I.O.M. Rudge Multi, engine No. 17205, perfect condition, Klaxon, Watford speedometer, http: £110.—1, Norfolk Rd., Seven Kings, Essex. [7847]

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SIDE LAMP. List No. 19/4. Price, 18 6 each. Right or left fitting.



MADE TO LAST.

Made from solid brass, turned and threaded at joints. Every part of solid construction. These Lamps may be taken to pieces for cleaning and will remain alight in the s rongest gale. Best quality Lenses are fitted, and can be casily replaced if broken. Thes: Lamps will last as long as the machines they are used on and are absolutely rustless

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Substantial Bag enclosed in enam-elled metal case, complete with clips for attachment to carrier, and English lever lock and key Size78×4×38in

List No. 19/10. Price 11 /- each.

Westwood Special Lines are Stocked by all R-putable Agents.

MOTOR CYCLES FOR SALE.

Rudge.

R UDGE 5-6h.p., mechanical condition good, tyres as new, humps, Klaxon; £55, or offer, Baker, 96, Bridge End Rd., Grantham. [7118]

19 15 5-6h.p. Rudge Muhi Combination, overhauled, good condition, fast and reliable, lamps; £90.

—Turnill and North, Peterborough. [7407]

1919 Rudge Multi, clutch, head lamps, horn, tools, excellent condition; 80 gns.—Reun, 171, Seven Sisters Rd., Flusbury Park, London, N. [7255]

R TRIE, tribondy Fark, tootholis, X. (742)

R TRIE Multi 1914 32, h.p. Combination, hand clubble, in all equipment, excellent condition; 68 gas.—Kiego October; 8. W. (1930)

R UDGE Multi 39, h.p., 1919 (October); 295, or offer; would take lightweight part, cash adjustment.—Graves, 24, Coventry Ed., Warwick. [X3644]

RUDGE, late 1912, T.T., clutch, overhauled, re-bushed, good tyres and helt accessories, very fast, trial; £50.-303, Folkestone Rd., Dover. [7755] 1920 Rudge Multi, LO.M., new May, new Henderson lightweight sidecar, disc wheel, guaranteed perfect; £126.—The Poplars, Durkar, near Wakefield.

19 16 Ruske Multi 5-6h.p., stored 2 years, tyres und belt mearly new, F.R.S. launes, almost unscratched condition; 278 for quick sale.—4, Taunton Rd., Bridswater. [7599]

RUDGE 1913 3(4).p., T.T. and track model, Senspray, Bosch, speedometer, lamps, splendid continuing, £55, or exchange teurer.—Pugh, 1, Oval Rd., N.W.I. [7757

N.W.1.

10 14 Rudge Multi, T.T., clutch, reliable mount, get you anywhere; pure 165.—Apply after 6 p.m., Goddard, Huzel Wood, Kingston Rd., Leatherhead, 77538 Surrey.

R UDGE Multi, 1916, cancel t sidecar, good condi-tion, just overhauled, climbs like a giant, lamps, horn, tools, etc.; £82.—Hewin's Garages, Ltd., the real service firm, Taunton. [7512

service firm, Tainton.

R UDGE Multi, complete with Covery speeddensets, lamps, horn, etc., only done 500 miles and 150 miles of the control of the control

5.6h.p. Rudge Multi, in good condition, lamps, trip, peedometer, mechanical hoter, etc.; £80; would consider lightweight in part exchange.—Hare, 13, Loates Lane, Watlord. RUDGE Multi, late 1919, and sporting Cancelet side rat. 31 da.b., triet, sub-indid condition, unscritched, completely equipped with all spares; £125.—The Rowans, Ashley Rd., Epsono. [7807

PUDGE 31/hp., 1916, multi gear, with Canoelet sporting subscar, excellent condition, accessories; 253.—Newshim Motor Co. 223; Hammersmith Ed., W.6. Phone: Hammersmith 80. [7192]

19 16-17 Rudge Molti, LO.M. model, sporting combination. C.B., new helt, good tyres, in perfect condition all accressicies; any examination; 85 gns.—81. Little Ealing Lane, Ealing. [7971]

1920 (May) 1.0.M. Rudge Multi, clutch, A.K. Rudge Multi, clutch, A.K.

ROCK HOUSE, COMBOIL, Markets, P. B. UDGE Multh, late 1915, and sidecar, 3 lamps, Volta Ruch, all new heavy Dunlops, Cameo wied screen and apron; owner purchased car; 295.—H. C. Evintou, 3, Prioce of Wales Crescent, Kentish Town, N.W.5. [7150]

1919 Rudge Multi, 313h.p., Roadster solo, at 1919
1919 Rudge Multi, 313h.p., Roadster solo, at 1919
1919 list pine, small mileage, new condition, spare
belt, tully incured; any examination; view. week-ed;
ach, £50.—11.C., 18, Whitburn Rd., Lewisham.
[7957]

DECEMBER (1919 Special TT, I.O.M. Rudes Multi, wind screen, knee-grips, fastest in country; first chemis £100 or over secures.—Wilkox, 11, St. George's Mil. Stafford.

Stafford.

F O.C.H. have a Rudge Multi, fully equipped, ready
for the road.—Fair Offer Car House, 5. Heath
St, Hampstead (near Hampstead Tube
Station).
Phone: Hampstead 3752. Hours 9-7, including
Staturdays.

Saturdays.

I. O.M. 3½h.p. Rudge Multi Combination, April, 1920, psecially picked and tuned engine, Cancelet sporting sidecar, hunps, insurance, etc.; £145; owner going abroad; seen by appointment.—Butt. 31. Ruches St. Welverhampton.

airroad; seen by appointment.—1019. Rennoc Sidecar, Wolserhamping Multi 3-b.n. and 1919 Rennoc Sidecar, 1919 metrians, cost. £37, 1320 S. aspray, new E.H. Danlops, 3 lamps, Klaxon, spare belt, valves, tube, toels, etc., priest condition; £90.—N., Lyndhurst, College Rd., Guidlord.

Celluge Rd., Guildord.

1. Cell. hay a 1919 Rudge Multi and Coachbuilt.

1. Cell. hay a 1919 Rudge Multi and Coachbuilt.

Offer or thous, 5 Heath St. Hampstead finer Hampstead.

The Stationi. Phone: Hampstead 3752.

HOUS 9-7, including Saturdays.

DUGGE Multi 31-h.p., 1916, Isle of Man, special engine has been little used, just overhauled, renamelled, plated, condition and appearance indistinguishable from 1920, accessories; £83.—Sharrow, Lickey, Bromsgrove, Worcestershire.

Rudge,

19 16 Rudge Multi 3/4h.p. Combination, recently overhauled and re-enamelled, Lucas lamps, Stewart mechanical horn, Smith speedometer, spare valves, extra pair of X.T. handle-lars; £90; seen any morning.—Green, I. Holling-hourne Gardens, Eallog, W.13. [7931

19 20 Rudge Multi, new, 3½hp, sloping tank, fully equipped, Watford speedometer, Klaxon, rear light and spare belt; &122; good crasso for selling; would take good lightweight and cash in exchange—Billings, Greeoffelds, Whiston, Froghall, Staffs, [7328]

RUPGE Muitt 3%hr. Combination, first-class order, mechanical hose-funded, T.T. burs, lumps, senerators, wechnical hose-funded, T.T. burs, lumps, senerators, which are the seneration of the sen

Phone: Kingsbury 162.

ATE 1919 Rudge Multi, 3/5h.p., engine No. 16433, special power inlet device making fastest and best hill-climbing Rudge, special quickly detachable legshidis, deep valanced rear madguard, tyres unent, Mecabilitis, deep valanced rear madguard, tyres unent, Mecabilitis, deep valanced rear madguard, tyres unent, Mecabilitis, deep valanced rear madguard, tyres unent, deep compared to the control only by entineer compared to the control of the contr

R UJGE Muit, 1914, all accessories, spares, over-lauded by makers April, 1920, possess will 228 over engineers and re-namelling, obscilled) new gunn-orted one parts and re-namelling, obscilled new gunn-orted one parts and re-namelling, obscilled new gunn-orted one parts and re-namelling, obscilled new gunn-orted new parts and respectively. The parts of the excellent condition, new Eastfue and cost of 100 insured to Sept., 1920.—Bloadwell House, 15100, Lavington, Wilts.

Saltley.

I MMEDIATE delivery of Salitley-Villiers 2-stroko, single-speed £55, 2-speed £65.—London concessionnalies, Lancaster Motor Co., West Norwood. A few agencies available.

Sarolea.

SAROLEA T.T. 5h.p. Twin; 30 gns.—59, Palfrey Place, Dorset Rd., Clapham Rd., S.W.8. [7838

Scale.

NEW Scale 1920 31/2hp. Precision engice, exchange for higher power, cash adjustment.—Thompson, 2, Ebenezer Villa, Gordon Rd., Chadwell Heath. [7522

1920 New Scale, 31/h.p. Precision engioe, 2-stroke, liveries.—The Rochester Auto and Supply Co., Rochester.

Scott.

SCOTT Racing Model.—Padd. 2423.—89, Abbey Rd., 8248 WAUCHOPES', 9, Shoe Lane, London, E.C.4.-5%h.p. Scott, 1920 model: £140.

SCOTT Combination, 1920, just delivered, new; list price.—Wilkinson's, Engineers, Doncaster. [X3540] SCOTT 5%h.p., 2-speed, late 1910, good condition and running order: £35.—Portt, Midhurst, Sussex. [6932]

SCOTT 1920 Solo, delivery end this month; make sure of one.—Stebbings, Attleborough, Norfolk

SCOTT, newly enamelled, very powerful requires slight adjustment; £38.—Nightingale, Galgate, Lancoster.

SCOTT Combination, perfect condition, smart outfit, lamps, horn; £95.—Turnill and North, Peter-

SCOTT, 1920, brand new, unregistered, solo or combination: list prices.—W. Pepper, Market Hill, Royston, Herts. SCOTT (May, 1920), ridden few miles, perfect condi-tion, lamps, horn; £135.—Richard Moore, Sutton Bridge, Wisbech. [6976

19¹⁶ Scott and Bramble Sidecar, electric lamps, screen, etc.; £95.—Anthony, 64, Dyne Rd., Brondesbury, N.W.6.

COTT Solo, overhauled, re-enamelled, good tyres, Bosch waterproof, Amac; £70.—209, Broadway, West Hendon, N.W. Phone: Kingsbnry 162. [8102

S contr., its sports model, excellent condition, just thoroughly overhauled, fitted discs, T.T., Klavon, Miller lamps, etc., £70.—Williams, Hillinorton, Ringby, and the condition, completely fitted with 3 lamps, tool kit, etc., etc.; £160.—Hambro Lodge, Datchet, 17820

1920 Scott, new one month, engine No. 4308, Cower speedometer, Lucas born, mileage 500; price 140, unscratched.—Welford, 28, St. James St. Brighton.

1915 Super Scott Combination, stored 3 years, economical running, Srott-Myers sidecar, electric light, Klaxon; £120.—Harris, 51, Upton Lane, Forest Gate, London, E.7.

SCOTT 1919 (November) Combination, Militord side-cat, Cower trip speedometer, Binks warmer, Lucas lamps and houn, mileage about 1,000, better than new, altogether in splendid condition; £170.—Wray, Engi-meer, Southpoot.

SCOTT 1914 C.B. Combination, 1½-scater sidecar case since period, new 25 m. Clineher, sound 25 m. Dunlop, 3 lamps, wind seven, insured; any examination; 4100.

-18, Rathcode AY, Horney,

We cannot all ride in the T.T.

but we can all enjoy the open road either with a sporting bus or a combination suitable for the family man.

For the best write or 'phone

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L.M. Light Car. MATCHLESS Model H. Combination.

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REMEMBER RIVINGTON.

MOTOR CYCLES FOR SALE.

Singer.

19 15 312h.p. Singer, new tyres, lamps, and horn \$445.-A Walter, 83, Chelmstord Rd., Walthamstow, London.

SINGER 216h.p., free engine, just overhauled and store coamelled; offers over £34.—Grocock, 48, High St., Boston, Lines. [7329]

SINGER, Millford combination, 1915, 41/4h.p., 2speed, has not done 300 miles, as new; £120.
Evans, 15, Downs Rd., Clapton, E.5. [7604

Evans, 15, Dowos Rd., Ciaptou, Ed., SINGER 1914 Combination 3½h.p., 3 speeds. first-dlas mechanical order; 268, or earest offer; must be sold.—Seen and tried at Station Garage, Ranhury, (X3410

SINGER Lightweight, just overhauled, cylinder ground, new piston, rebushed throughout, eew belt, good tyres, carburetter wants fitting; best offer over £200 secures.—45, Ivor Rd., Hamworthy, Dorset. [7939]

SINGER 44h.p., believed 1914, chitch, kick start, Grado gear, nearly new heavy covers and belt, lighting set, horn, and speedometer, looks good, take sidecar; £48:—24a, Edgington Rd., Streatham. [8259-

Sparkbrook.

SPARKBROOK (late 1918) 254h.p., 2-speed, fully equipped; £58.—Young, Market Place, Andrer. [8085]

SPARKBROOK 2-speed Lightweight, latest Villiers engine, in stock, new; £75.—Jackson Bros., Horsham, Sussex, [7813]

SPARKBROOK 2½h.p., 2-speed, 1918, new piston fitted, spare belt, lamps, horn; £55.—Bubwith, Wookey Hole, Somerset.

19 20 Sparkbrook 2½h.p., 300 miles, Miller's lamps, Cowey horn, insurance; £70, or nearest; ride away; owner bonght combination.—Applewhite, Stone House, Washingboro'. [7453 Olin.p. Sparkbrock 2-stroke, single and 2-speed 2 models in stock at makers' list price for cash, or on extended payments 4% extra.—Harroda' Motor Showrooms, 116-118, Brompton Rd. (Opposite Main Building), London, S.W.1.

23h.p. Sun-Villiers, fine little mount; £45.-30, Talbot [X3589]

19 Sun 23 dn.p., 2-speed, lamps, horn, unscratched; £60.-73, Risbygate, Bury St. Edmunds. [7030 SUN-V.T.S. 2-stroke, 2-speed, 1916, first-class condi-tion: £50.—Storey, Cuttle Market, Parkely Horse, UNP.PECISION 1914 46.p. Cosechhulit Combines Sun, Sturmey 3-speed; £70.—2, Appian Rd., Old-Ford, London.

19 20 Sun-Vitesse 2%h.p., 2-speed; £64/10; brand new; immediate delivery.—Clarke and Co., Queen St., Louth. [8044

SUN-VITESSE, 1920, just delivered from works, 2-speed, K. start, hand clutch; £70.—Gordon and Cox, official Suo agents, Rayne Rd., Braintree, Essex, 1780d.

Phone: 92.

FOR Sale, Sun motor cycle, 2½h.p., 2-speed, free en-frince, late 1917 model, excellent condition, done little running, complete with lump and hour; £50 on nearest, offer.—H. Wilson, Pitblae West, Freserburgh, Sunbeam.

SUNBEAM, coachbuilt sidecar, wind screen, condition as new.-Wilks, Ulceby, Alford, Lines. [6965]

19 20 3 2h.p. Sporting Sunbeam, gold medel, Londonton. Land's End.-Capt. Brittain, Orient Lodge, Buxton. [X3662a ton. 19 20 Sports Model Sunbeam, delivered last week; 20 20 Sports Model Sunbeam, delivered last week; 2165.—Goodman, Ellesmere House, Northamp-[7729]

19 Sunheam 4h.p. Combination, seen any time; £150. — Start, 6, Fearon St., Longhboro, Leicester. [7851

1918 3 %h.p. Sunbeam, in lovely condition, with hamps, etc., mechanically perfect; £130.—Coates, Bell Bush, Leeds. [7047]

1917 Sunbeam Combination, spare wheel, quipped; £190.—Godfrey, Accessey, Broad Peterborough.

1 9 20 31/2h.p. Sunbeam Combination, ready for immediate delivery; best offer accepted.—Box 5,106, 18226 The Motor Cycle.

L IST Price, immediate possession; 1920 8h.p. Snobsam Combination, mileage negligible, perfect.—Brittain, Orient Lodge, Buxton. [X3662]

SUNBEAM, 1918 (Dec.), speedometer, Lncas lamps, very fast; any trial; 112 gns.—Spearman, Rectory, Gt. Shefford, Lambourne. [7418

10¹⁷ Sumboam Combination, lamps, horn, speedometer, re-manuelled, thorough good order; £115.—16; Hespert Mews, Earl's Court. [8214

SUNBEAM Combination, 315h.p., brand new, delivered this week: first cheque £205 secures.—Norman Whitehouse, Bridgtown, Cannock. [X3595]

19 20 3½h.p. Sunbeam, leaf spriog front forks.
milcage under 300, nascratched; list price.—
Rnmsey, 160, High St., Ryde, I.W. [3027]

SUNBEAM, black and gold combinations (two), 80 and 110 gns.—Garage, 5, Eglon Mews, Berkley Rd., Primrose Hill (acar Chalk Farm Tube). [7653

Sunbenm.

UNBEAM 8h.p. Combination (late 1918), fully equipped, spare wheel, discs, etc., perfect order; 80.—Rice, 12, Mill Lane, Cambridge. [722]

1 h.p. Sunbeam and Sidecar, complete with lamps, 2 screen, speedometer, etc., all tyres new; £120.—
thony, 64, Dyne Rd., Brondesbury, N.W.6. [7761] UNBEAM, 25th.p., 2-speed, clutch, kick starter, enclosed chain drive, lamps, and horn, insured 1 March, 1921; £75.—Box 5,101, c/o The Motor

[8204]
Line, Sunbeam Combination, 1917, little used,
Lucas equipment, speedometer, leg shields, pertecondition; £140.—109, Earlsfield Rd., Wandsrth.

9 only run few hundigd miles; £170.—Newnham otor Co., 223. Hammersmith Rd., W.6. Phone: nanuersmith 80.

90 Sunheam 314h.p. Combination, little used, complete accessories; £215; appointment—hone: Central 8273, Steel, 44, West Side, Cluphamminon, S.W.4. [7747

D 19 4h.p. Sunheam Combination, mileage 4,000, Lucus head lump, electric sidecur lump, mechani-l horn, tool kit mul spates; £165.—Dumas, Ferns, wernbank, Shrewsbury. [X3270]

1 h.p. Sunbeam, September, 1918, W.D., all chain, 2 splendid running order, Lucas lamps, Klaxon, nare sprokets, spare new retread tyre, insurance; 120.—Teal, 42, Murray Rd., Rugby. [7867

9 Sunbeam 31-h.p. Combination, electric head, side, and rear lamps, screen, tools, and spare and tube, Klaxon horn, excellent condition; £175 cures.—Capt. Egerton, 16, Linton Rd., Oxford. [7178]

eures.—Capt. Egerton, 10, Euron Son.
ATE 1919 3½h, p. Subbeam Combination, large
Lucas electric lamps, accumulators, horn, mitror,
c, 1,200 miles, just overfauled by makers: £185,
lets.—Letters only, 13, Miranda Rd., Highgate,
N,19,
(7946

18 (October) 315h p. Sunbeum, just overhauded, new prinder, piston, valves, solo and side-ar sprockets, we light C.B. sidecari, lamps, etc.; solo £115, or with decar £140; Coventry district.—Box 590, c/o The for Cycle.

UNBEAM 8h.p., almost new, driven 524 miles, tandem 2-scater sidecar, 2 Cameo wind screens, dling hood, speedometer, lamps, horn, tods, pump; 240, first cash secures.—Vivian Hardia and Laue, dd. 24, Woodstock St., W.1.

BUNBEAM.—We are Wolverhampton agents; spare parts in stock; repairs, overhauls, re-enamelling nel plating under the supervision of Mr. T. C. de la lay late Sunbaa nland).—The Molineux Garage Co. td. Wolverhampton. Tel.: 1162.

SUNBEAM Combination, 314h.p., fitted with Lucas lamps, Watford trip speedometer, good tyres, in scellant condition throughout, trial; price \$130.—pply the Chauffeur, 15, Cresswell Place, South Kengton, between 6 and 7 p.m., or appointment. (7627)

agion, between 6 and 7 p.m., ut 30 production, leaf springs, detachable wheels, Mills-Fullerd sidecar, black bld fluish, Lucas best head, tail lamps, Sunbeum legicaleds, A.K. knee grips, Klaxon, perfect; best offer cures.—Meck, 3, Bell Lane, Gloster. Tel.: 1946.

Q20 8hp. Sunbeam Combination, mileage under Q200, guaranteed in perfect condition all over, spensively equipped with electric lighting. Easting reen, Cowey trip speedometer, Cowey born, sidecar atch, tools, pump, etc., ready for touring; best offer et 220.—A. H. Evans, 211, High Bridge, Lift [798] (Q19 Sunbeam, 8hp., with Sunbeam Sidecar, bood, Q1 side outtains, screen, spare wheel, luggage rid, Cowey speedometer, horn, S. Lucas lamps (separtic, Cowey speedometer, horn, S. Lucas lamps (separtic, Cower, Sapre valves, chain links, tools, unlesse, condition like sew; 2250.—Walker, Cooliil, Shrewsbury. [7865]

T.D.C.

3h.p. De Luxe T.D.C. 2-stroke, excellent condition; 4 £40.—Widdows Garage, Charlbury. [7763

DE Luxe T.D.C., 25/h.p., take 2 anywhere; trial; or, 25/h.p., take 2 anywhere; trial; ow, Duwley, Salop. (X3658)
DE LUXE T.D.C. 1920 25/h.p., delivered Feb.; DXE T.D.C. 1920 15/h.p., delivered Feb.; 0838, c/o The Motor Gycle. (8187)

Torpedo

PORPEDO Precision 2%h.p., good condition, little wear, just overhauled; £36; apply Sunday.—22, filloughby Park Rd., Tottenbam, N. [7741]

1 hp. Torpedo-Précision, solo 3-speeds, clutch, 14 Bosch, good condition, Stewart speedometer, una-sad, lamps: £70, or offers.—Apply Seuior, Brankme, Safirons Rd., Eastbouroe. [747]

Triumph.

914 4b.p. Triumph, fully guaranteed; £68.—Ross. (7393 19 14 Triumph, 3-speed hub gear, accessories; £64. —114, Brixton Hill. [7981

RIUMPH, clutch model, Philipson pulley; 45 gns. -15. Sea Rd., Bexhill. [7779



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Trlump'a.

TRICMPH and Sidecar, complete; £120. Eyles and Eyles, St. Aldate's, Oxford. [1235] 19 4h.p. Countershaft Triumph; £80.-Verney, 13065

TRIPMPH 51-h.p., clutch, good running order. R. Nach, Entoid Pewsey, Wilt. [7234

3 th.p. Triumph, F.E., clutch, little used; £37/10,—176, South Ealing Rd., W.5.

TRIUMPH 3 th.p., 1912, clutch, perfect ecudation; 246,-43, Modey Rd., Lewishum. [7080]

TRIUMPH, 1918 countershaft, new Hendelson side-car; £130.—Wray, Engineer, Scuthport. [2230 TRIUMPH, £65, 3-speed, good condition; triat on road,-190, Kentish Town Rd., N.W.5. [6951

£52/10, Triumph T.T. model, Philipson pulley, fast, reliable.—103a, High St., Wandsworth. [8137

£55, Triumph, baby 2-stroke, two speeds, as new, hargain.—103a, High St., Wandsworth. [8138]
COUNTERSHAFT Triumph, beheved 1917, spleadid running order; £75,—16, York St., Dver. (7921)

19¹³ Triumph, overhauled makers, new piston, bearings, clutch; £42.-29, Priory Av., Horney. [7475 19 ings, cutten, 3-2. [7475]
19 20 Triumph 4h.p., 3-spéed countershaft, clutch, just delivered.—R.A.C., Barncote, Regate. [8280]

TRIUMPH 4h.p., 1914. 3-speed Sturmey, person Condition; 265.—16, Belmont Rd., Maidecheed, 19 19 Trimph, Montgomery sidecar, accessives, absolutely as new; £140.—114, Brixton Hill, 1918 Trimph, countershaft, and Watsonian Start Francherweight sidecar; £105.—Buxled 67386

TRIUMPH, 1916, and C.B. sidecar, £30 spent over-haul, real nice condition; £120.—198, Sheen Lane, 3 W 14. [X3424

RENOVATED W.D. Triumph, with new Montgomery C.B. sidecar; £120, or nearest.—Godwin Bros., Woking. [7792]

Woking. (7792)
TRIUMPH 1915 4h.p., 3-speed, chutch, all or sound; £68,-5, Thornfield Rd., Shepherdis Bush, W.
4h.p., Triumph, 3-speed, countershaft, clutch, kick, Kantungkob, Chutch, kick, Kentungkob.

Kennington. (4755

4 h.p. Countershaft Triumph, just delivered from works, perfect; what offers?—12, Bridge St. Cambridge. St. WAUGHOFES, 9, Shoe Lane, London, E.C.4.—Triumph Jucier, 1914, £60; also 4h.p. Triumph, 1914, £78.

COUNTERSHAFT Triumph, late model, No. 45373, splendid order; £90.-374, Grove Green Rd., Leytoustoke.

TRIUMPH 2-stroke, 1920, guaranteed brand new and unridden; £78.—9, Plato St., Harpurhey, Manchester.

TRIUMPH Combination 4h.p., 3-speed clutch, perfect condition, smart lot; £75.-101, Tubbs Rd., Willetden Junction.

19 20 Baby Triumph, only run 150 miles, complete tools and Klaxon; £75.-5, Chatterton Rd., Bromley, Kent. [7820 TRIUMPH 3½h.p., 1911, T.T., perfect order: order: True trial; £40, or near offer.—19, Ashbourne Grove, East Dulwich.

17837

19.17 Countershaft Triumph, Millford sidecar (nearly wer) perfect order; offers.—53, Thomas St., Wellingbrougher. (X399)

1. TRIUMPH 33th.p., T.T., accessories, sporty; 243.—4, Cornwall Mews, Gloucester Rd., South Kensington, Lordon.

1916 Triumph, 42141, countershaft, 1919 Milford underslung, lamps; £98; trial.—Lambert, 1, Pitlake, Croydon. [7693 TRIUMPH, clutch model, complete, lamps, hos pump, tools, etc., very fast; £39/10.—Dowe feet, Surrey.

Byfleci, Surrey.

T sidecar; £125.—Halifax Motor Exchange, Chion St. South, Halifax.

TRIUMPH 4bp. Combination, new C.B. sidecar; £125.—Substitute, used, accessories; evenings.—300. (7334).

Earlisheld Rd., S.W.

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TRIUMPINEE State Sta

19 14 Racing Triumph, 2 lamps, speedoweter, knee-grips, horn, plating good, fast and flexible; £59.— Wakelin, Suppringdale. [8082]

TRIUMPH 1919 Model 4h.p. Countershaft, perfect running order; £85, owest.—County Garage Co., Gerrards Cross, Bucks. TRIUMPH Combination for sale, £55; alsa 4h.p. National gas engine, £35.—Slaud, 3, Honiton St., Peckham, London, S.E.

Triumph. TRIUMPH, 1917-18, completely everhauled, makers' colours, mechanically perfect; £87/10.-3, Courtlands Av., Lee, S.E.12. [7863

64 GNS.-4h.p. Triumph, 3-speed hub, clutch, 1914, stored 4% years, powerful, excellent condition.—31, Halford Rd., Fulham. [7403

TRIUMPH 1918 Countershaft Combination, fully equipped, beautiful outfit, perfect; £120.—Bristow's Farm, Cholsey, Berks. [7905] TRIUMPH 1911 31/2 h.p., N.S.U. 2-speed, good condition, wicker sidecar, ride away; £50.—Humphreys, Milton, Cambs. [7574

19 19 (late) Triumph and Montgomery S.C., lamps, horn, spare valve, everything as new; £155.-16, Hesper Mews, Earl's Court. (7942

TRIUMPH Countershaft Model, tuned, condition excellent, cases polished, spares, insurance; 85 gns.—9, Marjorie Grove, Clapham. [8014

£29.—1910 Triumph, good Dunlops, lamps, recently rebushed, smart machine, fast, climb anything.

-King, Egrove Farm, Oxford. [X3621]

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TRIUMPH and Henderson B1 sidecar, 4h.p., 1920, P. and H. lamps, horn, all tools, etc.; £155.-9, Plato St., Harpurhey, Manchester. [7695

TRIUMPH, 1915, 4h.p., 2-speed, N.S.U. clutch, pedal start, lamps, horn, speedometer, handsome machine; £58.-20, Canterbury Rd., Croydon. [5817]

TRIUMPH, 1918 (late), countershaft, low mileage, new condition: 85 gns.—Pike, 102a, Church St., Chelsea. 'Phone: Kensington 137. [3018 A CARD will draw full particulars of a 4h.p.
Triumph combination for sale; £140.—Power,
Park House, East Molesey, Surrey. [8339]

TRIUMPH 3½h.p., clutch, Philipson pulley, B. and B., Bosch, good tyres, thoroughly reliable; £45.—Webb, 32, Penrith Rd., Basingstoke. [7482]

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172, Greenvale Rd., Well Hall, S.E.9. [8077]

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Owen, 59, Scholefield Rd., Helleway. [X3653]

TRIUMPH 4b.p., countershaft, with underslun chassis and new tandem sidecar body, Tan-Sad £110.—Hole, 129, Park Lane, Carshalton. [826]

19¹⁸ (late) Triumph. 3-speed, countershaft, tyre and belt, perfect mechanical condities 0.-1, Melrose Rd., Merton Park, S.W. [8 T.T. Triumph, 1914, 3½h.p., Philipson pulley, special competition machine, perfect condition; £60.— Loweth, 6, Mount Pleasant Rd., Ealing. [7976

TRIUMPH 1918, countershaft, new engine, coach-hult sidecar, all on, and perfect, £125.—Weather-all, 96, Studdey Rd, West Hartlepool, [X3663] TRIUMPH 37/h, p., single speed, recently overhanded, fast, in good condition; ride away; £38.—Maclean, 4, Sutherland Rd, Lower Edmouton, N.9. [7155]

19 14 T.T. Triumph, aluminium discs, fast, perfect order, go anywhere; £58, or near offer, must sell.—Waters, Wheatsheaf, Woking. [7791

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19¹⁹ Triumph Combination, fully equipped, with lamps, horn, tools, etc., in beautiful condition throughout; £129,—L. Bull, 44, Hills Rd., Cambridge,

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TRIUMPH Countershaft Combination, equipped, splendid lot, £118 lowest; also Triumph-countershaft, little used, £90; privately owned.—25, Graham St., S.W.1. [829]

1 20 4h.p. Countershaft Triumph, new Henderson sidecar. Lucas lamps and horn, tools, all in perfect order; what offers over £155?-12, Bridge St., Cambridge.

TRIUMPH 1914 Combination, 3-speed, overhauled by makers, accessories; bargain, £95; deposit system anywhere; offers ignored.—Allen, Barnwell Peterborough. (7205

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10 14 Triumph, 3-speed, new cance sidecar and wind screen, just overhauled, £90; also 33/h.p. Triumph, fixed, perfect condition, £40.—Rigby, Newhall Rd., Jeicho, Bury.

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MORGAN de Luxe, water-cooled, lamps, horn, hood, and screen, disc wheels, as new, fitted with Schebler carburetter and foot accelerator; hargain, £195.—51a, Goldhawk Rd., Shepherd's Bush. [7235]

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M. bood, screen, electric lights, discs, new tyres, painted ed., £50 just spent on replacements; £210; countershaft Trinmph taken part.—105, Albion St., New Brighton.

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Tassis the quick return stant by giving me your enquiries. All my advestised date guaranteed accurate as always. Straight biz, every time. And my prices. Oh, sir, my prices live does the porman manage to buy strawbrites for the kiddles or Fridaysi-Cox (below).

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Gargoire chassis, Thomson-Bennett waterlight
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tourer, mag., smart, £95; smart little 12h.p. Alldays
van, £115; 10h.p. Chapuis Dornier enginet twiped
mag., £125; 10h.p. Chapuis Dornier enginet twiped
dickey, smart, £140; 18h.p. Dennis van, worm drive,
£150; 12h.p. Unie taxicub, £165; 162 Oh.p. Rever ej
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and you exceptionally nice covered Sunbagos, prices and photos on application—Cox (below).

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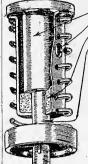
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School of Countries abroad, 30s. 4d. per annum.

The Forden Interspeed above apply also to men in the Services abroad.

\[\text{DMITEGE STATES—The International News Agency, New York. CAMADA—Toronty News Co., Ltd., Toronto; Montreal News Co., Ltd., Montreal; Winnipeg Co., Ltd., Montreal; Winni

Lessons of the T.T. Races.

MAGNIFICENT success! Such was the general opinion of those who witnessed this year's T.T. races. Reflecting upon last week's memorable event, which saw so many records broken, suggestions which stand out clearly are that:

(1.) Engine capacity must be reduced for future races. Machines of 500 c.c. are far too fast for the course, and we recommend limits of 350 c.c. for Senior machines and 250 c.c. for Junior mounts next year.

(2.) Competitors should carry numbers showing their actual starting positions. People round the course were quite unable to follow the progress of the race.

(3.) Consideration should be given to the question of riders finishing under power. In saying this, we realise the complications involved, and feel that the simplest rule, after all, is first man and machine over the finishing line to win—excluding, of course, outside assistance.

Of the technical considerations, single-cylinder engines have scored another remarkable and sweeping success. A fact clearly brought home in the Senior Race on Thursday was the utter futility of arranging both brakes on the back wheel. With the rear wheel locked and the front wheel free, nearly every machine under criticism slewed round; one rider was pitched without doing damage, and many others had narrow escapes. With both wheels braked it was clear that the maximum braking effect was possible, the machine thereby maintaining a straight line course.

Chain drive scored decisively in both Juntor and Senior Races, mainly, of course, because riders preferred to rely upon this system of transmission incorporating a countershaft gear box. The reliability of the Senior entry, considering the high speeds accomplished—there were fourteen survivors of twenty-seven starters—and the remarkable maintenance of power by the leading machines, needs special emphasis.

A superficial glance at the results would point to the fact that machines fitted with superefficient engines were unsuccessful, while those more closely following standard design made extremely fine performances. As a result it is easy to conclude that high efficiency engines are not desirable. This, however, would not be true, for high-compression overhead-valve engines are in their infancy as far as motor cycles are concerned. It is a fact well recognised in the trade that doubtful materials are too often prevalent just now; a bar of steel, for instance, which may be tested most carefully may, and does, prove to vary throughout its length for quality. All these troubles will be righted as time goes on, and enthusiasm and keenness enter the British worker's soul. Besides this, it would be unfair to blame the engine when in some cases the trouble was due to transmission details, which were unable to withstand the shocks due to the terrific acceleration of these ultra-efficient power units. All keen motor cyclists welcome the success of the standard machines, but no progress can be made without experiment, and the Tourist Trophy races provide the finest opportunity in the world for trying out improvements with a view to perfecting the future standard motor cycle.

Our congratulations are extended to those manufacturers who shone in the most sporting event of the year. Those enterprising firms who supported the Auto-Cycle Union in its decision to resuscitate the Tourist Trophy races now have the knowledge that thousands upon thousands of keen riders and prospective owners gave their moral support and followed the event with the greatest possible interest. Good is bound to result all round. The pastime has received a tremendous fillip, and manufacturers who looked ahead and participated have gained experience of incalculable value. Drawing office design is a necessary part, but the only true guide is the actual road test; and the undulating T.T. course provides that test as no other event can.



Speed Stretches.

WW HICH is the finest speedway in this country? Competitors in the Land's End runs will probably recall three miles of moorland road between Bodmin and Truro, which are of fair surface, as near-as no matter straight, devoid of side roads, and generally deserted. Here a man could do 100 m.p.h. or more with no danger to anybody but himself. On the Shrewsbury-Chester road there are some magnificent speed stretches, but only a man who knows it well can really open out, as there are innumerable cross roads which are not visible at sufficiently long range to permit much full throttle to a stranger. I always regard these two pieces of road as about the most tempting which I know.

A Smooth Passage and Low Tide?

CALM sea and high tide at Douglas are what all good motor cyclists sigh for when they go over to the T.T. When I crossed to the Island, the weather was good and the sea calm; but, alas, as the steamer drew alongside the quay a vision of dank towering masonry blotted out the view, and we realised we must carry our 998 c.c. cycles up an alarming series of steps rendered slippery by green slime. Four of the white-jacketed porters were consequently requisitioned. One of them left his hand inside the from wheel when his brethren began to push the machine across the deck. What he said sounded strangely melodic. I should judge that Manx is a good language to son to parrots, but unsatisfying talk for a really annoyeu in. So.

The Morgan Numan retries

UITE recently, as a passenger in a friend's car, I drove for sixty miles close behind a Morgan Runabout over very wet roads. Two points especially struck me about the behaviour of this little cycle car. The first was its steadiness in holding its track. The roads were not over nice, and my friend's four-wheeler occasionally called for repressive measures in its cornerwork; but the single driving wheel of the Morgan stuck to its course like glue. The second was its hill-climbing. Our car had an engine very little bigger than the Morgan, but its weight (like its cost) was at least 300% greater. This told on the hills. My driver was perpetually fiddling with his gear lever, but the Morgan neither slowed down nor changed gear on any of the grades which we tackled in its company. It is for this reason that the Morgan, like the G.N., makes a special appeal to motor cyclists, who resent being slowed to a crawl by very modest little hills. I cannot but think that the designers of small cars are making a grievous blunder in overloading their engines; many of their productions seem extraordinarily sluggish in hilly country when one is fresh from two wheels. On the average they are hardly superior on hills to a 31/2 h.p. sidecar outfit, which we all know cannot irritate a policeman when it is climbing a bit of 1 in 10.

Buying at a Distance.

THE other day I was consulted by a novice who wanted to buy his first machine. His capital was limited; he lived a couple of hundred miles from London and Coventry; he knew no expert in any of the great selling centres; and he was having a rotten time. Week by week he had pored over small prepaid advertisements, and had written to various advertisers, only to find that their wares were sold to people who had called round with the cash. Occasionally he saw a nice sounding 'bus advertised within a few miles of some burgh where he had a second cousin once removed. He got the cousin to call; the cousin reported that the advertiser seemed straight and the machine looked all right, but refused to take the responsibility of buying. I counselled. my consultant either to employ a big agent with a reputation for honesty, or to splash a few pounds on a visit to one of the more populous districts where he could inspect half a dozen machines during a weekend. I mention the incident to impress the big agents with the value of a long-standing reputation for absolute honesty in dealing with clients at a distance. It took this man some two months to secure a machine because he lived in a district where none of the big advertising agencies had yet established their name as a household word. On the other hand, small unscrupulous agencies had created such a local prejudice that the buyer refused to trust an agency; and if he had not met an honest vendor when he travelled, he might have come home with rather a dud machine. Big agents with an honourable name are one of the best assets the industry can possess; and I am glad to say such names are being developed.

To Take the Girl.

7 SPENT an interesting hour the other week in the showrooms of an agency which works a small market town of some 3,000 inhabitants, though the agent's "district" covers a large agricultural area. Money is so plentiful that the agents in such localities are buying up machines from other retailers at full list price, and can place lots of machines on arrival at figures well above the catalogue sum. Increased wages, aided by Army savings and gratuities, are enabling men to buy motor cycles who in 1914 never dreamt of such an extravagance. But all my enquiries and observations go to prove that the new class of buyer has a girl at the back of his mind. He will study a baby two-stroke regretfully, if there is nothing else in the window; but as a rule he will not buy it. On the other hand, if the exhibit is a variably geared 31/2 h.p., he cannot resist it. He may not have all the necessary capital ready, but he will arrange a partial credit, and either put his girl on the carrier or purchase a sidecar. This type of buyer can seldon in rise as high as the cost of a sidecar outfit de luxe, So we are likely to see an unusually brisk demand for 500 c.c. outfits in 1920, and I further fancy we may

Occasional Comments .-

get a big crop of pillion riding smashes, as many of the new men are absolute novices, and not a few of them reside in districts where the roads are peculiarly unsafe, *i.e.*, industrial centres or agricultural areas, the best roads being usually in residential regions.

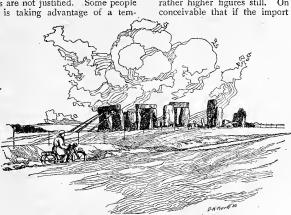
If the Sidecar is Superseded?

T is still quite on the cards that the sidecar may ultimately vanish. This assertion will strike many readers as akin to blasphemy, and I will explain that I am not speaking of to-morrow or the day after. Let me illustrate. At the present moment I know of a certain cycle car which can do 60 m.p.h. without hustling itself, and holds the road quite prettily at this gait. It will cost a little more than the modern sidecar de luxe, but not a lot. When the horse finally becomes extinct and our roads are reconstructed, we shall certainly get special motor roads, on some of which the speed limit will not be less than 40 m.p.h. Does anybody pretend that riders will select lopsided three-wheelers for such high speed work, when they can buy a road-holding four-wheeler at the same price? Consequently I regard the ultimate demise of the de luxe sidecar as certain, if distant. We shall come to regard the motor bicycle as a solo machine, pure and simple. If in the future it survives in its present form, we shall instantly recognise that it is absurdly heavy, and that its range of gear ratios is excessive. Light machines with a high bottom gear will be evolved. Of course, it may be that other tendencies will bring about these effects long before the sidecar is superseded; the tide is already setting in the indicated direction. As a rider to these remarks, let anybody who is planning a cheap-motor cycle recognise that two speeds (the lower giving a ratio of, say, 8 to 1) are ample for all essential purposes.

Prices and Profits.

S I go about the country, I find it is commonly believed amongst riders that the present prices of motor cycles are not justified. Some people think that the trade is taking advantage of a tem-

porary demand to profiteer. Others suppose that buyers are being debited with the entire cost of rebuilding, reorganising, and refitting works which . were either out of date or demanded considerable alteration after five years of war service. Two consequences follow from these suppositions. Some people abstain from purchase in the belief that prices will fall heavily when supply overtakes demand; they either do not ride at all, or make the best of



STONEHENGE. A relic from a period of England's history that is wrapped in mystery. The assumption is that this arrangement of huge stones was used in connection with Druidical worship, but no confirmation exists. Stonehenge is situated on Salisbury Plain, on the route of the London-Exeter Run.

an ancient machine already in their possession. Others dabble in a little illegitimate dealing, justifying themselves twice over-first on the ground that they have waited a year or more for delivery and have been humbugged by ludicrous promises, secondly because they will be hard hit by depreciation when prices tumble and feel that on both counts they deserve a little compensation. This is surely a complete misreading of the situation. £150 is a not uncommon figure for a solo mount: and £150 in 1920 is equivalent to £60 in 1914, judging by the average rise in other commodities. The Triumph and Douglas factories, which have never reduced or ceased the manufacture of motor cycles, have been compelled to raise their prices just as the new firms or the firms which switched into other industries during the war. There are concerns in the trade which, during the reconstruction period, have spent all their capital, all their war profits, and a good deal of their deposit money on those anxious eighteen months of outgoings which were not balanced by any sales at all. Prices on the whole are distinctly justified.

Will Prices Fall?

MILARLY it is very doubtful whether the marked drop in prices which many riders confidently expect will ever materialise. If existing figures were due to profiteering, or to charging the whole cost of reconstruction on to one year's output, a drop would be possible. I have denied both these theories. A fall in prices can, therefore, only result from improved technique in manufacture, or more strenuous piecework on the part of labour, or a parallel fall in the cost of wages, metals, coal, and other commodities which react on our industry so intimately. Economic prophecies are always rather risky, but my own impression is that we shall see no drop in prices unless there is a brief and temporary fall when over-production commences, and manufacturers battle for the market until the weaker firms go to the wall, and prices harden once more to present figures, or even rather higher figures still. On the other hand, it is conceivable that if the import duty is ultimately re-

moved in favour of free trade, and other nations manage their affairs better so that they can undersell us, we might be driven by sheer stress of lost trade, unemployment, and the like, to organise better, work harder, and accept a lower standard of living in order to produce more cheaply. On the whole, I should expect prices to rise gradually but moderately, interrupted by momentary confusion when over-production reshuffles the trade and selects the final survivors.



THE FIRST "LAND'S END-JOHN-O'-GROAT'S." Mr. Hubert Egerton arriving at the northern extremity of Great Britain on his front-drive Werner, August 7th, 1901. The last motor cycle record was made in 1911, by the late Ivan B. Hart-Davies on a 3½ h.p. Triumph. He covered the distance in 29 hrs. 12 mins., beating the previous record by nearly three hours. While maximum speeds were moderately low, the End-to-end record was one of the classics. Such records are not now recognised.

→ HE scooter awakes pre-historic memories under my grey thatch. The 1914 "lightweight" was usually a foul libel on an honourable name. It boasted a two-speed gear and other labour-saving devices, whilst the cynic who put it on the scales usually discovered that it weighed more than the full dress tourist machines which some of us oldsters bestrode about the year 1902. I suppose that quite a lot of 1914 little 'uns tipped the beam at 160 lb. or more, whilst others, more properly described as mediumweights, exceeded 200 lb. When weaklings first protested that motor cycling was degenerating into muscular tests for Sandows, our notion of a lightweight was the 11/3 h.p. (note the meticulous rating!) Clement-Garrard, 70 lb. all on. Since then 100 lb. has been conventionally accepted as the ideal maximum, but it has very, very seldom been reached in practice. I have not had a scooter on the scales yet; but if scooters are usually a lot heavier than the 50 lb. which their optimistic sales managers talk of, they come closer down to the dear little "C.G." than anything else of recent years.

Hobson's Choice.

When I first took to motor cycling, the market consisted exclusively of lightweights. It had to. It was the rule, rather than the exception, to finish a long ride either by train or with one's coat tied by the sleeves to the handle-bar, and one's back in the attitude necessitated by lawn mowers. Consequently, our machines seldom exceeded 150 lb. in weight; they perhaps developed an average of about 2 b.h.p. As none of us was sufficiently maniacal to go looking for hills, and to hear of Sutton or Dashwood was to map out a dodge-route, we ought to have had a good time. But we did not. The explanation is confined to one

By VETERAN.

Some Reminiscences of Bygone Days and the Forefathers of the Present Day Motor Cycle.

word—"belts." Some of them were of the twisted rawhide variety. Effete riders of to-day, accustomed to 11/8 in. canvas-cored rubber V belts, must imagine a strip of rawhide, sliced from the hide of a buffalo, and spiralled like a shaving off a big lathe. Handling was easy. You wound in up till it was just tight enough

shaft bushes without causing the engine to bind; and then you inserted a miniature meat hook through both ends. Its road behaviour was easily gauged. If the belt was pulling, you heard the periodic "tang" of the fastener against the pulley sides; if the belt ceased to pull, your speed dropped from 5 m.p.h. to zero, and the acrobatics required to balance the machine convinced you that it was at last stationary. These belts never gripped if the weather was rather wet or really dry. If there was no rain to damp the pulley and no dust to glaze the rawhide, progress was possible, provided you paused periodically to anoint the belt with dope. The dope-merchants were the chief liars and profiteers of that epoch. They knew our need, and they traded on We bought tin after tin, as each specific came, out; they all had an evil savour, and clung to the attire like tacky rubber solution. The best of them would make a bootlace belt grip for ten miles over level roads on a dull day following after light showers.

Belts!

Then the trade awoke to the fact that the bootlace belt was a dud. From the various new gadgets prescribed, I selected a Werner with a flat belt. I was beguiled by a pseudo-technical folder on the coefficients of friction. I did not know what coefficients were, but I gathered that leather on leather was the stuff to give 'em; and my new Werner had a pulley composed of perforated leather washers threaded over a ring of studs. I owe it to that machine that I became a sergeant-major before I was demobilised. No: I was not in the R.E. That Werner taught me to swear.

My next experiment was also ascribable to an advertising manager, who posed as a technical expert. His slogan was that the bootlace belt was really an

Twenty Years of Lightweights .-

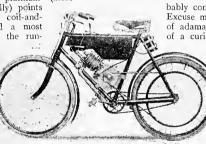
excellent belt, but that our napkin ring pulleys did not give it enough contact area. I agreed ex animo. He pursued his theme to the effect that, low gears, being essential, it was impossible to increase the overall diameter of the aforesaid pulley. (" Heaven forbid!" I ejaculated, piously, as even with a two-inch pulley I could never climb my own drive.) He concluded triumphantly, "But it is practicable to increase the effective diameter of the engine pulley." ("There's a catch in this," I mused.) At last the hush-hush gadget was disclosed-"So on our 1899 model (or whatever year it was) we take the twisted rawhide belt twice round the engine pulley by means of a double spiral groove machined thereon, and belt slipping with the 3 h.p. Hotstuff is impossible!" I glowed with admiration and gratitude. I regret to record that this man was a liar. The boot-

lace of the 34 h.p. Hotstuff was as much of a backslider as its predecessors. The next brain-wave was my own. Why not take the belt several more times round the pulley? I had a special pulley made, and did so. As a rule, the belt jammed on the pulley, but if you let it get glazed, it worked—and slowly sawed through the rear forks. Finally, the Lincona and Lycett belts opened up a better world for all of us.

On the rare occasions when our belts transmitted the puny impulses of our microscopic engines, we got stalled with contact breaker troubles. The adjustment of the platinum (alias

German silver, usually) points with these extinct coil-and-battery ignitions had a most mysterious effect on the running. I am no electrician, and must state facts rather than

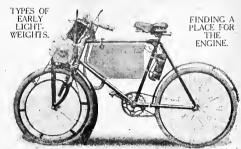
must state facts rather than reasons. To put it tabularly, the correct gap spelt heaven. If the gap was .ooooin. too wide or too small, the machine might start, but would only de-



Above the front down tube-an early Rex.



In the position now accepted as correct-1902 Werner.



On the steering head-Werner front drive.

velop $\frac{7}{21}$ h.p., instead of its rated $1\frac{1}{2}$ h.p. If the gap was .oooin. out, the machine would be immovable. The

consequence was that breakers of the baser sort required readjustment every ten miles, and thus afforded a pleasant foil to the belt stoppages. Dreaming of the modern magneto contact breaker you pro-

Below the front down tube—a 1901 Quadrant of the modern magneto contact breaker, you probably consider that no great hardship was involved. Excuse me, the modern breaker is apparently made of adamant. The ancient breaker was constructed of a curious metal, possessing all the properties of putty. The screw threads in its base-

metal, possessing all the properties of putty. The screw threads in its baseplate melted in warm weather. The German silver rivets fell out of the blade and screw. The spring blade took an L shaped set after a hundred miles or so. Or perhaps a sudden stoppage of the exhaust burr, accompanied by a gentle tinkle from the neighbourhood of your right boot, broke the news that all the bits were playing rugger inside the breaker cover. Even more probably, during a record bout of l.p.a. up a gem of a hill (say

1 in 52), your boot caught the breaker, and it squashed out flat, like a pat of butter when stepped upon.

On the rare occasions when neither belt nor breaker misbehaved, the accumulators—but there, I spare you. Only let me say that at one time in the era manufacturers only fitted a single battery. Now we were certainly fools, but not quite such fools as to venture out of hail of the railway on one battery. So I invested in a spare 8 a.h. accumulator, complete with neat pigskin case at 21s., and strapped it to my carrier. Dismounting one day to admire a Devonshire view, I saw the pigskin case, stained green and corroded away by leaking acid, depending precariously by a single strap. If you know the Sunday train service in Devon, you will not marvel that I packed

Twenty Years of Lightweights .-

the battery in leaves and grass, and bestowed it in the TO SUIT ALL side pocket of my new dazzle-the-maidens reefer jacket (dove grey flannel, with narrow white stripes). When AGES AND EITHER I reached my destination, there was about .55 of my jacket left; and I should probably have been arrested for motor cycling in a state of nudity if the main battery had not gone phut fifteen miles from home, and caused a transfer from my pocket to the tank. Things have improved since then.

A recent and original design of lightweight-the Pullin.

Things have improved since then. The first roadworthy lightweight I ever straddled was the early Douglas with the direct belt drive.

the direct belt drive. It cannot have weighed more than 1 cwt., and was a good 'bus when the belt was not swinging the lead. A little 2½ h.p. Ariel was fascinating in its way. The very first two-stroke Levis with 24in. wheels was the progenitor of all scooters, and could tackle 1 in 6 with a rush. Then the modern types came along in battalions—baby two-strokes, baby four-strokes, some with gear boxes, and most of them with absolutely reliable ignitions and decent transmissions. Of course, the weight piled up in proportion, until the scooter dawned on an astounded world. A good scooter should do 1,000 miles between road stoppages, if I am any judge.

That is a far, far proposition better than the prehistoric motor bicycles ever offered us. They sold quite freely; and they would sell still if nothing better was on offer. Now whilst we grin and curse as we remember how they played us up, every veteran has grateful recollections of their handiness: their excessively 1 0 w weight was a huge and joyous asset. This is where the scooter should score. The people who blink at 150-

450 pounders may jump at 50 lb. scooters. Nor have I elderly tallow chandlers only in my mind. Dukes will buy them. The Rolls-Royce his grace urgently requires for himself. The duchess has gone to a bridge party on the Daimler. The Sunbeam is being revarnished. The estate agent is out on the Singer. Plantagenet and Tudor and Rowena all want something to take them to golf or tennis. In 1914 the Duke ordered Smithkins to make a détour and drop the young people at the links, etc. In future the butler may telephone to the garage for the scooters to come round at once please.

"REVS" versus CUBIC CAPACITY.

A Discussion on the Type of Engine for Fast Road Riding.

LISTENING to a conversation a few days ago between three or four motor cyclists, I gathered that none of 'these enthusiasts quite realised the factors which decide and govern the road speed of a motor cycle. One of them had a 9 h.p. clutch model solo mount, and he it was who proved to his own satisfaction that a machine of the type he favoured was inevitably the fastest on the road. He argued that, in order to obtain road speed and overcome wind resistance and "friction," large cubic capacity was necessary, and that, of course, it was foolish to suppose that any machine of 500 c.c. could possibly hold its own in-a real speed test with a monster of the 1,000 c.c. class.

Now this may be true up to a certain point, but as regards the ordinary road rider, many other factors enter in besides engine power, and the gentleman just mentioned had completely lost sight of a point which is the speedman's chief hope in life—the ability of an engine to "rev." Given two track racing machines run under track racing conditions, so that the larger machine could be geared for that purpose only, it could doubtless be a little faster; but the writer's experience is that the fastest touring machine used under ordinary touring conditions is one of approximately 500 c.c.—preferably (owing to its even power impulses) an opposed twin. The reasons for its

superior speed are comparative lightness, very rapid acceleration on corners, and, most of all, its ability to "rev." indefinitely.

Very few large engines can turn over at so high a rate of revolutions as their smaller brethren, so that the only way to obtain higher road speeds is by making use of higher gears. This means that one loses comparatively on acceleration, even though one may gain slightly on the level, and even allowing that the acceleration of both machines may be equal, I have yet to ride the 800 or 1,000 c.c. twin that could be hauled round corners at the same speed as, say, a T.T. Norton or 3½ h.p. Brough. Therefore, for the big machine to prove as fast as the smaller one on an ordinary give-and-take road, it has not only to make up on the level what is lost on slackening at the corners, but it has also to make up the extra half second needed for the acceleration necessary to bring it back to its maximum speed, i.e., to prove faster, it must not only be considerably faster on the level, but it must possess powers of acceleration in proportion to its maximum speed—a combination very difficult to obtain.

As a matter of fact, colossal c.c. is entirely unnecessary for speed work in solo riding, for a heavy machine is neither so safe nor so easily handled as one of medium weight.

Chinook.



A Sporting Race rendered particularly exciting by the Fact that three Leaders retired. Excellent showing of Two-stroke Machines. New Record created for the Junior Lap-

Held on June 15th, over a distance of 188 miles 6 furlongs (five circuits of 37 miles 6 furlongs each), limited to machines of cylinder capacity not exceeding 350 c.c., with a class for 250 c.c. engines run concurrently for "The Motor Cycle" Cup.

AST week's race for the Junior Tourist Trophy provided thrills in abundance. The result of the race was in doubt throughout, for, after leading for two and a half laps, Eric Williams (23 A.J.S.), the swiftest rider on the course, retired with engine trouble. Moreover, H. R. Davies and N. F. Harris, on similar machines, who held second and third positions, also disappeared from the running in that fateful third circuit, and thereafter a new complexion came over the whole event. Even the eventual winner and the second rider were dogged by ill-luck, for, on the final stretch from the summit of Snaefell they experienced trouble which, lowever, they both overcame.

Before the Start.

The morning broke fine, and by eight o'clock officials, competitors, and spectators were much in evidence at the starting point. There were many finishing touches to be done. Prescott was seen patching his rear tube as the machines were ranged in line in the enclosure, Pike (Diamond) was fitting a new rubber lubricating pipe, and the rear tyre of Eric Williams's machine suddenly subsided with only ten minutes to go, and he had hurriedly to fit another wheel. F. W. Applebee carried No. 13 on his Baby Levis.

A minute or two before the start, His Excellency the Lieutenant Governor of the Isle of Man arrived and took his seat in the stand, remaining for some time as an interested spectator. He was also seen an interested scrutiniser of the score board before the finish of the race. It was a comparatively small entry this year for the Junior T.T., but the enthusiasm and interest of the public seemed in no way minimised on that account. Two marcons announced the start, and promptly at 9.31 a.m. F. W. Applebee, the fifty-eight year old rider,

was given the word "Go" by Mr. A. V. Ebblewhite to the accompaniment of a rousing cheer. His engine fired immediately, and he disappeared over the summit of Bray Hill at a lively hat. Kuhn, incidentally one of the youngest competitors, followed one minute later. The burly R. O. Clark looked oversize for his plucky little Levis, though the

The burly R. O. Clark looked oversize for his plucky little Levis, though the combination was destined to show up so prominently. Pike's Diamond crackled very healthily. In fact, all got off the mark very promptly except Loughton

RESULTS:

- Cyrıl Williams (2³/₄ A.J.S.)
 J. A. Watson-Bourne (2³/₄ Blackburne).
- 3. J. S. Holroyd (23 Blackburne). 4. R. O. Clark (21 Levis)

(Winner of "The Motor Cycle" Trophy for machines under 250 c.). Average speed of winner, 40-74 m.p.h. Average speed of R. O. Clark (Levis), 38-1 m.p.h.

(Douglas), whose engine at first fired on one cylinder only, and Marks (Diamond), who had difficulty in getting his machine over compression. When he did he accelerated in fine style. Enticknapp (Blackburne) made a particularly fine start, only eclipsed by the A.J.S. riders, who pushed along, at once "freed" their engines to a thunderous roar, and gradually let in the clutch. Many seconds were gained by Eric Williams in the 300 yard stretch before he disappeared from view. News now arrived from Ballacraine by telephone to the effect that Applebee had retained his leading position.

effect that Appende has received here leading position.

The Ivy ridden by Dallison got off the mark very impressively, whilst Sclater's Aurora simply roared away. Sheard, the

old Rudge T.T. rider, got away splendidly on his A.J.S., and received extra ovation no doubt because he is a Manxman.

Howard Davies demonstrated again the extra speed possessed of the A.J.S. mounts in comparison with other makes in the race. The useful telephone now maintained the interest at a great height by conveying news that the first six men had retained their starting order up to Ballacraine (seven miles from the start).

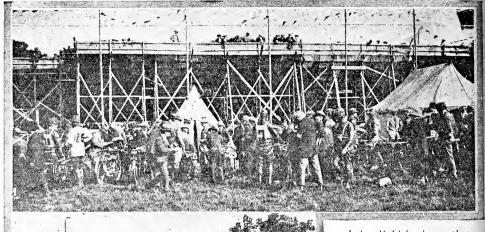
had retained their starting order up to Ballacraine (seven miles from the start). A Douglas, with Philipson pulley, ridden by Wills, got away splendidly, also J. S. Holroyd (Blackhnrne), who at first hesitated to turn on his petrol tap. Wade (A.J.S.) made a censational start. Not satisfied with 30 m.p.h. in as many yards, he flooded the carburetter, and bumped on the saddle, to swoop down Bray at over 50 m.p.h.

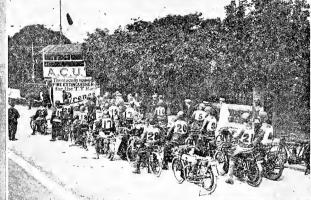
The Last of the Starters.

Now Kirkmichael news was received, and it was observed that Kuhn (Levis) by the fourteenth mile had forged ahead of F. W. Applebee. The exhaust note of the Douglas ridden by A. H. Alexander was suggestive of a rotary aero engine; he got away in magnificent style. Haden, (New Comet) got away comfortably, followed by Cyril Williams (A.J.S.), who was last but two to start. Milner (Diamond) placidly smoked a cigarette as, like an acrobat, he vaulted into the saddle of his mount. Eric Longden brought up the rear, and actually wore

no goggles.

Then there followed a lull, what time those who were following the race keenly awaited news of the arrivals at Ramsey (twenty-four miles). Soon we learned that Kuhn was still leading the procession. Incidentally, all the twenty-four starters were thus grouped in the first twenty-four miles. Kuhn had traversed this distance in less than thirty-three minutes, and this on a tiny two-stroke.





In the paddock before the start. Last minute preparations.

short space of time for petrol and oil. Off he went again, with a ronsing cheer of encouragement from the spectators.

Clark was the next arrival, and pulled up for replenishments. Hard on his heels was Eric Williams, who, needing no supplies, dashed past the stands at a high speed.

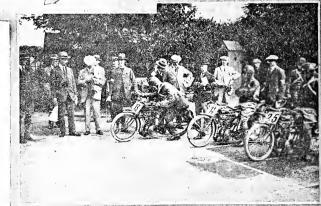
Average over 50 m.p.h.

Clark restarted at exactly 10.27 a.m. When the times went up, it was seen that Eric Williams had averaged over 50 m.p.h. A brief interval and two competitors arrived side by side, Davies (A.J.S.) passing Pike (Diamond) on the starting line itself. Davies's number was quite unreadable, showing the state of theourse after Monday's continuous rain.

9,30 a.m. The riders assembled for the start.

R. O. Clark (Levis) was signalled next in order. Pike (Diamond) third. Eric Williams (A.J.S.), who started tenth, was now in the fourth position, followed by Wetzen Bourne, (Blackburge).

was now in the fourth position, followed by Watson-Bourne (Blackburne). From the starting point mist could be seen on the mountain, and, indeed, the outlook became dull, and a few rainspots fell. By the time the first lap was nearing completion, the crowd had swelled considerably, the stands being full but not erowded. The competitors attendants, in the pens arranged in front of the stands, got their fuel supplies ready in anticipation of early calls, and craned their necks along the straight stretch after the Craig-na-Baa positions had been announced, showing Kuhn still leading so far as position was cencerned, but not on time, since other riders started later. A shrill whistle announced Kulm's approach. He dashed up on his Levis, pulling up in an amazingly



9.31 a.m. F. W. Applebee (21/4 Levis), the first man away, being given the word to start.



The second man to start, G. Kuhn (24 Levis), maintained his position on his first lap, which he covered in 52m. 45s. Here he is seen at Craig-na-Baa after his descent of the mountain.

In Glen Helen, and under the trees from Sulby to Ramsey, the roads were

from Sulby to Ramsey, the roads were wet, and two very heavy local showers fell, but generally the course was good, with a slight mist on the mountain.

Watson-Bourne (Blackburne) next passed in excellent style, with Marks (Diamond) a few hundred yards behind. The telephone again enabled those in The telephone again enabled those in the stands to keep acquainted with the progress of the race, for Eric Williams was shown to have passed Ballacraine, on his second lap. Loughton (Douglas) went ahead without stopping, and soon of the Harris (ALS) with a ratio. after, Harris (A.J.S.), with a rever-





H. V. Prescott, on his 1914 A.J.S., at Keppel Gate:

On the mountain road. S. H. Haden (New Comet), who was out to finish, rode consistently at an average speed of 30 48 m.p.h.

berating crackle. Dallison (Ivy) soon came into view, sitting his mount in perfect style. News now came of Enticknapp's retirement owing to a sheared key on the flywheel; Alexander (Douglas) also experienced engine trouble near Glen Helen.

Houlberg (Wooler) and Holroyd (Blackburne) followed in close order on completion of their first lap. Wills (Douglas) passed at a good speed, followed by Cyril Williams. Then F. W. Applebee dashed into the control W. Applence dashed into the control at a great pace, receiving a great ovation, despite his late arrival. He was seen to be wearing ordinary glasses, with his goggles on his helmet. He had, it appears, experienced a broken spring on the control of the control o the magneto rocker arm, and fortunately carrying a spare, was able to right matters after losing much valuable time. He was off with tanks brimful in less than a minute.



J. A. Watson-Bourne (23 Blackburne) at Keppel Gate.

Prescott's exhaust was noticeably fluffy, but he was going well. The Ramsey telephone announced that Eric Williams still led at that point, with Clark second, and H. R. Davies third.

Lengden now completed his first lap.

Lengden now completed his first lap, and on lifting the valve lifter to pull up fer petrol, his belt jumped the pulley, and provided an effective brake for the back wheel. Replacing this, he walked to his depet and filled up, receiving the usual encouraging cheer as he restarted.

FIRST LAP FOSITIONS AND TIMES.

		h.	m.	S.
1.	Eric Williams (23 A. J.S.)		45	14
2			46	2
3.	N. F. Harris (2) A. J.S.)		47	25
4.			52	37
5	G. Kuhn (21 Levis)		52	45
6			52	50
7	S. A. Marks (21 Diamond)		54	55
s.			57	32
9.	I. S. Holroyd (27 Blackburne)		57	45
10.			58	2
11.	Fric Longden (2) Dot-Jap)		58	40
12		1	0	3
13.	P. G. Dallison (2) Ivy)	î	ŏ	7
11.		i	ŏ	56
15.	H. V. Prescott (21 A.J.S.)	î	3	55
16.		î	7	4.1
17.		î	20	41
18.		ī	29	36
20.		-		
	At the finish of the second	lan	- 10	ric.

At the finish of the second lap Eric Williams free-wheeled at speed into the control for replenishments, his attendant dexterously filling both tanks and enabling a restart in less than fifteen seconds. Davies, on another A.J.S., followed, and, after filling in feverish haste, a deafening roar heralded his departure. A Levis, R. O. Clark up, followed hard on his heels after another lap at splendid speed. Replenishments were ready, and in a few seconds the special filling devices had done their duty.

Haden was neticeably slower, but the Climax engine of his New Comet sounded healthy enough. In the excitement Harris had to lock the back wheel of his machine to stop at the proper depet. After drinks for man and machine, he was away again, with a deafening rear characteristic of the A.J.S. when the clutch was released. Telephone announcements showed that Wade (A.J.S.) was out with engine trouble at Ballaugh, and

that Milner (Diamond-Jap) retired at Kirkmichael owing to a broken valve cup. This rider, with two others who dropped out, thereupon chartered a special tram to Douglas at the terrific (1) charge of 50s. in order to witness the finish. Watson-Boune, after two laps, halted for supplies at the depet. Men and machines were now showing signs of the gruelling they were receiving, denoted by eily breeches and boots, and dusty faces and clothing, with an admixture of genuine mud-splashes.

Loughton (Douglas) and Kuhn (Levis)

Loughton (Douglas) and Kuhn (Levis) followed for replemishments. The latter banded in his spare tube. News from Ramsey showed little alteration in the leaders' positions, Eric Williams, going



His Excellency the Lieutenant Governor of the Isle of Man, Major-General Fry, C.B., C.V.O., who witnessed the race.

great guns and delighting those assembled at the corners with a lurid exhibition of corner work, was first here on the third lap. His time for the second lap was 44m. 6s, which sets up a new record, and those who have seen the practising and observed the fleet of A.J.S. machines were not surprised at the leadership already created.

SECOND LAP POSITIONS AND TIMES.

		h.	m.	s.
1.	Eric Williams (27 A. J.S.)	1	29	20
2.	H. R. Davies (23 A. J.S.)	1	32	11
3.	N. F. Harris (21 A. J.S.)	1	35	8
4.	R. O. Clark (21 Levis)	1	46	4
5.	Cyril Williams (23 A. J.S.)	1	47	- 8
6.	P. Pike (23 Diamond)	1	52	22
7.	I. S. Holroyd (2) Blackburne)	1	55	9
8.	I. A. Watson-Bourne (27 Blackburne)	1	56	40
9.	Eric Longden (23 Dot-Jap)	1	57	53
10.	A. E. Wills (27 Douglas)	2	1	50
11.	N. W. Loughton (23-Douglas)	2	3	43
12.	G. Kuhn (2½ Levis)	2	5	16
13.	H. V. Prescott (27 A. J.S.)	2	7	51
11.	P. G. Dallison (23 Ivv)	2	35	2
15.	F. W. Applebce (21 Levis)	2	35	35
16.	S. H. Haden (27 New Comet)	2	39	10
	er in indicen (-1 in order) ittiti	_		

When Cyril Williams came into his depot, Bey Scouts rushed out to clean the indecipherable numbers. "How am

I?" he demanded, and when told that he was some minutes behind the leader, shouted that he had lost several minutes at Creg Willey. Meanwhile he tied his contact breaker in the fully advanced position with a piece of bootlace. Whereas Houlberg (Woeler) stopped for supplies, Wills (louglas) forged ahead.

Lengden distinctly webbled as he sped past the stands, due no doubt to his riding position. Prescett (A.J.S.) refilled on this lap from ordinary tins, and did not forget a personal reviver. There was the usual cheer for Applebee as he completed his second lap, and he again stopped at the depot.

The ranks were becoming noticeably thinned, for six failed to complete the first lap, while another dropped out on the second, and five on the third circuit.

To save time, Dallison (Ivy) unscrewed his tank caps as he pulled up for petrol, and got away again apparently in fine fettle.

An Entire Change of Affairs.

A lull followed, the leaders on the third lap being eagerly awaited. To the consternation of those at the stands, the Norwich rider, R. O. Clark, on the 250 c.c. Levis, roared round the bend ahead of Eric Williams (A.J.S.), who had led at Ramsey, with Davies (A.J.S.) next, and Clark third.

next, and Clark third.

Clearly something had happened to
the A.J.S. leaders. As the minutes
relled by A.J.S. hope began to crumble,
and it was not for some time that news
reached the start that Eric Williams had
retired 500 yards from the Bungalow



P. Pike (Diamond) at Ballacraine.

The Junior T.T. Race,-

with a broken mainshaft. ordinarily enough, Howard R. Davies, the second man on a similar mount, experienced a broken exhaust valve just below the Bungalow.

Naturally this unexpected contretemps placed an entirely different complexion on the race. R. O. Clark for some time remained the leader, and speculation was even rife as to whether he could on his even rife as to whether he could on his pluckly little 250 c.c. miniature carry off the Junior T.T. as well as The Motor Cycle Lightweight Trophy. Pike withdrew at Craig-na-Baa with a broken exhaust valve, and still a further amendment of the leading positions, for Harris (third) stopped finally at Ramsey due to shearing his countershaft dog in accelerating after the Ramsey hairpin.

Hopes of those who maintained regular if comparatively slow laps rose noticeably. Haden (New Comet) came in and enjoyed a sandwich as his mount was leisurely replenished. Subsequently overhead-valved Dot-Jap was standing up splendidly. He was duly filmed as he took aboard replenishments. "Pa" Applebee, the most popular rider of the bunch, was cheered again and again as he swept by. The Blackburne machines were upholding their good name for rewere upnotating their good name for re-liability, and were creeping up into lead-ing places, particularly Holroyd and Watson-Bourne, who were having a little duel on their own. Wills's Douglas, too, suddenly jumped ahead to the obvious delight of Mr. Philipson, whose pulley he was using.

Thinning of the Ranks.

With the ranks still further thinned-for Houlberg (Wooler) stopped with a broken connecting rod which fractured the rear cylinder at Ballacraine-spectators had time to consider the possibilities: and there were still many! Would Cyril Williams hold out? Could Holroyd and Watson-Bourne improve as they were showing signs of doing? And

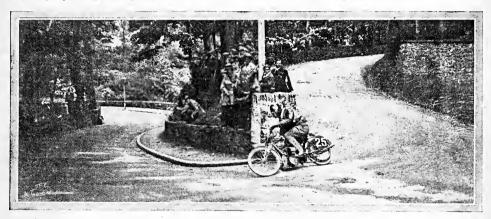
single-cylinder Blackburne going better

than ever.
The Ivy followed, after another consistent lap, with Prescott (A.J.S.) in close attendance. Then there was a long interval, after which Holroyd appeared on his Blacklunne, halting for petrol while he kept his engine running. Kulm dashed in before Holroyd left, and was extremely nippy in getting away.

Doubts.

Kirkmichael news announced that Kirkmichael news announced that Williams was going well at that point. Haden was clearly demonstrating reliability, for he toured past on his final lap. Loughton (Douglas) stopped for replenishments, and then, during one of the many lulls, one wondered—and wondered !

With so much in hand Cyril Williams seemed a sure winner, but with experience of so many surprises in the earlier stages of the race this year's T.T. seemed to be regarded as "in the air."



At Governor's Bridge. R. O. Clark (Levis) takes the acute bend at a good speed.

Cyril Williams roared over the line to maintain the leading position attained by his namesake on an A.J.S. Thus he had crept up from the sixth position in the first lap to fifth in the second and first in the third lap.

THIRD LAP POSITIONS AND TIMES.

	0 3777777 (00 1 7 0)	h.	m,	S.
1.	Cyril Williams (23 A. J.S.)	2	39	5
2.	R. O. Clark (21 Levis)	2	48	21
3.	J. S. Holroyd (2) Blackburne)	2	51	59
4.	J. A. Watson-Bourne (2] Blackburne)	2	54	47
5.	Eric Longden (2) Dot-Jap)	2	55	19
6.	A. E. Wills (23 Douglas)	3	4	35
7.	G. Kuhn (2† Levis)	3	6	21
8.	N. W. Loughton (22 Douglas)	3	9	52
9.	F. W. Applebee (21 Levis)	3	33	48
10.	H. V. Prescott (23 A. J.S.)	3	41	47
11.	P. G. Dallison (23 Ivy)	3	46	30
12.	S. H. Haden (23 New Comet)	3	51	58

Clearly so it seemed the race was becoming more a test of reliability than speed, for the fleetest riders had set speed, for the neetest raders had set themselves such a hot pace that they were cracking up their mounts. Re-straint, so it seemed to the onlooker, would have been a better policy. Loughton (Douglas) halted for supplies and restarted well, followed by Wills on a similar mount, and Longden, whose could Clark maintain the magnificent cornering he was performing without mishap? Such were the musings inspired by the open nature of affairs. The sun condescended to shine again, and the conditions were now ideal.

A roar of a two-stroke, and R. O. Clark dashed up to the control for supplies after four memorable laps, halting three minutes. As he commenced the final circuit, he was accorded a genuine cheer, for his plucky performance on so tiny a machine had proved a real eyeopener.

The Winners.

Now Cyril Williams was anxiously awaited again, and in a few minutes he arrived, locking his back wheel to pull up. "Am I leading?" he demanded excitedly of the people who knew no more than the rider, and were content to cheer him on. On being told that he was several minutes ahead, he hastily mounted and was off in a twinkling, the drone of his engine being heard until he was fully half a mile away. Watson-Bourne came in at the same instant, his

	FOURTH LAP POSITIONS AND TO	ME	S.	
		h.	m.	S.
1.	Cvril Williams (23 A.J.S.)	3	28	42
2	R. O. Clark (24 Levis)	3	46	23
3.	J. A. Watson-Bourne (2) Blackburne)	3	50	38
4.	I. S. Holroyd (24 Blackburne)	3	51	8
5,	G. Kuhn (2½ Levis)	4	9	24
6.	Eric Longden (23 Dot-Jap)	4	10	3
7.	N. W. Loughton (27 Douglas)	4	11	26
8.	F. W. Applebee (21 Levis)	4	44	46
9.	H. V. Prescott (27 A.J.S.)	4	51	43
10.	S. H. Haden (22 New Comet)	4	57	50
11.	P. G. Dallison (23 Ivy)	5	6	52

When the Ramsey positions were notified, it was observed that Clark's Levis was still ahead, Williams (A.J.S.) now pressing him closely, though he had started twenty-four minutes after Clark.

Another long period of waiting, during Another long period of waiting, during which Longden was notified at Craigna-Baa, and soon he passed by on his final lap, with Applebee close behind. His engine was still in magnificent fettle, and one recognised now the importance of the minutes lost on his initial lap. A cheer went up as "No. 4" (Cyril Williams) was announced at Craig-na-Baa, followed by Watson-Bourne. Where was R. O. Clark, one wondered? At



Bringing in the winner. Cyril Williams (A.J.S.)

Wills (Douglas) was juncture announced as having fallen at Craig-na-Baa, without doing himself any damage. To the astonishment of everyone, J. A. Watson-Bourne (Blackburne) finished first amid cheering, having passed the leader soon after the descent of the

To add to the confusion, R. O. Clark was announced "going hard" at Craig-na-Baa with a flat tyre. There was general regret for the plucky Levis rider, and in a few minutes he came home, with the front wheel wobbling ominously due to a bad fall, and the front tyre flat, to finish the most meritorious perform-

mountain.

ance in history for such a tiny mount.

Thus he easily carried off The Motor Cycle Trophy presented to the A.C.U. for the development of lightweight machines under 250 c.c.

With eleven minutes to go to enable Cyril Williams (A.J.S.) to come home a winner, no news could be obtained of his progress. The spell was broken when he appeared round the corner, vigorously

propelling the machine in free engine with his foot, his engine stationary.

The cheers that went up were thoroughly de-served, but Williams, half dazed with such exhausting work since he Craig - na - Baa, passed ' where his gear trouble experienced. was con. tinned on brushing marshals and photographers aside until he collapsed over his machine.

Hardly had the cheers died down when J. S. Holroyd dashed home to add further lanrels to the Blackburne name. Meanwhile, Prescott (1914 A.J.S.), who was suffering constant overheating on the mountain, passed on his last lap.

Kuhn arrived home on his Levis, the note of the THE LAST LAP-POSITIONS AND TIMES.

Cyril Williams (2½ A.J.S.)
J. A. Watson-Bourne (2½ Blackburne)
J. S. Holroyd (2½ Blackburne)
R. O. Clark (2½ Lovis)
Eric Longden (2½ Dot-Jar)
N. W. Loughton (2½ Dot-Jar)
N. W. Loughton (2½ Dot-Jar)
H. W. Prescott (2½ A.J.S.)
H. W. Prescott (2½ A.J.S.)
S. H. Haden (2) New Comet)
P. G. Dallison (2½ lvy)

LAP POSITIONS AT A GLANCE. 1st. 2nd. 3rd. 4th. 5th. | List. | List J. A. Watson-Bourne (Blackbourne) 8
J. S. Holroyd (Blackburne) 9
P. Pike (Dianoud) 10
Fric Longden (Dot-Jap) 11
Fric Longden (Dot-Jap) 12
P. G. Dallison (1vy) 13
A. E. Wills (Douglas) 14
H. V. Frescott (A.J.Su-15) 14
H. V. Frescott (A.J.Su-15) 17
S. H. Haden (New Counct) 18 5 11 9 8



THE COMPLETE RESULTS OF THE JUNIOR RACE.

Survivors, Individual Lap Times, and Average Speed; accomplished,

Rider and Machine.	Weight of Machine.	Weight of Rider,	First Lap.	Second Lap.	Third Láp.	Fourth Lap.	Fifth Lap.	Total Time.	Average Speeds.
CYRIL WILLIAMS (2? A.J.S.) J. A. WATSON-BOURNE (2? Blackburne) J. S. HOLRONYD (2? Blackburne) R. O. CLAKK (2) Levis) ERIC LONGDEN (2? Dot)Jap) N. W. LOUGHTON (2? Douglas) G. V. HOLGHTON (2? Douglas) G. V. HOLGHTON (2? Levis) F. W. APPLEBEE (2! Levis) S. H. HADEN (2? New Comet) P. G. DALLISON (2? Levy) A. E. WILLIS (3? Douglas) N. F. HARRIS (2? A.J.S.) H. R. DAVUES (2? A.J.S.) H. R. DAVUES (2? A.J.S.) ERIC WILLIAMS (2? A.J.S.) ERIC WILLIAMS (2? A.J.S.) A. F. HOULBERG (2? Wooler) P. PIKE (2) Damond) S. A. MAKNS (27 Damond)	252 258 173 222 213 167 189 166 184 209 202 219 219 219	lb, 134 183 155 177 113 147 153 159 151 157 152 152 144 169 127 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157 157	h. m. 's, 52 50 57 82 57 45 52 37 58 40 1 0 3 55 1 20 41 1 29 36 47 25 46 2 47 25 46 14 1 7 41 58 2 54 55	h. m. s. 51 18 50 8 50 8 50 8 50 12 47 50 13 10 12 31 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 11 51 5	h. m. s. 57 56 50 1 2 17 57 26 1 6 9 9 1 1 5 5 1 23 58 13 1 12 48 1 2 45	b. m. s. 49 37 55 51 59 9 58 2 1 14 44 1 3 3 1 9 55 1 10 58 1 0 58 1 0 52 22	b. m. s. 1 9 15 56 29 56 29 1 9 14 1 0 59 1 10 11 1 14 4 1 20 35 1 13 41 1 10 40	h. m. s. 4 37 7 4 47 7 4 47 37 5 11 2 5 11 2 5 11 3 6 6 6 21 6 17 32	m.p.h. 40.71 39.44 39.37 38.31 36.41 36.34 35.43 30.48 29.99 Retired 4th lap. Retired 3rd lap.

Fastest lap: Eric Williams (2) A.J.S.), 44m. 6s. (second lap), equalling 51, 36 m.p.h. The following started, but retired first lap: 0. Wade (A.J.S.), T. M. Sheard (A.J.S.), P. J. Enticknapp (Blackburne), N. C. Sclater (Aurora), A. Milner (Diamond), and A.H. Alexander (Douglas).

IMPRESSIONS OF THE JUNIOR RACE.

OBSERVATIONS FROM CREG WILLEY.

HE wonderful climbing of the small Levis machines stood out prominently, almost without other exception comalmost without other exception competing machines appeared to be overgeared or kept on too high a ratio. All A.J.S. machines were fast, and accelerated wonderfully as the gradient eased off. A few cornered on the throttle instead of cutting out, and incidentally there may be a good deal in this from the lubrication point of view, since there is a greater tendency to draw up oil on to the piston. Alexander, on his old Douglas, had engine trouble part of the way up the hill—an unexpected piece of bad luck with such a well-tried machine. At the end of the second lap positions were easy to follow, but after the failure of the leading A.J.S. machines the public had but little idea of relative positions.

BALLACRAINE.

THE cornering at Ballacraine was good on the whole. Of the leaders, Holroyd and Cyril Williams were the most cautious, and the Levis riders, including the veteran Applebee, were very fast, and Watson-Bourne on his last lap was gone in a flash.

Houlberg's Wooler broke a connecting rod within sight of the famous corner, and Longden stopped in an attempt to cure misfiring on the front cylinder, but had to continue with only a partial cure.

RAMSEY NOTES.

T was a poor race for the spectators scattered along the remoter roads. The starting order and time allowances were generally unknown. Gus Kuhn (No. 10) reached the Gooseneck at 10.5 a.m., and R. O. Clark (No. 25)

was just two minutes behind him. Not a soul on the corner except the writer had a notion what starting interval had separated the pair, and he was not certain separated the pair, and ne was not certain to a minute or so. So the public interest—until most of the entry had been weeded out—was reduced to taking lap times and watching the cornering. Not until the fourth lap was it possible for the ordinary spectator to judge how the men stood,

A Corner Artist.

Beyond question, the A.J.S. machines had only to finish to win. Their speed between corners and their acceleration after a corner were of the senior type, and made most of their rivals look paltry. But the tremendous "vank" with which their super-efficient engines took up the drive after a hairpin suggested that the transmission might be overtaxed. Eric Williams is a real corner artist—diminuendo, pause, crescendo, fortissimo—like Sonsa's band. The hesitation, engine splutterings, and wobbles put up by some of the tyros showed how experience counts. R. O. Clark, ambitious to win with a smaller engine, was also magnificent. Out-stripped on the straights, he cut his corners faster than anybody else. In the early laps he was content with a foot early laps he was content a look to spare: in the later laps a matter of inches satisfied him. Such observations furnished the isolated watcher with his sole interest until his own watch told him the "growing lap times." Dullness increased as the dwindling string tailed out; for example, lap four consisted of twelve men, whose passing was spread out over nearly an hour. The scattered watchers pray for a bigger entry in 1921, coupled with a more intelligent publication of the starting order and times. .

R O Clark on the Levis, with which he won The Motor Cycle Trophy for 250 ctc. machines. He finished fourth at an average speed of 38:31 m.p.h

AT GOVERNOR'S BRIDGE

OVERNOR's Bridge is on the loop introduced this year, is a mile from the finish, and can only be described adequately as a Z bend. Practically every connection negotiated the corner with great caution, the general tendency corner at a wide radius, and during the earlier part of the race a small wet patch from the recent rains caused one or two riders to skid momentarily.

The first competitor at this point was Kuhn (Levis), who approached the corner rather too fast and skidded, but he managed to keep his scat and got away all right. R. O. Clark (Levis) had the same luck a few minutes later. Misfortune overtook Applebee on his Levis after making an excellent performance on the corner, owing to magneto trouble, which delayed him fully twenty minutes. Shortly after Pike (Diamond), failing to Snorty after Pike (Diamond), failing to slow up soon enough, bumped against the far side wall. A rather curious manœuvre resulted from Loughton's (Douglas) inability to get round the bend. Finding himself in danger of colliding with the wall in front, he wheeled off to the left and made a complete circle, which brought him round in a position to get away again.

The Trouble Corner.

During the second lap, Applebee stopped in almost exactly the same manner as on his first circuit and in the same spot after the bend. On this eccasion he restarted, and only managed to get away after an interval, his repeated misfortune becoming the subject of considerable sympathy by the crowd of onlookers. Two more competitors suffered common troubles on their third laps immediately on negotiating the corner, Clark (Levis) and Loughton (Douglas) both breaking transmission chains, which, however, were soon replaced.

The cornering work of Eric Williams and H. R. Davies was perfect, the riders coming down the approach and taking the sharp bend at a slow but beautifully steady pace on the only two occasions they passed Governor's Bridge. The same applies to the Blackburne riders and machines, and, although they were a little slower, they cut the corner very close in the same manner as the A.J.S. riders.

Two Winners.

In the last lap, R. O. Clark (Levis) made a good turn at this spot, despite the fact that his front wheel was wobbling badly and had a flat tyre as a result of a previous mishap. This competitor looked ill and almost exhausted by the former of the f hausted, but carried on to the finish, although struggling under great diffi-culties. Soon afterwards, C. Williams on his A.J.S: negotiated the bend by paddling his machine along by his feet.

Considering the nature of this corner, the incidents related were the only features of the racing at this spot, and all the other Junior competitors managed the corner with skill born largely of caution in the practice laps.

THE JUNIOR T.T. WINNERS.

YRIL WILLIAMS, who sensationally won the Junior T.T. event, averaging 40.74 m.p.h., rode a single-cylinder A.J.S. machine with a 74×81 mm. engine, having overhead valves in a detachable head. A four-speed gear is provided by a dog clutch irrangement on the mainshaft, in combination with a two-speed countershaft year. He is no relation to his namesake Eric, the previous holder of the trophy, to whom, it may be recalled, he finished second in the last Junior T.T. race.

After congratulating him on a fine achievement, we enquired if he stopped at any point other than at the replenish-



Cyril Williams, the 1920 Junior T.T. winner.

ment depot. "Yes," he said, "twice. I stopped at the top of Creg Willey Hill, as the ignition lever came loose on the handle-bai," and pegged it in position. At the end of that lap I tied the contact breaker in the fully advanced position with a bootlace. On the last lap, too, I took the Ramsey hairpin too wide, ran my back wheel into the loose gravel, and skidded over sideways and bent the footrest. The engine kept running, so I picked up the machine and restarted, stamping the footrest straight as I ascended the mountain." "What happened on the last fateful stretch?" "Well, all went well until I got through Keppel Gate, when the gear refused to operate, so I simply free-wheeled down to Hilberry Corner and I pushed and paddled alternatively to the finish, which thoroughly exhausted me."

The gentleman who was distributing packets of court plaster to competitors before the start meant well enough—but——?

At times it was-deadly slow on the grandstand while waiting for the comparatively few competitors to pass—and the musical selections were entirely in keeping. A Jazz band is indicated.

One competitor had a genuine joy ride. It was Haden (New Comet), who had a snack at his depot after completing each circuit.

"Dogs gone" was a frequent expression on Tuesday to explain retirements. Not real dogs, of course!

"Did I know my position? Not exactly until the end of the fourth lap. When the cameras were pointed at me towards the end I guessed the reason. Cyril Williams is thirty-two years of age, and has an agency for A.J.S. and Levis machines in Wolverhampton. It

Cyril Williams is thirty-two years of age, and has an agency for A.J.S. and Levis machines in Wolverhampton. It was only at the last minute that he came over to the Island to ride in place of a man hurt in practice. He used gear ratios of $4\frac{2}{5}$, $5\frac{2}{5}$, $6\frac{3}{5}$, and $7\frac{1}{2}$ to 1. His machine weighed 217 lb. and himself 134 lb. Equipment included Thomson-Bennett magneto, Renold chain, Avon tyres, and Amac carburetter.

The Second Prize Winner's Experience.

A typical sportsman is Captain J. A. Watson-Bourne, of Atherstone, the second man home, less than ten minutes behind Cyril Williams. He is but twenty-four years of age, but thoroughly accustomed to speed work, for he was a civilian pilot before joining the R.A.F. Geared 5, 6½, and 9½ to 1, his single-cylinder Blackburne ran magnificently, though at times on the ascent of Snaefell mountain the low gear was resorted to. What he lost in seconds here he made up for on the corners, he told us. Watson-Bourne enjoyed a non-stop run except for two stops for petrol and oil. He had no knowledge of his position in the race until some friend put two fingers up suggestively, and for miles he was left wondering if they meant what he hoped



I. A. Watson Bourne, second in the Junior

they did. When climbing Snaefell on the fourth lap, Cyril Williams passed him at a terrific pace, but that was the only occasion he saw the winner.

Handicapped by a human weight of 183 lb., his machine scaled 252 lb., the engine measuring 71×88 mm. = 348 c.c. Equipment included Thomson-Bennett magneto, Renold chain, John Bull belt, Avon tyres, and Amac carburetter.

"The Motor Cycle '' Trophy Winner.

One of the heroes of the Junior Race was R. O. Clark, of Norwich, who finished fourth. His Levis measures but 67×70 mm. = 247 c.c., and weighs only



R. O. Clark, the winner of *The Motor Cycle* Trophy for 250 c.c. machines. He finished

173 lb., i.e. 4 lb. lighter than its rider. Down the mountain, when leading the procession at a remarkable speed, his front tyre came off, pitching the rider forward violently. Fortunately, the regulation helmet saved him from serious injury, as the indentation will testify. Kicking the wheel reasonably straight and refitting the cover, he pluckily continued, after a delay of quite ten minutes. That thrilling finish with a 'flat front tyre and the wheel badly buckled will long be remembered. Poor Clark had to receive medical attention at the finish. To average 38.31 m.p.h. for 1883 miles on a machine under 250 c.c. is surely a record which will long remain. We are proud of the winner of The Motor Cycle Trophy.

JUNIOR T.T. TRIFLES.

The patriotic Manxmen—and Manxwomen—were heartbroken when Sheard walked into Ramsey on his first lap. But they talked confidently of how Duggie Brown would gobble up the Senior entry on Thursday. He very nearly did.

Prescott's A.J.S. lacked the zip of the new o.h.v. engine. He had to footslog above the Gooseneck on his first lap, and took a long cooler below the hairpin on his third lap, seizing the chance to enjoy a cigarette and a few tablets of "Velma."

N. F. Harris must be starred by the tipsters for the 1921 race. He is a class rider, and was formidable until the Ramsey hairpin on his third lap, when his usual thunderous acceleration was vox et praterea nihil. He stopped his engine, verified the fact that he had a freewheel on all four gears, and accepted his misfortune like a sportsman. Not even one little —.

T.-B. magnetos, Avon tyres, and Amac carburetters were used on the first, second, and third to finish.

Kuhn was delayed by his carburetter coming adrift, which accounts for his falling off in lap position. In the first lap he was fifth, and in the second twelfth.

"The Aviary" was the name bestowed upon the replenishing cages by one wag.





The Editor does not hold himself responsible for the opinions of his correspondents.

All letters must be addressed to the Editor, "The Motor Cycle," Heritord Street, Coventry, and must be accompanied by the writer's name and address.

PUNCTURE-PROOF TUBES.

Sir,-I have possessed a pair of puncture-proof tubes for some time, and they are in use every day of the week. Their and I have not had cause to use a pump once. I have extracted several nails out of the hack tyre, but still it is as tight as ever. I do not know why more motor cyclists, etc., do not invest in these tubes, as they are well worth the outlay.

They seem too good to be true (I thought that at first), but after paying a visit to the works of the Puncture-proofed Tubes, Ltd., I found out that they were "the goods"! I may state that I have no interest whatever in this company.

D. PRICE-JONES.

DUST RAISING.

Sir,-I recently overtook many outfits, in the sidesn; —I recently overcook many outlis, in the stuce cars of which ladies were seated. I might have opened out and gone ahead. I did not do so; I was out for a comfortable, easy ride. The result was they must have been smothered with dust. I ask your readers, was the obligation upon me to open out, or upon the driver of the sidecar to slow down and let the dust settle? The issue is this: After overtaking-particularly ladies-should a speed he maintained to allow dust to settle, or is a rider justified in simply keeping ahead, the pace being determined by the overtaken?

Blackwood.

TYRE CREEPING.

Sir,—I can fully sympathise with "Ixion" re tyre creep. I have a 1920 outfit, and after two months I had a puncture in the back tyre. Taking the cover off to locate ti, you may imagine my feelings when I saw the valve, as "Ixion" puts it, "all cockeye." Further, I found I could replace the cover with my fingers without the aid of levers. Twice in one day did I have my valve ripped away, so on the next day I changed front and hack tyres. The new one on the back rim was really hard work to get on—an excellent fit. After three hundred miles another puncture in the back tyre revealed that the cover was getting distinctly looser. I wonder if "Ixion" would tell me if three security holts would remedy this.

LESLIE EVELEIGH.

ROAD REPAIRS.

Sir,—Doubtless all motor cyclists will agree that the roads in this country are in a terrihly bad state of disrepair. It is my "pleasure" to ride over a large area of the country, and therefore I am able to compare one district with another. However, it is difficult to say where one gets the worst bouncing. Fortunately, I ride a well-known British spring frame combination, but I sympathise with the rigid frame owner. Having had experience of road work, it has been my hobby lately to draw up comparisons of the it has been my nonny lately to draw up comparisons of the methods adopted to put the roads in order. There are two methods which, to my mind, are of only a temporary nature, and very expensive in the long run. These are tar-spraying and patching. In the former merely a crust is formed on the road surface, which eventually becomes powdered up: in the latter a good deal of valuable time powdered up; in the latter a good deal of valuable time and material is used in an endeavour to patch up a worn out road. If a road surface hecomes "pot holey" it is promptly patched up, and in nine cases out of ten just as

rough as before, except that the motorist gets a "bump up" instead of a "bump down." Patching is of very little use, as the mere fact of the road becoming full of holes in the first place goes to prove that the surface is becoming rotten, and will in time go in new places. This means that the workers employed in the repairs are constantly moving about the country looking for had places in the roads, and so much money is lost in what one might call "walking time." There must be a good deal of money for road work somewhere-therefore, why not use it in repairing the roads in a standardised way.

There should not be any great difficulty in compiling a scheme. Take the main roads as a beginning and divide them up into sections, and repair these sections all at one time. The work would be done quickly, and the roads would then make a more or less fresh start in a new condition all together. It will cost a large amount of money, but will be the cheapest in the long run. G.H.W.

Grantham.

TWO-STROKES AND SIDECARS.

Sir,—There is a prevailing opinion among those private motor cycle owners who have never tried one that a 23 h.p. two-stroke motor cycle is not powerful enough to pull a sidecar with an adult passenger.

I recently bought a 23 h.p. Alldays-Allon, and I attached a cance sidecar to steady the machine on the grease, as I had to ride to husiness daily—a matter of fourteen miles. To my surprise, I found I had ample power to carry a 12 st. adult, which I have done very often; also, I could climb a gradient in 6 on top gear, provided I had a good start, and travel on the roads in London at 20 to 25 m.p.h. My weight is 13 st. 12 lh., and with the roads as bad as they are in London at the present time I think this is a remarkable performance, because the machine is only a toy, as far as size is concerned, though it is built very strongly. Personally, I think it is the most perfect little machine of its class on the market.

C. W. G. BONE. The usual disclaimer.

FRONT BRAKES.

Sir,—I read with some surprise a letter in your issue of the 6th inst., signed "Lam Alif," in which he stigmatises the front rim brake as "ridiculous and useless, and a relic of the pedal rith make as 'Interious and access, and a rent of the peace cycle." Why should a fitting be assailed on the grounds of its being a relic of the pedal cycle? Two wheels, pneumatic tyres, a diamond frame, handle-bars, and chain drive are all relics of the pedal cycle, yet no one calls them "ridiculous and useless." The front rim brake, like those other commodities I mentioned, has been adapted to motor cycle needs, and works well. It has only two drawbacks-(1) it ruins the appearance of the front rim; (2) it means undoing two extra nuts when removing the wheel. But it needs no attention beyond an occasional drop of oil, and is extremely efficient.

I have used my 4 h.p. Douglas outfit up and down practically all the worst hills on Exmoor, including Porlock,
Lyuton, Countishury, and Parracombe, and found the rim
brake simply invaluable; it held almost as well as the back.
In any case, the front brake is necessarily an emergency
brake, and should be used for emergencies. The chief braking
strate should fell out the back when strain should fall on the back wheel.

Cambridge.



THE JUNIOR T.T.

Sir,-Although every motor cyclist must admire the bluck and ability of Cyril Williams in winning the Junior T.T. on a broken down machine, there are some who will wonder whether it is quite fair that he should be awarded the trophy. Comparisons are permitted in a case like this, and one must admit that on the point of reliability the Blackburnes won; but the T.T. is a race, not won on points, but on speed, and if the rider can get so far ahead that he can walk the last mile or so, and still beat the times of the

others, then undoubtedly he wins the race.

It was distinctly hard luck for the A.J.S. machines to develop troubles on the day of the race when such good perdevelop troubles on the day of the race when such good perdevelop troubles on the day of the race when such good perdevelop troubles on the day of the race when such good perdevelop troubles on the day of the race when such good perdevelop troubles on the day of the race when such good perdevelop troubles on the day of the race when such good perdevelop troubles on the day of the race when such good perdevelop troubles on the day of the race when such good perdevelop troubles on the day of the race.

Handsworth.

VARIABLE JET CARBURETTER.

Sir.—I see, in your issue of May 6th, a letter by "C.B. M.B.," regarding the B.S.A. carburetter. My brother and I have ridden a 44 h.p. B.S.A. for quite a long time, and have found that best results, regarding petrol consumption, are obtained by running on a three-quarter turn from the complete closed-down position when on level roads, opening on when hills are reached, or when a passenger is to be carried. The only source of anxiety is that the variable jet might turn down of its own accord, which is easily obviated by seeing that the catch fits tightly against the notches.

The only oil suitable for the B.S.A. gear box is the B.S.A. gear oil. Neither sticking nor slipping is then ex-

perienced.

We are now getting 95 m.p.g. from the 41 h.p. model. B.S.A. ENTHUSIAST. Sheffield.

FOUR-CYLINDER ENGINES AND ACCESSIBILITY.

Sir,—In a recent issue, your contributor, "Ixion," made some remarks as to the four-cylinder machine being inaccessible, which appears to show that he has not studied the type so deeply as the more conventional ones, about which he writes with such ability. For his benefit, and others who are interested, I should like to give some personal experiences of the case with which a modern fourcylinder machine can be dismantled; selecting as an example the 7-9 h.p. F.N.

On one occasion the big ends of the writer's engine ran out, through his own negligence in attending to lubrication. A complete new set of bearings was fitted without removing the engine from the frame, by simply taking the bottom half off the crank case and working from underneath.

This was done without disturbing the magneto or timing gears. The only other parts requiring to be removed were the footboards and supports, involving the removal of four nuts and two pins connecting the clutch and brake. Would the owner of any other machine but a Scott like to attempt a similar feat?

The transmission appears a mystery to many, though really it is surprisingly simple. The back wheel can be removed as quickly as that of any chain-driven machine without chain cases, and the bevel adjustment is not altered. Of course, this does not apply to makes fitted with quick detachable wheels, which could very easily be applied to a bevel drive.

The gear box, complete with universal joint and cardan-shaft, can be dropped out by uncoupling the clutch and change speed rods, slipping the sleeve off the rear universal joint and then undoing the two supporting bolts, about fifteen minutes' work, and the clutch then comes to pieces by unscrewing six nuts around the flywheel.

If it is necessary to take the engine out of the frame, it can be done by removing the footboards, inlet and exhaust pipes, and taking out the four bolts through the bearers, along which it can be slid to come off the clutch coupling, and then lowered at leisure.

No special tools are required anywhere on the machine, set of engineer's standard spanners and a screwdriver

being all that is needed.

While there is no doubt that the earlier four-cylinder machines were very tricky machines to handle, the same cannot be said of modern examples which should be absurdly simple to any man who can manage an 8 h.p. twin, and it is surprising that very few of them have progressed to a type which offers so many advantages in the way of power and speed, combined with great flexibility and really economical running.

ERIC CAUDWELL:

BALKAN D.R.'s.

Sir,-Apropos of the recent letters on the subject of a D.R.'s reunion, it will doubtless be interesting to know that this has to a certain extent been anticipated by the Balkan D.R.'s, whose first rennion dinner was held at the Restaurant Torino, Oxford Street, on Saturday, June 12th. It has been decided to hold this event twice yearly, and

to ensure success the attendance and co-operation of all Balkan despatch riders (whenever possible) is requested by

the promoters of the first rennion.

If all D.R.'s who saw service with S.A.R., M.C.O., Q.C.O., and the 27th, 28th, 22nd, and 26th Divisions, and also Hqrs., H.A., Vergetor, will communicate with Mr. Owen Feltham, of High Street, Ponders End, he will be glad to let them know what has been arranged.

An announcement of the second reunion will be made in due course, when it is hoped that a large representative gathering will be present.

G. HAROLD BURSTON.



CYCLES FOR THE MAIMED Several motor-assisted tricycles and one electrically propelled four-wheeler on monocar lines were seen in Regent's Park at the rally of cycles for war-maimed men, which was organised by The Motor Cycle and Cycle Trader.



M.P.G. AND UPKEEP OF SIDECAR MACHINE.

Sir,-In compliance with your comments on my recent letter dealing with tyre mileage, I append the other data mentioned. With these figures it should be possible for any interested reader to draw up for himself an estimate of running costs, and form an idea of the general service likely to be obtained. All figures are given as actually recorded.

SEASONS 1912, 1913, AND 1914.

31 H.P. B.S.A. (Single Speed) Fitted with "Aldion" Clutch Pulley and Wicker Sidecar. Gear Ratio 51 to 1 (approx.). Belts:

(a) Three Lim. rubber belts, not satisfactory owing to small engine pulley and because duties. Miles 2.617.

heavy duties. Miles, 2,617.

Jin. "Service" leather belt, scrapped when worn far enough to cause slip at belt rim. (The engine pulley was closed in as required.) Miles,

Belt Fasteners

(a) For rubber belts. No record kept,
(b) For "Service," 6 broken, average life 947 miles.

1912, 35 galls. pctrol. Mileage, 2,411 (60 m.p.g.), 1913, 521 ,, ,, 1914, 341 ,, ,, 3,574 (68 m.p.g.). 2,416 (70 m.p.g.).

Engine Oil (chiefly Prices' "A").

4. galls. Mileage, 8,401 (1,860 m.p.g.).

Replacements.

(a) Hodd amp bracket broke (due to vibration) at 3,355 miles.

(b) Clust pulley flanges renewed at 3,702 miles; and again after another 3,998 miles.

3,998 miles.

(These were badly worn, due to abrasive action of leather belt.)

(e) Bowden wire (throttle) gave out at 7,803 miles.

(d) Top piston ring and valve springs replaced (probably not necessary) at 7,009 miles.

Total cost of replacements (pre-war), £1 28. 6d.

Involuntary Stops (other than tyre or belt):

Two (chocked jet and short circuit respectively).

SEASON 1919.

44 H.P. B.S.A., THREE-SPEED, CHAIN-GUM-BELT, AND MILLEORD "SKIFF" SIDECAR. GEAR RATIO 5 TO I (APPROX.). Belt:

rin, Dunlop rubber, about half worn (as far as can be judged) at 3,645 miles.

(The advantage of the large pulley on the countershaft is very apparent.) (1ne advantage of the large pulley on the counter Belt Fasteners: Various makes, 4 broken. Average life, 739 miles. Fuel (petrol, 41 galls.; henzole, 13 galls.): 54 gallons. Mileage, 3,645 (67] m.p.g.). Oil:

(a) Engine (chiefly "Vacuum T.T.")-21 gallons. Mileage, 3,645 (1,620

(a) Lingme (enter) Vacuum 1.7. / - c services (a) (b) Gear box ("Clyde A" and ordinary machinery oi!, equal parts)—r; gallons. Mileage, 3,645 (3,250 m.p.g.).
(a) Top spring for front fork broke at 1,514 miles. (Road conditions certainly to blame.)
(b) Lubricator hand-plunger spring broke twice within the first 1,000 miles. (Replaced free of charge).
Total cost of replacements (post-war), 1/6.

Involuntary Stops (other than tyre or helt):

Four (once due to fork spring above, and three times due to stuck magneto

rocker). rocker). NOTES.—(a) In all cases the fuel recorded is the nominal amount purchased (not of necessity nett amount entering tank), and includes losses due to evaporation and filling, also a certain quantity used for sundry purposes, such as cleaning parts.

as cleaning parts.

(b) I cannot speak too highly of the services rendered by these two machines.

The B.S.A. may not be the fastest on the road, but, for the man who waits to "get there," it would be difficult to find a better. In short, I think had he fairest reticted in the rendered by the state of the rendered by the rendered by

JAMES WATT, M.I.A.E.

CHAIN ALIGNMENT ON SCOTTS.

Sir,-In reply to Mr. F. D. Martin's letter in The Motor Cycle of June 3rd concerning the Scott machine, perhaps the following may be of interest to him and other Scott owners.

To ahign the primary chains, remove the gear pedal, and take measurements from the crank case strap bolts. job can be done in ten minutes. I have ridden a Scott since December last in all weathers, during which time I have never had the slightest trouble with any of the chains. II lubricate them about every 100 miles with engine oil, and use two high gear chains, which I change about, approximately every 2.000 miles.

Before removing the old chain, the new one should be attached to the end of the old one, or considerable difficulty may be experienced in passing it over the engine sprocket.

I do not agree with Mr. Martin that Scott chains are too light. Owing to the even torque of the engine, there is less strain on the chains than in the case of a four-stroke, and the silence and smooth running of in. pitch chains

compared with heavier ones is very marked.

I have ridden a great many motor cycles, and have yet to find one that, for real confort and staying power, can touch the Scott, and, moreover, with a very little timing, such as smoothing out the exhaust passages and piston, this machine will be found to possess a remarkable turn of speed.

purposely refrain from giving figures. In conclusion, a word of appreciation for Messrs, Godfrey's, Lid., who are London agents for the Scott, and from whom I have at all times received very willing help and really remarkable courtesy. I have no connection with any firm, J. McCLIVE. either in the motor trade or out of it.

TWO-STROKES.

Sir,—"Ixion" remarks on the prevalence of baby two-strokes, and has seemingly meditated and wondered concerning this same. The reason, I think, is that they are a sound proposition. Cheap (as things go nowadays), re-liable, and practically foolproof, my own experience may be of interest. I am a pre-war motor cyclist, and have possessed various machines, from a 1½ h.p. front drive Werner to a modern T.T. solo machine of a leading make, which I disposed of during the war.

During a spell of hospital in 1918 I became possessed of a two-stroke with a Villions enging. The cutter was

of a two-stroke with a Villiers engine. The outfit was assembled by a firm called the Monopole Cycle Company, of Coventry. The Villiers engine was vaguely familiar. When I bought it, I confess I regarded the whole concern as a huge joke. But when I began to ride it my opinions very soon changed. The machine has a fixed pulley, but it is flexible to the last degree. It never falls on any ordinary road hill, nor on a great many extraordinary ones. It has its limits, of course, but it pulled me from Buckinghamshire to Cornwall during Christmas, 1919. (London to Exeter competitors will remember the weather) and back again, and did not fail on any hill. I rodo via Okehampton, Launceston, and Bodmin. I use it perpetually here in Edinburgh, and three weeks ago I ran from here to Cromer and back during a week-end. My repair bill so far has been 25s, for an overhaul job, which I was too lazy to do myself. I can honestly say that I have had more fun for less trouble out of this little machine than out of any of my others, always excepting the 1\frac{1}{2} h.p. Werner. But some people would hardly call that fun. Ye gods! what days they were. I need hardly add the usual disclaimer. FOURTEEN STONE. Edinburgh.

SUMMARY OF CORRESPONDENCE.

TAXATION.—R. Green, of Barking, suggests a four months' and an eight months' licence as a fair means to provide for those motor cyclists who are not in the habit of riding all the year round.

COURTEOUS TREATMENT,-H. C. Newman, of Windsor, commends Grado, Ltd., for prompt and free replacement of parts. "Eldon," Scarborough, mentions Zenith Motors, Ltd., in similar terms of praise.

BOOKS AND MAPS FOR MOTOR CYCLISTS.

Issued in conjunction with The Motor Cycle. net, post 2/10 "HINTS AND TIPS FOR MOTOR CYCLISTS."
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A selection of questions of general interest received from readers and our replies thereto. All questions should be addressed to the Editor, "The Motor Cycle," 20, Tudor Street, London, E.C.4, and whether intended for publication or not must be accompanied by a 2d, stamped addressed envelope for reply. Correspondents are urged to write clearly and on one side of the paper only, numbering each query separately, and keeping a copy for ease of reference. Letters containing legal questions should be marked "Legal" in the left-hand corner of envelope, and should be kept distinct from questions bearing on technical subjects.

Fitting Handle Starter.

I am using a 2½ h.p. Diamond-Jap, fitted with Enfield gear, and I wish to fit a handle starter. I thought of riveting a chain sprocket on to the bottom gear countershaft sprocket, but find there is insufficient room. (1.) What alteration

would be necessary to do this? (2.) If this is not possible, can you suggest an alternative?—L.S.

(1.) We do not think that you can alter the lightweight Enfield gear in such a way as to fit a handle starter. (2.) It would be very difficult to fit any satisfactory starting arrangement to a machine of this type.

Uneven Lubrication of Scott.

My Scott gets decidedly more oil into the left-hand crank case than into the other. What is the best way of getting the lubrication of the two equal?—W.H.

Presumably, your machine is not fitted with the latest pattern lubricator, with separate regulator to each crank case. We should strongly advise you to have one of these fitted, as they are a great convenience. If you wish to adjust your present system, however, you might remove the oil pipes and restrict the aperture in the unions which screw into the crank case on the side suffering from over lubrication.

Duration of Accumulator Lighting.

At present I am using a 6 volt 52 c.p. half-watt head lamp and two 5-5 volt miniature screw (pocket lamp) bulbs (in series) on my 6 volts 60 amp. accumulator. Kindly tell me how long would

the battery last (an efficient light) if I used a 50 c.p. half-watt 6 volt lamp and the same side and tail lights? Please give me a formula for working it out.—R.C.

In actual practice the alteration you suggest would decrease the duration of efficient light from the accumulator by about four or five hours—that is to say, you should get from seven to eight hours running from a full charge. In order to calculate the duration obtained, the following formula is applied when small half-watt bulbs are used:

Watts = c.p. x two-thirds (about).

 $Amps = \frac{watts}{battery\ volts.}$

Add the amps. for each circuit, then

duration of light = $\frac{\text{amp.-hours}}{\text{amp.}}$

A Damaged Timing Gear.

I have a 2½ h.p. four-stroke engine, perienced great difficulty in starting up, due (apparently) to too much compression. This trouble, curiously enough, has only started since I had what I thought to be a seizure, but which turned out to be the spindle of the cam levers working loose and catching in the flywheel. This I have put right, but still have the back wheel skidding on each com-pression stroke. I turned the engine over to-day, after having taken off the timing cover, and was very surprised to see No. 1 timing wheel blown out of its socket. (1.) Would this point to too much compression in the crank case, as I found that the engine revolved quite normally when timing wheel was out? (2.) Do you think that the valve situated behind the timing wheel is clogged up, preventing the air from escaping from the crank case ?-J.H.P.

(1.) It is quite unlikely that crank case compression would be so great as to skid the back wheel. (2.) In all probability, the timing wheel shaft was bent when the rocker spindle worked loose and fouled the tlywheel, and we think that the resistance is due to the resultant binding of the wheels, rather than to any excess of compression.

Choice of Machine.

I am writing to ask if you will give me some advice on purchasing a new motor cycle. I think I read once, in The Motor Cycle, that a big single was as economical to run in the way of tyres, petrol, and repairs as a two-stroke. (I.) Is this so? (2.) I have found that a light four-stroke is not very successful as regards reliability over the Devonshire roads. Would the same apply to a two-stroke? (3.) Do you think that a good two-stroke will prove reliable and economical to run over reliable and

(1.) We do not remember any statement to the effect that a big single was as economical to run as a small two-stroke, (2.) A light machine, either four-stroke or two-stroke, should be satisfactory if a model of first class manufacture is selected in the first instance. (3.) Such a machine would no doubt prove quite reliable and economical, but in your district it would be almost essential that a two-speed gear be fitted. (4.) One thousand miles is certainly not the limit of life of a machine of this class.



A TRICKY HAIRPIN. The Sheffield and Hallamshire M.C.C. found a bad left-hand hairpin to worry the sidecarists in the recent trial for the Wilkin and Thompson Trophies. Reynolds (4 h.p. Norton sc.), who gained the Thompson Cup and two special prizes.



Gimes to Light Lamps.

June	24011			9.49	p.m
,,,	26th			9.49	,,
,,	28th			9.49	,,
,,	30th	•••	•••	9.48	,,

The 1920 T.T.

A triumph for the British "single."

Wonderful!

That a liftle 250 c.c. two-stroke could average 38.31 m.p.h. for practically six hours in a T.T. race is truly wonderful.

In the 1914 T.T. the best performance by a two-stroke under 250 c.c. was an average over the course of 30.6 m.p.h. Clark's speed was 7.7 m.p.h. faster.

The Topic of the Moment.

. Last week the T.T. was the topic of the moment, and on tram, 'bus, or train, in cates, restaurants, and theatres, one could hear the race discussed.

The Club Championship.

The M.C.C. team trial for The Motor Cycle Challenge Cup starts from Tring at 1 p.m. on Saturday. Particulars of the teams competing will be found on page 727.

Joint Speed Trials.

Entries close on Saturday next for the joint speed trials organised by the Essex M.C. and Southend and District A.C. for July 15th. The organising secretary is Ernest J. Bass, 40, Chancery Lane, W.C.2.

The 8 h.p. Clyno.

There are quite a number of 8 h.p. Jap-Clynos on the road which saw service during the war, and this is causing a certain amount of confusion on the part of the public, who mistake them for the new 8 h.p. Clyno, which has not vet been sold to the public. We understand, however, that its appearance on the market will not be delayed much longer.

The A.C.U. Royal Patron.

H.R.H. Prince Albert, patron of the A.C.U., could not go to the Isle of Man

owing to other engagements. Through his equerry, the Prince signified his interest in the T.T.

The Auto-Cycle Union, through its secretary, Mr. T. W. Loughborough, last week offered H.R.H. Prince Albert, as patern of the Line. as patron of the Union, a silver A.C.U. badge for attachment to his motor cycle. Replying to the Union, the Prince's equerry, said that His Royal Highness was very pleased to accept the A.C.U. badge, which would be affixed to his

Police Activity.

The police are very active at present Carmarthen borough. Traps are in Carmarthen borough, Traps are working in four different entrances to the town.

Noise.

The A.A. has reminded drivers of cars that as a matter of courtesy, warning should also be given of their intention to pass motor cyclists. It is pleaded that owing to the noise made by their machines, motor cyclists cannot always because the control of the cont hear vehicles coming up behind them. Yet there are some who affirm that the noise of a motor cycle is in a sense a protection against accident.

The East Lancashire M.C.C. Open Hill-climb.

The Open Hill-climb to be held by the East Lancashire M.C.C. on Satur-day, July 3rd, is one of the twenty open competitions sanctioned by the Auto-Cycle Union, Special classes have been instituted for amateur riders. There will be classes for scooters, solo machines from 275 c.c. to the unlimited class, while the events will be alternately for members and open up to Class 10. The remaining classes for unlimited solo machines, 500 and 600 c.c. sidecar machines, passenger machines unlimited

machines, passenger machines unlimited and three-wheeled cycle cars, and light cars up to 1,500 c.c., will be open. Entries close, first post, Saturday morning next. Full particulars can be obtained from the hon. secretary, W. D. Guest, 9. Exchange Street, Black-

Special Features.

THE T.T. RACES DESCRIBED. TWENTY YEARS OF LIGHTWEIGHTS,

A Mystery German Motor Cycle.

Who was the rider of an apparent post-war N.S.U. seen on the Maidstone Road last week? It was a new model twin, with gear box and dynamo lighting.

Tool-bag Found.

Mr. John East, of 26, Palace Street, Buckingham Gate, S.W., on the 15th, picked up an Indian tool kit on the Putney-Kingston road.

A Motor Cyclists' Paradise.

The Isle of Man is the ideal place for a motor cycling holiday. Good scenery, splendid roads, and no irritating restrictions. When the Isle of Man Steam Packet Co. realise that there is great room for improvement in the manner of handling motor cycles for the cross-channel trips, then will they and Manx people generally reap full reward.

A Speed Limit Avoided.

A proposal to apply for the imposition A proposal to apply for the imposition of a speed limit through the village of Witney, Oxfordshire, has been abandoucd, following negotiations between the Automobile Association and the local authorities. The latter agreed to refrain from lodging an application upon the understanding that the Association would request motorists to drive carefully through the village.



J. A. Watson-Bourne (Blackburne), second in the Junior T.T., at Craig-na-Baa.

Speed and Reckless Driving.

A motor cyclist charged with reckless driving was dismissed by the magistrate, as it was argued that even 50 m.p.h. was not reckless driving if the driver had complete control of his machine.

The Home of Champions.

Herefordshire has need to be proud of its sons. T. C. de la Hay, this year's Senior winner, Eric Williams, the 1914 Junior winner, and Reg. Brown, third in last week's Senior event, all hail from that county.

Exit Grove Park.

Grove Park M.T. workshops and depots have closed down. The remaining staff and mechanics have been transferred to the Kidbrook (Lee) depot. All that can now be seen of the famous camps is the remains of a hut and a few battered petrol cans.

Cold Store for Motor Dump.

The latest motor dump is at the Deptford Cattle Market, a Government depot since the war. One of the largest cold stores is now being packed with M.T. goods, including magnetos. parts and fittings, tyres, oils, grease, etc. Consignments are arriving by river, and it is said are mostly new and unused.

A Manx Function.

On the evening of Wednesday, June 16th, the members of the press and A.C.U. Officials in the Isle of Man in connection with the T.T. were entertained at dinner, at Collinson's Caté, Duke Street, by the Mayor and Corporation of Douglas. Among the Manx notabilities present were the Lieutenant Governor, the Speaker of the House of Keys, the High Bailiff, and the Mayor of Douglas. Interesting references were made to the earlier history of the T.T., and the statement was put forward that the first motor cycle race ever held took splace over a three-mile course in the vicinity of Douglas, before the A.C.U. became officially concerned with motor cycle racing in the Island.



F. W. Applebee (Levis), aged fifty-eight years, the oldest competitor in the Junior T.T. race. He receives the Nesbit award for the most plucky performance.

Congratulations and Thanks.

The officials of the A.J.S. firm ask us to convey thanks to the large number of enthusiasts who have sent their congratulations on their win in the Junior T.T. These have been so numerous that it has been found impossible to write each individually.

The T.T. Winner.

T. C. de la Hay is down to compete in the M.C.C. Team Trials on Saturday. He is a member of the team nominated by the Worcester and District M.C.C.

Taxation.

Between twenty and thirty Members of Parliament have already given in their names as supporters of the amendments to the Finance Bill which have been adopted by the Motor Legislation Committee. A flat rate duty in petrol is advocated.

Brooklands.

On Saturday next the British Motor—Cycle Racing Club programme will include two 100 mile races for Junior and Senior T.T. types of machines, an all-comers handicap. The first open—B.M.C.R.C. meeting is fixed for Saturday, July 10th.

The International Six Days.

Seventeen entries have been received for the International Six Days Trial in France, July 26th-August 1st. These include A.B.C. (4), Rudge Multi (2), Triumph (2), Scott (3), and Indian, Zenith, Motosacoche, Gillet, Condor and Morgan (1 each).

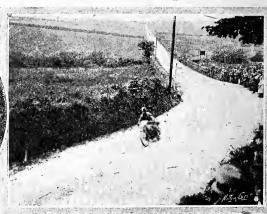
Pillion Penalties.

We are informed that in future when motor cyclists are summoned for having their number plates obscured by any part of a pillion rider's dress, the passenger will also be summoned for aiding and abetting the offence. This edict is, attributed to the superintendent of the Doicaster and West Riding Constabulary.

Northern Sale of Army Motor Cycles.

A sale of Government motor vehicles by Messis. Cooper at Newcastle on June 17th realised £9,000. Douglas motor cycles realised from 33 guineas to 47 guineas, and with sidecars from 47 guineas, to 73 guineas. Trimmphs sold for 37 guineas to 80 guineas, and with sidecars from 40 guineas to 71 guineas.





FLAT AND V TWINS IN THE JUNIOR RACE.

N. W. Loughton (Douglas) and Eric Longden (Dot-Jap) both rode consistently throughout the race. Hilberry Corner is seen in the right-hand picture,



MANY RECORDS BROKEN.

A Keen and Exciting Race followed enthusiastically by a Huge Concourse.

ANOTHER SINGLE-CYLINDER SUCCESS.

The Winner, T. C. de la Hay, riding a Three-speed Chain-driven Sunbeam, averages 51.79 m.p.h.

DURING Wednesday the course dried out into beautiful condition, but heavy rainstorms fell during the night, and Thursday morning broke dull and threatening. It was felt that the race was exceptionally open. Dance and de la Hay lad shown in practice that they might be invincible as regards pure speed, but they were half expected to set such a cracking pace that they would chase each other off the Island, and if they fell out, few cared to choose between a dozen rivals. The Manxmen, of course, refused to consider any possible winner but, D. M. Brown. J. W. Shaw was known to be fast, and many good judges fancied that the Indians had something up their sleeve. The 'sky was clearing as an immense crowd assembled in Glencutchery Road, and there was every promise of a dry day, though nobody dreamt that a scorching sun would harden all the open parts of the course within a Jap or so.

Impressions of the Start.

Of the twenty-nine riders on the programme, twenty-seven answered the starter's call. Moffat (No. 73) had damaged his machine in practice and was mable to procure another. Redmond (No. 77) had also withdrawn in the preliminary stages. The remainder filed out of the storage tent in their starting order, glad to escape from the noisome tumes with which the final warming up had laden the atmosphere. Vivian Olsson, imperturbable as ever, could not be bustled by the fussiest marshals. Well before 9.30 a.m. the twenty-seven were parked with military precision, as in the Junior event, within white oblongs chalked on the road behind the "start" banner. How the last to start must have envied A. H. Alexander (Douglas), who

had drawn the first place in the ballot, and so got away after a very brief wait with his engine still warm from the tent.



A WELL-PLEASED TRIO.
The Senior winner, T. C. de la Hay, with the designer of the winning Sunbaun, J. E. Greenwood, and A. S. Bowers, managing-director of John Marston, Ltd.

The get-aways were spoilt in several instances by the sulkiness of cold engines. Several men changed up too soon, but the cleverer jockeys warmed up their induction systems by a longer burst on second gear. Some cut out for the corner at the top of Bray Hill, whilst others merely reduced the throttle opening, so getting the engine warm as fast as possible. A. H. Alexander led off well on his six-speed Douglas, and a minute later the favourite, Dance, tore after him. Eric Williams perhaps got off better than anybody else, and had to lie well over to swing on to Bray Hill. D. M. Brown got a big cheer from the natives, though got a big cheer from the natives, be had to run quite a little way before his Norton fired. Howard Davies on the 350 c.c. A.J.S. lost nothing by compared to the bigger fellows. The A.B.C. pair put up a thunderous acceleration, but did not seem specially fast. A number of the entrants wobbled perceptibly as they worked up through their gears.

Mile a Minute Speeds.

Long before the field had departed it was clear that the pace was going to be a real cracker. The progress board below the timekeeper's box recorded the arrival of each man at Ballacraine, Kirkmichael, Ramsey, and Craig-na-Baa. Fifteen minutes after, A. H. Alexander had started he was posted as having passed Kirkmichael (fourteen miles away), and Dance's number went up on the same line a few seconds later. The sum was getting hotter every minute, but the grease in Glen Helen was bound to survive for a couple of hours yet, and nearly 60 m.p.h. along tortuous lanes, full of corners, dry in patches, and tree-shadowed elsewhere, spelt terrible risks. But the men kept it up till the mountain

The Senior T.T. Race.

slowed them a trifle. For example, Alexander's Douglas did the twenty-four miles to Ramsey in approximately 25m., and reached Craig-ua-Baa-341m. from the start-in 37m. The progress board makes the official enclosure by far the best coign of vantage, for its reports beguile the long waits when all the leaders are away on the far side of the Island in the middle of their laps. Lucas's A.B.C. created a sensation by catching three men between the start and Ballacraine, only to retire at Ramsey with a broken valve-the first an A.B.C. engine has ever broken.

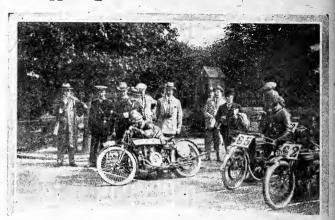
A Record Lap.

By 10 a.m. all the entry had left, and for ten minutes or so there was nothing to do but watch the leaders' numbers being hoisted in quick succession on the lower racks of the progress board. The warnnoisted in quick succession on the lover racks of the progress board. The warn-ing whistle sounded at about 10.12. "Alexander!" we shouted; but, as we craned our necks, Dance burtled through, sitting well down to it, and screaming past like a projectile. His marvellous laptime was 41m. 28s.—48s. faster than the 1914 record-nearly 55 m.p.h., done from a standing start over a greasy course, estimated to be a full minute longer than the old route.

A. H. Alexander shot through in 43m. 52s., having been passed by Dance on the Z bend at Governor's Bridge, where his belt fastener broke. He told ns later that the engine was "altogether too purple" for the belt fasteners, of which he used up four in three laps.

Road Conditions.

The men were heavily mud-splashed. and their machine numbers were difficult to read. The third starter, Victor Horsman, had barely passed before the inevitable dog did a mimic flying kilometre right along the stands. Luckily, the frightened mongrel was collared just before Harveyson shot through. Harold Petty was hotly pursued by Eric Williams. who was only a few seconds faster on his Sunbeam than his best lap on the A.J.S. in the Junior. Then de la Hay, Sclater. Townsheud, and Walker fled past in a bunch, but nobedy approached Dance's Howard Davies did 44m. 57s. on his A.J.S., as compared with 46m. 2s. in



FIRST MAN OFF! A. H. Alexander (Douglas) made a fine start, and was round again in 43 min. 52 secs., which included a stop.

The big crowd was thoroughly enjoying the spectacle, for the machines were doing perhaps 70 m.p.h., and bouncing through sheer speed on the almost imperceptible wayes of the road surface, whilst a nasty bump at Bray Hill corner flung some of them a foot off their saddles.

The sensation of lap one was Dance's phenomenal speed, whilst patriots were perhaps a little relieved that the Indians did not seem too formidable,

The following dozen headed the field after one lan:

POSITIONS AT END OF FIRST LAP

		•	
		m.	9
 G. Dance (Sunbeam) 		4 I	4
A. H. Alexander (Douglas)		43	
 D. M. Brown (Norton)		43	3
 T. C. de la Hay (Sunbéam) 		44	
 H. R. Davies (A. J.S., 350 c.c.) 		44	4
6. T. Simister (Norton)		41	-
Eric Williams (Sunbeam)		45	
F. C. Townshend (Sunbeam)	1		2
C. Reg. Brown (Sunbeam)	ĵ	45	-
to. V. Olsson (Norton)		45	3
N. C. Sclater, junt. (Norton)		46	3
12. V. E. Horsman (Norton)		46	1
No machines dropped out on this lan ex	cent	Luc	25

ABC

Second Lap. Could Dance last long at such a pace? was the burning question as the field completed lap I, and the crowd grew tremulous with excitement as he reappeared astonishingly early, unfastening his filler caps as he slowed down for his depot stop and wobbling a little with the one-handed steering. He was off again in twe ty-five seconds or so, and miraculous lap time of 40m, 43s, went up on the board-nearly 56 m.p.h.! The mud which the boy scouts were mopping off the number plates as the men stopped bore witness to the state of the roads, but the sun was more positively fierce, and the roads were dry except where trees shaded them. A. H. Alexander did 41m. 23s. for his second lap, showing that the Douglas might still have to be reckoned with. Then came a minor sensation quite apart from the placing of the men. Everybody was stopping at the the men. Everybody was stopping at the cages for fuel and oil after two laps, and it was noticeable that the Indians dryskidded on the smooth tarred road when violently braked. None of them had



F. C. Townshend (Sunbeam) negotiating the corner at Quarter Bridge. Many and varied were the styles of cornering.



A fine speed impression of the winner, T. C. de la Hay (Sunbeam), at the Gooseneck, above Ramsey.

front wheel brakes, and when the back wheel was locked, they began to swing sideways and threatened to topple over. Several of them eased their brakes and were content to overshoot their depots, but F. W. Dixon crashed heavily some eight yards short of his cage and slid up to it on his shoulder. Luckily neither machine nor man was the worse-Harveyson and Douglas Alexander on sister machines narrowly averted similar spills, and on subsequent laps all the Indian riders decelerated far more cautiously.

When we were able to work out the position, it was seen that the Indians were forcing their way up, and that Eric Williams meant business. Notice how a clump of four Sunbeams were running, fourth, fifth, sixth and seventh, under a "handkerchief" no bigger than eighty-one seconds. If the meteoric Dance en-

countered disaster, this quartet would plainly take a lot of heating. But the islanders were all confident that Dance and Alexander would crack, and let Duggie Brown's Norton up to win; and as subsequent events showed, they were not so very far wrong.

	POSITIONS AT END OF SECOND	LA	Р.	.*
		h.	m.	s.
χ.		I	22	11
2.		1	25	15
3.	D. M. Brown (Norton)	1	26	59
4.	Eric Williams (Sunbeam)	1	29	1
5.	T. C. de la Hay (Sunbeam)	Y	29	4
6.	F. C Townshend (Sunbeam)	1	30	20
7.	Reg. Brown (Sunbeam)	Υ	30	22
7· 8.	N. C. Sclater, junr. (Norton)	I	32	- 4
9.	V. E. Horsman (Norton)	1	32	Ġ
10.		I	33	44
11.		1	34	12
12.		1	34	12
-	The following dropped out during lap	2:	No.	60.
H.	R. Davies (A. J.S., 350 c.c.), engine trou	ble	at K	irk
2	shool. No so D C Alexand (A D C)			-1.1.

at Crosby; leaving 24 out of 27 still racing.

Third Lap.

The third lap produced the first real change in the outlook, and, incidentally, bred acute anxiety in the press box at any rate. The progress board remained absolutely blank about A. H. Alexander after he left the depot for his third lap. George Dance—No. 65—was reported from every telephone box on the course in quick succession, the last being at Craig-na-Baa, three miles away. Then both men were lost in a mysterious silence, which continued for an hour or more. We were receiving prompt messages from the time-keepers box. via Secretary Loughborough's megaphone of any mishaps to other lost sheep, and slowly suspicion deepened that Dance, at any rate, and perhaps Alexander also, had been killed, and that the officials were anxious not to harrow our feelings by announcing the



Another remarkable speed photograph. Second to finish, D. M. Brown (Norton) going well up the mountain road





Eric Williams (Sunbeam) jumping Ballig Bridge. A jammed brake was responsible for a fall, through which he was compelled to retire.

tragedy hefore the race was over. We had to wait a very long time for more reassuring, if still disappointing, informa-tion. In the meantime Dance was calmly watching the race from a house top, unconscious of public anxiety on his behalf, and the crowd fell to reconsidering the race now that both the leaders had vanished into the unknown.

The sun was blistering, the course as a whole was now hone dry, and the machines which crackled up at somewhat lengthy intervals were now displaying clean numbers.



Lever attachment to the oil pump on Alexander's Indian Scout.

The Indians were remarkable for their ren running at this stage, though hardly fast enough to win. De la Hay was going great guns. Reports from observers posted along the course already marked him as more than dangerous. His corner work was described. work was described as magnificent, and his acceleration as superior to that of any rival. — Unless D. M. Brown had a little reserve speed still in hand, the experts considered that the Sunbeam would catch the Norton rider.

Eric Williams was a specially noticeable absentee in the course of this lap. His brake jammed as he slowed for Quarter



The A. J. S. special oil filler cap to facilitate replenishing.

Bridge-a misfortune which happened to one or two others in the race. As he could not steer round the corner, with extraordinary coolness he selected a soft spot to hit, and charged a wooden gate in preference to a stone wall. He escaped unhurt, but his Sunbeam was put quite hors de combat.

DOCITIONS AT END OF THREE LADS

	POSITIONS AT END OF THIREE E	MES	•	
		h.	m.	s.
I.	D. M. Brown (Norton)	2	II	48
2.	T. C. de la Hay (Sunbeam)	2	14	11
3	Reg. Brown (Sunbeam)	2	16	59
4.	F. C. Townshend (Sunbeam)	2	17	45
5.	N. C. Sclater, junr. (Norton)	2	19	1
6.	F. W. Dixon (Indian)	2	20	49
7· 8.	J. W. Shaw (Norton)	2	20	55
8.	H. R. Harveyson (Indian)	2	21	1
.9.	D. S. Alexander (Indian)	2	23	17
10.	Noel H. Brown (Norton)	2	31	36
Tı.	Harold Petty (Norton)	2	33	15
12.	H. le Vack (Duzmo)	2_	36	7
T	he following dropped out on lap 3:	No.	55,	V.
Olss	on (Norton), came off at Windy Corner.	, bra	ake g	gear
foul	ed chain; No. 62, V. E. Horsman	1 (1	Vorte	on),
+	ed in after a partial engine seigure at	Bir	analo	· 1111

toured in after a partial engine seizure at Bungalow; No. 65, G. Dance (Sunbeam), broken inlet valve near end of lap; No. 68, T. Simister (Norton), broken piston at fhillberry; No. 72, Eric Williams (Sunbeam), dry-skidded and hit a gate at Quarter Bridge; leaving 19 out of 27 starters still racing.



Trumpet exhaust pipes on R. Lucas's A.B.C. Short diagonal pipes relieve the back pressure in the bends.

Fourth Lap.

The first sensation of lap four was due to either a practical joke or a tem-porary aberration on the part of the telephone operator in charge of the progress board. He duly reported the leader, D. M. Brown, at Kirkmichael, but we waited and waited till the clock suggested that No. 56 must surely be down and out. Suddenly the Manx rider was placarded as passing Craig-na-Baa just as poor Horsman toured slowly in to retire at his cage, with a tinny noise inside his engine. Terrific cheering hailed the resurrection of Brown who replenised his tanks very coolly, waving to his relatives in the stand, and roaring off again without fuss or flurry. Quite

apart from Manx partialities, the crowd as a whole recognised that his Norton was stalling off a heavy challenge from the Sunbeam trio. In swift succession a bery of the faster men paused at the seges—Reg. Brown, Harveyson, D. Alexander, and de la Hay. True to the experts' forecasts, in mid-race de la Hay lad caught up a full minute on D. M. Brown in lap four, which was his fastest up-to-date. Close on one o'clock came the tardy news that Dance was at Craigna-Baa unburt-for nearly two hours we had feared the worst. His mlet valve



D. S. Alexander fitted a small windshield to the front number plate of his Indian Scout.

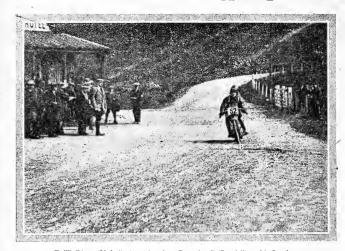
had broken at the cotter hole, and not

unnaturally his only spare was an exhaust with a stem of larger diameter.

The Duzmo did 47m. 53s. for the fourth lap—its best, and also its last. Of the slower men, Dr. Lindsay's amateur Norton team (Jack Thomas, Norman Black, and the doctor) aroused special interest. Lindsay was riding a machine which he uses daily in his profession, and Black's mount was belt-geared with a Philipson pulley. This trio had no high ambitions, but were out to finish the course.



Jack Thomas (Norton), who rode without goggles, cornering on the Gooseneck.



F. W. Dixon (32 Indian) passing the "Bungalow" (Snaefell) on his first lap.

The Indians, pursning their safety policy, were clearly ready to take advantage of any slip by the four hares in front of them.

	L	EADING	MEN	ΑT	END	OF	FOUR	L	APS.	
								h.	m.	s.
	1.	D. M. Br	own (N	orto	n)			2	5.5	56
	2.	T. C. de	la Hay	(Sun	beam)			2	57	27
	3.	Reg. Bro	wn (Su	nbea	m)			3	1	30
	4.	N. C. Scl	ater, ju	ınr. (Norto	a)		3	4	55
	5.	H. R. H.	veysor	(Inc	liau) .			3	6	58
	6,	D. S. Ale	xander	(Ind	ian) .			3	8	2.2
	7.	F. C. Tos	vnshen	d (Su	nbean	1)		3	9	48
	ô.	Noel H. I	Brown	(Nor	ton) .			3	19	11
	9.	J. W. Sh:	aw (No	rton)				3	20	31
I	о,	F. W. Di	xon (In	dian)			3	23	ī
I	I.	H, le Vac	k (Duz	mo)				3	24	0
I	2,	F. C. Nor	th (No	rton)				3	25.	55

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Fifth Lap.

At this stage things were rather quiet, our chief interest being concentrated upon the invisible duel which D. M. Brown and de la Hay were fighting out behind the screen of hills. It is ungracious to cavil at the progress board, which on the whole played the part of a kindly telescope for the crowd. But on lap five it inadvertently announced that de la Hay had caught Brown, though a seven-minute starting difference camouflaged the narrow gap which actually separated them. The announcement was corrected in time to prevent many Manxmen from expiring of heart failure : they breathed again when No. 56 was reported as leading at Craig-na-Baa. Meanwhile another lost sheep had been traced, and Simister-missing for two laps-was reported as touring in from Hillberry. Meanwhile Walker made a prolonged stop at his cage, and A. H. Alexander experienced just such another tardy resurrection as Dance's—a buzz of relief went through the crowd when the progress board suddenly hoisted No. 74 as having

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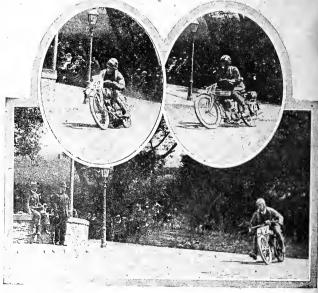
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Methods of cornering at Quarter Bridge. (Top. left) Jack Thomas (Norton). (Right) F. W. Dixon (Indian). (Bottom) N. C. Sclater (Norton).

The Senior Tourist Trophy Race .-

but the duel between the leaders consumed everybody's attention until the end. There was little to record during this final lap, which seemed interminable. A. H. Alexander came in to retire, muttering unuttcrable things about belts. Jack Thomas toured in gently to finish his fourth lap. J. W. Shaw went through almost as fast as de la Hay, but well behind on nett time. Dixon passed at no very great speed. Everybody was glancing from the progress hoard to the clock, and back from the clock to the board.

	AFTER FIVE LAPS.			
		h,	m.	s.
1.	T. C. de la Hay (Sunbeam)	'3	41	10
. 5.	D. M. Brown (Norton)	3	41	12
- 3.	Reg. Brown (Sunbeam)	3	17	31
4.	N. C. Sclater, junr. (Norton)	3	5-2	- 4
5.	H, R. Harveyson (Indian)	3	54	3.
6,	D. S. Alexander (Indian)	3	54	47
7.	N. H. Brown (Norton)	4	ż	12
8,	J. W. Shaw (Norton)	4	7	39
9.	F. C. Townshend (Sunbeam)	4	ó	10
10.	F. C. North (Norton)	4	13	50
11.	F. W. Dixon (Indian)	3	18	3
12.	Norman Black (Norton)	4	18	15
1	he following dropped out in the fifth la	0 *	No.	60
11.	le Vack (Duzmo), walked into Bungalow;	one	1 No	75
A.	Lindsay (Norton), engine trouble near	Ro	llan.	gh :
leav	ving 14 survivors out of 27 starters.	330	mau	511,
	O - 1			

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THE COMPLETE RESULTS OF THE SENIOR RACE.

Starters, Weights, Individual Lap Times, and Average Speeds Accomplished.

Rider and Machine.	Weight of Machine.	Weight of Rider.	First Lap.	Second Lap,	Third Lap.	Fourth Lap.	Fifth Lap.	Sixth Lap.	Total Time.	Average Speed.
T. C. DE LA HAY (Sunbeam) D. M. BROWN (Norton) REG. BROWN (Sunbeam) N. C. SCLATER, Junr. (Norton) N. C. SCLATER, Junr. (Norton) D. M. ALEXAMNOR (Indian Scout) D. M. ALEXAMNOR (Indian Scout) N. C. SCHATER, Junr. (Norton) F. C. FOWNSHEND (Sunbeam) F. C. NORTH (Norton) F. C. NORTH (Norton) NORMAN BLACK (Norton) NORMAN BLACK (Norton) JACK THOMAS (Norton) ALEX. LINDSAY (Norton) ALEX. LINDSAY (Norton) ALEX. LINDSAY (Norton) A. H. ALEXAMDER (Douglas) G. DANCE (Sunbeam) V. E. HORSMAN (Norton) T. SIMISTER (Norton) T. SIMISTER (Norton) T. SIMISTER (Norton) ERIC WILLIAMS (SINDSAM) E. S. ABRAM (A.B.C.) H. R. DAVIES (27 A.J.S.)	263 241 274 292 293 264 267 240 267 248 292 266 267 248 292 266 267 248 292 266 267 248 292 267 268 255 241 277	186 134 162 157 144 158 142 155 157 144 175 156 156 156 156 158 138 138 138 137 141 162 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160 160	m. s. 44 63 443 53 45 22 46 144 47 14 48 67 57 26 57 26 57 26 57 26 57 17 57 29 47 17 47 17 45 29 41 28 41 28 44 53 50 31 44 53 50 31	m. s. 44 58 44 58 445 50 46 20 47 14 58 49 37 55 18 51 13 40 14 55 6 20 46 33 45 56 20 46 33 45 56 20 46 33 45 56 20 46 33 45 56 20 46 33 45 58 18	h, m. s. 45 49 45 49 46 57 47 10 47 17 10 47 17 10 47 17 10 52 23 47 25 51 57 52 51 77 29 52 83 52 86 55 4 7 55 1 7 55 61 55 4 7 55 61 55 4 7 55 62 55 63 55 64 57 55 64 57 58 58 58 58 58 58 58 58 58 58 58 58 58	b. m. s. 43 168 444 88 444 88 444 84 55 47 45 56 10 03 52 33 52 33 36 17 53 36 17 53 36 17 53	h. m. s. 43 46 111 460 11 47 9 47 7 96 47 86 47 8 47 56 59 22 1 1 3 8 1 4 20	m. s. 41 13 44 56 44 56 44 56 47 43 45 51 46 38 47 47 47 17 47 17 45 19 47 49 41 59 9 47 42 1 5 4 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1 5 1	h. m. s. 4 22 23 4 24 24 24 24 24 24 24 24 24 24 24 24 2	m.p.h. 551, 79 551, 195 549, 88 48, 57 48, 48 48, 29 46, 57 46, 16 46, 14 46, 14 47 41, 16 48, 14 41, 16 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41, 18 41

Fastest lap: G. Dance (Sunbeam), 40m. 43s, = 55.62 m.p.h. (record). Reg. Lucas (A.B.C.) also started, but did not complete a lap.

NOTES ON THE SENIOR RACE.

After the race a spare inlet valve was taken to G. Dance's stranded Sunbeam, dropped into position, and the machine at once ridden to its garage.

Despite the inaccessibility of the mountain road the whole distance of it was dotted with spectators; many took the mountain railway to the Bungalow, and walked down to Ramsey.

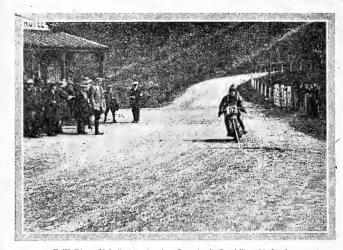
Owing to a variety troubles Jack Thomas did not finish till 3.47 p.m. He had started at 9.54 p.m., and was, of course, at the start before 9 a.m. together he was some seven hours on the job, and looked very fagged.

A very sporting run was made by Norman Black, who finished eleventh on a direct driven Norton fitted with Philipson pulley.

Only one competitor retired on the first lap, which demonstrates the excellent condition of the machines and the first-class jockeying which pleased the thousands of apectators so greatly.

Much amusement was caused at varions points by the sight of Alexander hurtling along on his Douglas after he had been almost forgotten owing to the long delay on his third lap.

Some riders never seem flurried; Victor Horsman pulled up with apparent pre-ignition on the Gooseneck (subsequently proved to be small end partial seizure). He chatted gaily while changing a plug and was amazed at the reports of Dance's speeds-he did not think that he could possibly improve his own time.



F. W. Dixon (3½ Indian) passing the "Bungalow" (Snaefell) on his first lap.

The Indians, pursuing their safety policy, were clearly ready to take advantage of any slip by the four hares in front of them.

	LEADING	MEN	AT	END	OF	FOUR	L	APS.	
							h.	m.	s.
Ι,	D. M. Bi	own (N	(orto	n)			2	5.5	56
2,		la Hay	(Sun	beam)			2	57	27
3.	Reg. Bro	wn (Su	mbea	m)			3	1	30
4.	N. C. Scl	ater, ju	mr. (Norto	1)		3	4	55
5.		ivevsor	(Inc	lian) .			3	- 6	58
6,	D, S, Ale	xander	(Ind	ian) .			3	8	2.2
7.		vnshen	d (Su	nbéan	1)		3	Q	48
8.	Noel H.	Brown	(Nort	ton) .			3	10	ii
9.	 W. Sh 	aw (No	rton)				3	20	31
ó,		xon (Ir	idian'				3	23	ī
T	H. le Vac	d (Das	mal				~		-

12. F. C. North (Norton) 3 25, 55

The following dropped out during the fourth lap: N. 3.4. B. Houlting (Indian), tyre trouble at Union N. 3.4. B. Houlting (Indian), tyre trouble at Union damaged front fork; and No. 74, A. H. Alexander (Douglas), retired at depot, after three laps, with bett lastener trouble, after taking 1½ hours for lap 3, leaving 16 out of 27 starters.

Fifth Lap.

At this stage things were rather quiet, our chief interest being concentrated upon the invisible duel which D. M. Brown and de la Hay were fighting out behind the screen of hills. It is ungracious to cavil at the progress board, which on the whole played the part of a kindly telescope for the crowd. But on lap five it inadvertently announced that de la Hay had caught Brown, though a seven-minute starting difference camouflaged the narrow gap which actually separated them. The announcement was corrected in time to prevent many Manxmen from expiring of heart failure : they breathed again when No. 56 was reported as leading at Craig-na-Baa. Meanwhile another lost sheep had been traced, and Simister-missing for two laps-was reported as touring in from Hillberry, Meanwhile Walker made a prolonged stop at his cage, and A. H. Alcxander experienced just such another tardy resurrection as Dance's—a buzz of relief went through the crowd when the progress board suddenly hoisted No. 74 as having

passed Kirkmichael after two and half hours of silence.

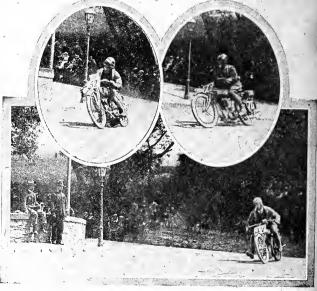
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Taping on handle-bar controls was general practice. The winner of the Junior event was delayed due to lack of this precaution.

Brown scrapped through meanwhile for all he was worth; Black came in on his heels and terrified the crowd by his violent braking for a depot stop. At last the board reported de la Hay at Craigna-Baa, and in an incredibly brief period the whistle, and a roaring speck far up the road heralded his approach. He came through like a demon faster than anybody had passed all day. The brushmen painted up the lap times. Hay leads Brown by seven seconds: An "Oh" was audible, as the crowd drew breath. Harveyson and D. Alexander followed presently, both going uncommonly well;



Methods of cornering at Quarter Bridge. (Top, left) Jack Thomas (Norton). (Right) F. W. Dixon (Indian). (Bottom) N. C. Sclater (Norton).

MOTOR GROLL

The Senior Tourist Trophy Race .-

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	AFTER FIVE LAPS.			
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- 3.	Reg. Brown (Sunbeam)	3	-17	31
4.	N. C. Sclater, junr. (Norton)	3	5.2	-4
5.	H. R. Harveyson (Indian)	3	54	3.4
6,	DS. Alexander (Indian)	3	54	47
7.	N. H. Brown (Norton)	4	7	7
8.	I. W. Shaw (Norton)	4	7	39
9.	F. C. Townshend (Sunbeam)	4	9	10
10.	F. C. North (Norton)	á	13	56
31.	F. W. Dixon (Indian)	4	18	3
12.	Norman Black (Norton)	4	18	15
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H, le	• Vack (Duzmo), walked into Bungalow •	and	No	75
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DAVISE (2º A.J.S.)	b 239 261 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 267 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Fastest lap: G. Dance (Sunbeam), 40m. 43s. = 55.62 m.p.h. (record).

Reg. Lucas (A.B.C.) also started, but did not complete a lap.

NOTES ON THE SENIOR RACE.

After the race a spare inlet valve was taken to G. Dance's stranded Sunbeam, dropped into position, and the machine at once ridden to its garage.

Despite the inaccessibility of the mountain road the whole distance of it was dotted with spectators; many took the mountain railway to the Bungalow, and walked down to Ramsey.

Owing to a variety troubles Jack Thomas did not finish till 3.47 p.m. He had started at 9.54 p.m., and was, of course, at the start before 9 a.m. Altogether he was some seven hours on the job, and looked very fagged.

A very sporting run was made by Norman Black, who finished eleventh on a direct driven Norton fitted with Philipson pulley.

Only one competitor retired on the first lap, which demonstrates the excellent condition of the machines and the first-class jockeying which pleased the thousands of spectators so greatly.

Much amusement was caused at various points by the sight of Alexander hurtling along on his Douglas after he had been almost forgotten owing to the long delay on his third lap.

Some riders never seem flurried; Victor Horsman pulled up with apparent pre-ignition on the Gooseneck (subsequently proved to be small end partial scizure). He chatted gaily while changing a plug and was amazed at the reports of Dance's speeds—he did not think that he could possibly improve his own time.

A TALK WITH THE WINNER,

THE SUNBEAM SUCCESS.

NATURALLY, there was great elation in the Sunbeam camp on Thursday afternoon. To get home first (at record speed), third, and ninth is no ordinary achievement. The success of Tom Corbett de la Hay was no real surprise to those who carefully study performances of riders. least of all to Mr. A. S. Bowers.



T. C. de la Hay, who won the Senior T.T. at an average speed of 51.79 m.p.h.

managing director of John Marston, Ltd. Undoubledly, de la Hay, Dance, and "Duggie" Brown started favourities. Like Brown, de la Hay enjoyed a no-trouble run throughout, and his Sunbeam was in better condition at the finish than at the start, as proved by the fact that the last lap was his fastest—a record indeed prior to Thursday. Two stops only were made for replenishments. It is testimony to the ease of control of his machine that de la Hay finished absolutely fresh, and,



De la Hay's signature of the end of the 2265 mile race.

in fact, signed his autograph for readers of *The Motor Cycle*.

Of incidents the 1920 T.T. winner had

Of incidents the 1920 T.T. winner had little to relate. He was unaware of his position, though he had been told, when filling up at the completion of the fourth lap, to ride to finish and not overdo speed. Just how much such an exbortation affects the sporting British spirit will be gleaned from the final lap speed. In the first lap a number plate came loose and daugled on the spokes during the second lap. Passing Ramsey a spectator was heard to call out that he was leading. On the last lap the descent of the mountain was a perfect whirlwind, if never before, and Windy Corner nearly proved de la Hay's undoing, for he went wide on to the bank at great speed, but successfully recrossed the gulley, and regained the road again. De la Hay's confidence in the magnificent Sunbeam he rode may be gleaned from the fact that his spares consisted of a spare exhaust valve, one plug, a chain rivet extractor, and a tube. The tool bag, however, remained sealed throughout. The gear ratios provided by the special Sunbeam geag box were 4.5, 5.9, and 8 to 1.

The equipment of the winning Sunbeam included Amac carburetter, Dunlop tyres, Renold chains, M-L magneto, and Lodge plug, whilst Pratts' spirit and Castrol "R" oil were used.

De la Hay was formerly at the Sunbeam works, but now runs the Molineux Garage at Wolverhampton.

A MANXMAN SECOND.

RESH from his memorable ride, we had a few minutes' chat with Douglas M. Brown, the Norton rider, who finished second. "Duggie," as he is popularly known, jumped from third position in the first and second laps to the leading position in the third lap, holding his lead until the end of the fourth lap, when he was displaced by the winner, de la Hay, by 7s. only, losing by but 3m. 50s. Brown is thirty-four years of age, and weighs 154 lb. His success gave immense satisfaction, for he has lived in the Island all his life, though he early joined the Forces in 1914, and was in France by September, 1914, with the second army as a despatch rider, and only returned to Manxland last March. Though he has ridden in every T.T. race since 1910, this year provided his first notycuble run, the Norton he rode actually travelling better at the finish of the 225 miles gruelling than at the start.

Over 70 m.p.h.

Geared 4, 58, and 73 to I, low gear was requisitioned only for the hairpin bend at requisitioned only for the hairpin bend at Ramsey. Though he attained over 70 m.p.h. down the mountain, Brown assured us that he never had his throttle fully open except on the mountain climb. He was not aware of his position (though the enthusiastic crowds gave him some idea), and never saw the winner, but he recalled a ding-dong struggle with Eric Williams in the second lap, when from Sulhy Bridge to Quarter Bridge they passed and repassed each other. He finally caught up Eric Williams at Quarter Bridge to Bridge soon after the latter experienced the wheel lock which led to his machine being weeked.

"Duggie" was regretful that he had been urged to case down when he was leading, as he might have coased a little more out of himself and his mount in the later stages; but, as we told him, de la Hay had, curiously enough, received exactly



Reg. Brown, who secured third place on a Sunbeam—a sister machine to de la Hay's:

similar instructions. But Brown sat his machine magnificently and judged his corners with excellent precision, though he bimself bestowed all praise on his machine.



Douglas M. Brown, the Manx rider of the Norton, with which he secured second prize.

The Norton, which has a single-cylinder side-by-side valve engine of 79 × 100 mm. (490 c.c.) bore as equipment, C.A.V. magneto, Dunlop tyres, and Senspray carburetter.

THE NESBIT AWARD.

No decision of the A.C.U. stewards was more popular, than awarding the Nesbit trophy for pluck and endurance to F. W. Applebec. Fifty-eight years of age, "Pa," as everybody knows him, once saw his son, F. A., win the Senior Trophy on a Scott. This year F. W. turned out on a Levis two-stroke of 250 c.c. in the Junior event, his ambition being to win The Motor Cycle Trophy offered to encourage lightweights. But he carried the "No. 13" on his Daby mount, and that spelt all sorts of possibilities! With a monkey mascot complete, he got away in good style, and was round to Governor's Bridge in splendid time, when the magneto rocker arm spring snapped. Now "Pa" had made sure of things by thickly smearing glue everywhere on the magneto rocker arm spring snapped. Now "Pa" had made sure of things by thickly smearing glue everywhere on the magneto cover, but having dismounted the contact breaker a new one complete was fitted. But no spark resulted, as the points broke much too far apart. Having no magneto spanner, pliers had to be used to adjust the platina. Fifteen minutes or so later F. W. was away again, his Levis droning like a giant bumblebee. "Corners he took like a two-year-old," as one observer put it. Round again. The points had unscrewed themselves. Pliers out again, and again, and so on every lap, but nothing could divert this hardy veteran from his self-imposed task of finishing creditably. Is this endurance and perseverance? With cheers such as lave never been heard on the Island before, he spurted ahead undaunted, but to the end those points refused to keep still, and coupled with three stops for petrol and oil, contrived to reduce his average speed

THE SENIOR RACE FROM VARIOUS POINTS.

CORNERING AT GOVERNOR'S BRIDGE.

Compared with the Junior T.T., the cornering work at this spot was more exciting in the Senior Race, and although there were no accidents, skidding resulted in a considerable number of cases. Undoubtedly the finest cornering was effected by D. S. Alexander on his Indian at Governor's Bridge, and on each lap he cut in close to the corner with a beautiful sweep and accelerated off around the second bend without a falter. F. C. Townshend (Sunbeam), D. M. Brown, J. W. Shaw, and G. W. Walker (Norton's) were all uniformly good, while Noel Brown took the bend well throughout the race, but braked his pachine with the throttle still open on two occasions. On their second laps three competitors came down the approach too fast. Dixon, an Indian rider, skidded, nearly struck the opposite wall, and made a violent turn to the left to bring himself in a position to get away, and Eric Williams also overshot the corner, skidded and wobbled, and had to wheel round in a similar manner. Simister managed to pull up and make a momentary halt before turning to move off. It was manifest that F. W. Dixon was, in many cases, scarificing caution for speed in cornering, for he cut in very close and wobbled several times. Harveyson and Bert Houlding, both Indian riders, made the bend very steadily and with precision on each lap.

ON THE MOUNTAIN ROAD.

A HEAT haze covered the distances on the Snaefell road, but the sunshine had dried the surface, with the exception of a small patch or two just beyond the Bungalow.

These patches were responsible for slight wobbles on the part of Dance (Sunbeam) and Dixon (Indian), who closely followed A. H. Alexander's Douglas, which was the first machine past this point. Although there are some_comparatively easy stretches between Ramsey and the Bungalow, most of the men maintained a fairly steady pace. The gentle bends on the mountain road are deceptive and most competitors indulged in cutting out, although the Sunbeams, perhaps, did least in this direction, as their road-holding properties appeared to be excellent. In almost incredibly short time Dance appeared on his second lap, being timed by amateurs, at between 39 to 41 mins.

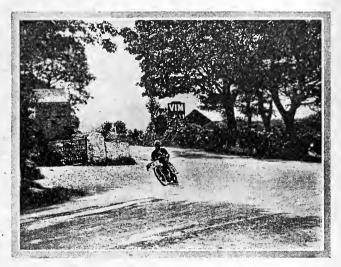
Varied Styles of Riding.

G. H. Walker appeared to be unhappy, as he stopped on his second lap, while on the third his engine emitted an unpleasant clanking.

Douglas Alexander and Dr. Lindsay.

were both riding with apparent enjoyment and repeatedly waved greetings in contrast to the majority who were very much concentrated on the road ahead.

Altogether the racing on the Snaefell section was devoid of incident; and rather gave the impression of a fast reliability trial than otherwise, as there was very little bunching of riders or overtaking. Many enthusiastic spectators walked beside the course from the Bungalow to Ramsey.



Victor Horsman (Norton) cornering well at Ballacraine.

IMPRESSIONS FROM RAMSEY HAIRPIN

THE wonderful acceleration and smooth changing of the Sunbeams were most 'noticeable after the hairpin bend. The Indians, on the other hand, were slow with the change, and though very consistent, their "get away" was not very striking. Davies (23 h.p. A.J.S.) on his one lap created a splendid impression by his neat cornering and phenomenal pick-up, and he certainly appeared to accelerate faster than any of the larger machines.

Indifferent Cornering.

Cornering on the first lap was poor, and though it improved later Dance was the only man who took the hairpin really fast. Curiously enough, as the leaders warmed up towards the end of the race, the cornering became worse, though "Duggie" Brown was an exception. and took the bend faster at each attempt. V. Horsman had a curious form of seizure which looked like pre-ignition, since his engine suddenly stopped and locked his rear wheel. A change of plug took him round the corner, but the trouble recurred and was finally located as a seizure of the small -end. Noel Brown and F. C. North on similar machines had a wonderful duel, and ran within a yard or two of each other for nearly three laps. Le Vack's Duzmo ran very consistently, and produced a wonderful duel, clan expanst note

wonderfully clean exhaust note.
On the fourth lap Capt. Lindsay came round late, and pointed to his back tyre by way of explanation. Great enthusiasm was shown by the crowd who gathered to watch the performances at this point, and no one received a better ovation than Duggie Brown, the popular Manx rider.

SENIOR T.T. TRIFLES.

The double event for Wolverhampton!

A broken saddle delayed North in his first lap. He effected a repair with bolts from the rear mudguard.

The best and most sporting race on record was the general verdict of the Senior T.T.

Once again the suggestion of a sidecar race on the T.T. course crops up. All we can retort is "spare us!"

Too fast for the course was the general feeling again this year respecting 500 c.c. machines. The Motor Cycle nrges limits of 350 c.c. for the Senior race, and 250 c.c. for the Junior event next year.

Reg. Brown is a private owner and excels at all forms of sport. On Wednesday he borrowed a horse and won the race at Bellevue, next day bringing home his Sunheam into third position.

Four Norton riders all arrived together at the gate on the Snaefell road, and it looked as though a "jam" was inevitable, as no one seemed inclined to give way. However, one got ahead, one dropped behind, and the one or two spectators breathed again!

Norman Black is a pure amateur, who had pluckily entered on a standard belt-driven Norton. His chief troubles were punctures and belt-stops, the latter being due to oil leakages. On taking out his back wheel to change a tube on the last lap he found the bearings were chewed up, and rode thirty miles with no balls in the back hub.

A NEW 350 c.c. KILOMETRE RECORD.

Dance shows the Pace of the 23 h.p. Sunbeam on Douglas Promenade.



In the Minx M.C.C. kilometre speed trials. J. W. Shaw (3½ Norton) who made fastest time in the 500 c.c. class for actual T.T. starters. His speed was 70.79 m.p.h.

OT content with their strenuous efforts in the T.T. races, most of the riders with surviving machines entered flying kilometre trials on Friday morning last. The event was organised by the Manx M.C.C., and was run off on the promenade at Douglas, where the good surface was conducive to high speeds.

The first three classes were confined to

machines which actually started in the T.T. races and the 500 c.c. mounts at once showed how well they had maintained their tune. The times given below illustrate this:

	sees.	m.p.h.
 J. W. Shaw (3½ Norton) 	312	 70.79
 G. Dance (3½ Sunbeam) 	323	 68.62
 A. Lindsay (3¹/₂ Norton) 	33	 67.79
 F. C. North (3! Norton) 	331	 66.38
F. C. Townshend (31 Sunbeam)	333	 66.27
61 (D. M. Brown (31 Norton))	33^{4}_{v}	 66.18

£200 FOR THE MANX HOSPITAL

That good sportsman, Alec Ross, with his friends, notably F. H. de Veulle and P. Olai, collected £200 for Manx hospi-tals during T.T. week. One highly successful manner of collecting coin was to fine everybody one shilling who called "Alec." Since Ross has no other name (!) money rolled in fast, and "seasons were eventually issued at 5s. a time.

H. Collier, senr., contributed £50.

There were ten other runners, and the speed of all, with one exception, exceeded 61 m.p.h.

A good show was put up by the 350 c.c.
T.T. machines, N. F. Harris (2\frac{3}{4}\) A.J.S.)
clocking 67.33 m.p.h. (3\frac{3}{2}\), with E.
Williams and H. R. Davies on similar
machines close followers at 66.18 m.p.h.
(3\frac{3}{2}\), while in the 250 c.c. class Gus Kuhn was an easy first on his Levis in 42s, (53.26 m.p.h.).

High Speeds in Open Classes.

Four classes open to any machine or rider provided some fast riding. The first event was for engines up to 500 c.c. capacity, and was easily won by Dance, riding his o.h.v. 23 Sanibeam. His speed was 75.07 m.p.h. (29%s.), which constitutes a new 350 c.c. flying kilometre record. (This awaits official confirmation.)

A SUGGESTION.

Another year the A.C.U. might oblige Another year the A.C.O. might oblige by giving individual lap times on the T.T. score board. As it was, the press were kept exceedingly busy subtracting the growing times to obtain the individual lap times. As in former years The Motor Cycle publishes this week the complete score boards for both races, showing the separate lap times, as well as total times and average speeds.

The results of the open classe	6 8	ire:
MACHINES UP TO 500 c.c		
secs.		m.p.h.
		75.07
L. Mitchell (31 Norton) 311		
V. Horsman (3. Norton) 321		
A, Lindsay (31 Norton) 33		67.79
H. W. Hassall (3½ Norton)	٠.	65.03
J. W. Shaw (31 Norton) 342	٠.	64.38
* Fastest time and record.		

rastest time and record.	
MACHINES UP TO 350 c.c.	
secs, m.p.h,	
G. Dance (2] Sunbeam) 294 75.07	
H. R. Davies (2] A.J.S.) 334 66.18	
E. Williams (24 A.J.S)	
V. Longden (21 Douglas) 383 58.25	
* Fastest time and record.	
The second state of the second	
MACHINES UP TO 275 c.c.	

* Fastest time and record.		.,
MACHINES UP TO 275 c.c.	***	
G. Kuhn (2½ Levis)		50.84
MACHINES UP TO 250 c.c		

TRAVELLING ARRANGEMENTS.

Scores of motor cyclists have to thank Messrs. J. Blake and Co., the Liverpool car and motor cycle agency, for the thoughtful and excellent arrangements made to assist those travelling by road.

A petrol lorry met each boat, and returned petrol previously drained from
the tank on the outward trip to the Island, so that a prompt start could be made after disembarking.



Fleet and District M.C.C.

 A club has been formed at Fleet under the above title, with Mr. F. C. Ridler, Atlas Motor and Cycle Works, as hon. secretary. A run to Selsey-on-Sea has been arranged for the 27th inst.

North-West London M.C.C.

At a meeting of motor cyclists at the Royal Abercorn Arms, Stanmore, it was proposed that there should be formed a North-West London M.C.C. who are interested are asked to communicate with the hon, secretary, Mr. C. J. Thornewill, 9, South Mausions, Streatley Road, Brondesbury, N.W.6.

Mansfield District M.C. and L.C.C.

A general meeting of this recently formed club will be held at the." Masons' Arms," Leeming Street, Mausfield, on the 28th inst. at 7.30 p.m. All motor cyclists are invited to attend, and those desirous of becoming members should communicate with the hon, sec., Mr. G. Mills, 16, Hall Street, Mansfield.

Bury and District M.C.C.

Entries for the Windermere Trial close to-day, the 24th. This event will be Hold on the 27th, starting from the Royal Hotel, Bury, at 6 a.m. The course will run via Preston, Lancaster, Kendal (breakfast stop), Shap, Kirkstone, Windermere (lunch), returning by Kendal and Preston. Competitions will be divided into two classes: (a) all single gear machines, and machines under 300 c.c.; (b) all other machines.

Sheffield and Hallamshire M.C.C.

A reliability trial was recently held over a course of seventy miles in the Bradfield district. There were twentytwo entries, and eight failed to complete the course, which abounded with hair-pin corners, and included four severe hills.

The results were as follow:

"Harry Wilkins Cup," for solo machines.—1st (the cup and gold medal), E. Searle; 2nd (special motor cycle horn and gold medal), G. W. Wilkin; 3rd (special prize and gold medal), J. Wild-blood; 4th (silver medal and sparking plng), L. R. Kay. Bronze medals; H. Hadfield, F. J. Hall, E. Ward, L. Padley, and W. Vessey. Mr. H. Wilkins's prize for the best performance on a lowowered machine was won by G. W. Wilkin.

"Joseph Thompson Trophy," for passenger machines.—1st (the trophy and gold medal), H. Reynolds; 2nd (gold medal), S. Sawer; 3rd (gold medal), R. Stacey. Mr. Reynolds also won the Fletcher prize, and his sidecar passenger takes a special prize.

Week-end Club Events,

JUNE 26.—M.C.C. INTER-TEAM TRIAL FOR MOTOR CYCLE" CUP.
June 23.—Southead and District A.C. Fuel Test, June 26.—Bedford and District M.C. and L.C.C. Club Ren.
June 26.—Public Schools M.C.C. Consumption Trial. June 25.—Coventry and Warwickshire M.C. Con-sumption Trial. June 26.—Eating and District M.C.C. Reliability Trial. June 24. June 19. June 26. Charles of the Country June 26. Charles and Country Ju.C.C. 24 Hours June 26. Charles of the Country Ju.C.C. 24 Hours June 26. Charles of the Country Ju.C.C. 24 Hours June 26. Charles of the Country June 26. Charles of the June 26. Charles of the June 26. Charles of the June 27. Charles of June 23.—Bradjord M.C.C. Meyers Cup 1 cm. 2 June 27.—Elect and District M.C.C. Bun to Science June 27.—Elect and District M.C.C. Bunbury. June 27.—N. Wills M.C. and L.C.C. Bunbury. June 27.—N. Wills M.C. and L.C.C. Bunbury. June 27.—Voorit and District M.C.C. Pring. June 27.—Voorit and District M.C.C. Porlock. June 27.—Voorit and District M.C.C. Porlock. June 27.—Busingstoke M.C.C. Christchurch. June 27.—Busingstoke M.C.C. Christchurch. Bonnor. June 27.—Busingstoke M.C.C. Christchurch. June 27.—Boskeld and District M.C.C. Mattok. June 27.—Boskeld and District M.C.C. and L.C.C. Run to Matlow. 27.—Bedford and District M.C. and L.C.C. Run to Matlow. June 27.—Bedford and District M.C. and L.C.C. Run to Matlow 12.—Sun 27.—Bedford and District M.C. and L.C.C. Run to Ntonchenge.

Hull M.C.C.

June 27.—Eastern Counties M.C. Aston Clinton. June 27.—Eastbourne and District M.C.C. Hill-climb.

climb. Van District M.C. Run to Chester.
June 27.—Berby and District M.C. Run to Chester.
June 27.—Woolwich, Plumstead, and District M.C.
Wilmot Cup Triol.
June 27.—Harrogate and District M.C.C. Trial
**Run.
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**Run.

June 2: -Exeter M.C. and J.C.C. Haytor, June 29. -Banbury and District M.C.C. Irondown Hill-climb. June 30. -Helensburgh M.C.C. Speed-judging Con-test.

test.
June 30.—York and District M.C. Reliability Trial.
June 30.—N. Wilts M.C. and L.C.G. Newbury.
June 30.—Plymouth and District M.C. and L.C.C.
Paperchase.

The results of the recent flexibility hill-climb held at Spout Hill, Brantingham, were as follow's Solo .- 1st, W. W. S. Grantham (4 Harley-Davidson), time variation 5m. 35s.; 2nd, N. W. Walker (3½ N.U.T.), 3m. 49s.; 3rd, E. Brown (4 (No. 1), 3m. 23s. Sidecar.—1st, W. Harrison (4 Douglas sc.), 5m. 45s.; 2nd, W. J. L. Snllivan (44 B.S.A. sc.), 5m.

Wolverhampton M.C.C.

The results of the competition for the Corke cup, held recently by the above club, were as follow: 1, F. W. Giles (6 A.J.S. sc.); 2, Geo. Stephens (6 A.J.S. sc.); 3, H. Tayler (2½ Diamond).

Cheltenham M.C. and L.C.C.

This club will hold one of its annual hill-climbs on July 3rd, when an in-teresting and sporting trial will be organised. The hon. secretary is Mr. C. H. Dickins, 8, Park Road, Cheltenham.

The Leeds and District M.C.

A meeting of the above club was held at the headquarters, the Griffin Hotel, on the 10th inst., to discuss the question of the Leeds-London and back Reliability Trial. Representatives of various other clubs in the district attended, and it was arranged that this trial should be held on July 24th and 25th.

Surrey M.C.C.

This club is holding its sixth annual Exeter reliability trial, for the Trimmph challenge cup on the 27th inst. The event is open to members only, and all types of motor vehicles up to 1,100 c.c. are eligible. Starting from the Angel Hotel, Guildford, at midnight 26th-27th, competitors will follow a course via Winchester, Salisbury, Yeovil, Chard, and Honiton, returning by Dorchester and Farnham.

Liverpool M.C.

The following team has been chosen to represent the club in the M.C.C. team trial, June 26th: Solo.—E. L. Boston (3) Sunbeam), H. Roberts (44 B.S.A.), and G. S. Boston (52 Sunbeam). Reserve, N. C. Sclater (3½ Norton). Sidecars.—V. Horsman (4 Norton sc.); N. H. Brown (7-9 Indian sc.), and O. Wade (6 A.J.S. sc.). Reserve, G. Roddick (7-9 Harley-Davidson s.c.).

The team will leave Horsman's Garage, 7, Mount Pleasant, punctually at 10 a.m. on Friday.

Southport A.C.

Several thousand people gathered to witness the recent speed trials held by this club on the foreshore. The course was approximately one kilometre in length and seven motor cycle events, including one for scooters, comprised the programme. Three aeroplanes from the Golden Eagle Aviation • Co. were assembled, together with a large number of cars, and free flights were offered to the winning competitors. The 300 c.c. and 350 c.c. classes were run off in fine weather, and were won by W. S. Life (21 Diamond-Jap), but during the 500 c.c. heats a terrible rainstorm descended. The remaining classes will be run off on the 26th inst.



lub News .-

Marlow and District M.C.C.

A picnic run was held on the 13th nst., when the club visited Bucklebery Common. A good number of members nrned out, and a most enjoyable afteroon was spent.

Redditch and District M.C.C.

Thirty-four competitors started in the half-day trial for the President's Cup, held recently over the Cotswold Hills to Cheltenham. The well-known Saintbury and Snow hills were included in the utward journey, and Rising Sun, Sudeey and Willersley hills on the return, all of which took their toll of marks. The sup and gold medal were won by R. H. (Vicholls (44 B.S.A. so.). Special class and gold medal were won by R. H. Nicholls (4\frac{1}{4}\) B.S.A. sc.). Special class prizes went to F. Bicknell (8 Enfield c.) 1,000 c.c., L. C. Sealey (4\frac{1}{4}\) B.S.A.) 500 c.c., and H. Hanks (2\frac{1}{4}\) Enfield) 350 c.c. The hest amateur performance was nade by T. M. Shrimpton (4 Triumph).

Birmingham M.C.C.

The following is a list of awards in the Land's End Trial for the Lycett Trophy:

And's End Trial for the Lycett Trophy:

BRACKETED EQUAL TROPHY WINNERS.

B. Kershaw (2). Verus!

J. A. Cole (2) Verus!

J. A. Cole (2) Verus!

J. A. Cole (2) Verus!

J. Cole (2) Verus!

J. What of the Cole of the Cole of the Cole of Cole

N.M.C.F.U. (Rotherham),

Two events, a slow race and a hill-climb, were held recently at Hoober Stand, Wentworth; both being well supported. The results were as follow: ported. The results were as follow: Slow race solo—A. Doult (Wooler). Sidecars and light cars—C. Brown (Morgan). Hill-climb 4 h.p. solo and sidecar classes—W. Pashley (Triumph). 6-8 h.p. class—G. Guest (Harley-Davidson).

Oxford University M.C.C.

An inter-'Varsity speed trial between the Oxford and Cambridge M.C.C.'s is to be held on Brooklands track on August 7th. Entries may be received up to the end of July by the secretaries. The address of the secretary of the above club will in future be J. E. G. Harwood, Christ Church, Oxford; or in vacation, Woodhouse, Almondshury, near Bristol, and not as previously, 165, Walton Street,

Westmorland M.C.C.

The latest enterprise on the part of the members of this club was to attempt the climb of Walma Scar and Coniston Old Man, two of the highest mountains on the west side of Lake Windermere. Though Walma Scar was a difficult climb, it was accomplished with comparative ease by H. Jackson (Chater-Lea), S. Bewsher (Rover), and Gilbert Brown (Triumph). Coniston Old Man proved much more difficult. The gradient of 1 in 2½ and the bad surface made riding difficult, and the descent was even more dangerous than the climb. Though none of the competitors succeeded in reaching the summit, P. Hoggarth (4 h.p. Triumph), S. Bewsher (32 h.p. Rover), and Whiteside (23 h.p. A.J.S.) nearly succeeded. After the climb, tea was taken at the Black Bull Inn and the Sun Hotel.

Bedford and District M.C. and L.C.C.

Arrangements have been made to hold a hill-climb for one of the club trophies on July 1st. Full particulars of this event can be obtained from the hon. secretary, Mr. H. H. Berrie, Goldington, Bedford:

Torquay M.C.C.

This club has recently been formed, This club has recently been formed, and is receiving widespread support. A very comprehensive programme has been arranged, and affiliation to the A.C.U. applied for. The president is Col. Burn, M.P., and hon, secretary Mr. A. G. Goldsmith, 55, Parkfield Rd., Torquay. The opening run was made to Haytor, where tea was taken at the Moorland Hotel.

Dewsbury and District M.C.C.

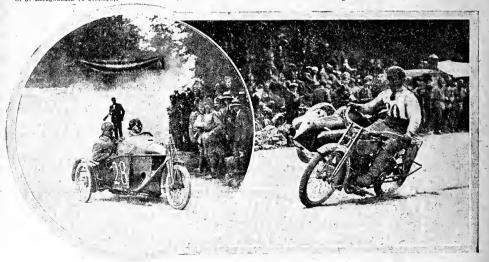
Recently this club held a slow hill climb and potato race at Burfitt Hill. The course was threequarters of a mile The course was threequarters of a mile in length, and a good number of competitors took part. The results were as follow: Slow climb.—Solo, C. H. Rayner, 4m. 32s.; sidecar, H. Shadlock 7m. 3s. Potato race.—Solo, B. Lodge 1m., C. H. Rayner 1m. 55s., C. E. Wilcock 1m. 10s.; sidecar, A. E. Scargill 1m. 8s., and H. Shadlock 1m.

North London M.C.C.

Recently a picnic was held by this club amidst the picturesque scenery of Bricket Wood

The club will be strongly represented in the M.C.C. inter-club trial on the 26th inst., and members are going out to Tring in force to view the trial.

Secretaries of clubs within a reasonable distance of North London are requested to communicate with Mr. Bernard Staley, Victoria Avenue, Finchley, N.3, with a view to ecoperating in the big rally on August 8th.



SCENES IN THE RECENT CIRCUIT DE FONTAINEBLEAU MOTOR CYCLE RACE. (Left) A three-wheeler of unusual design. The Cyclauto, driven by Rouguet in the race. (Right) Verpault (Harley-Davidson), who made fastest time in the 1,000 c.c. class, lifting his sidecar to facilitate cornering.



THE CLUB CHAMPIONSHIP FOR 1920.

28 Teams to Compete for "The Motor Cycle" Challenge Cup in the M.C.C. Team Trial next Saturday,

STARTING at Tring at 1 p.m. on Saturday next, 28 teams are entered to compete for the club championship for 1920. The course is approximately 100 miles, consisting of three circuits. Each rider may select any speed between 17 and 20 m.p.h. for his first circuit, and consistency of driving will be determined by his repeating as nearly as possible his first circuit time in the second and third circuit. In the event of more than one complete team covering the whole distance without a single stop, other than provided for, consistency of driving will be the determining factor, and the riders who adhere most closely to their first circuit times in their second and third circuits will be adjudged the winners.

The following are the teams nominated by the clubs concerned: Starting

	No.	Rider and Machine.
H. M. S.		
COVENTR	AND	WARWICKSHIRE M.C.O.
1 0 0	1. S.	Wright (41/2 Humber)
1 0 30		
1 1 0	3. W	. Brandish, jun. (5-6 Rover)
1 1 30	4. F.	G. Edmund (4 Triumph sc.)
1 2 0	5. T.	R. Gibbins (8 Acme sc.)
1 2 30	6. H	B. Ewins (3½ Rudge) Braodish, jun. (5-6 Rover) G. Edmund (4 Triumph sc.) R. Gibbins (8 Acme sc.) Finch (4 Triumph sc.) Whittem (4 Humber), G. L.
Reserves: 1	I. W. 1	Whittem (4 Humber), G. L.
White (4 Tri	umph).	J. W. Ravenhall (Rover sc.), Priumph sc.).
and C. R. Lit	tle (4 7	Priumph se)

M.C.C. 13 0 . 11. P. W. Moffat (2⁵⁴ Douglas) 1 3 50 . 12. T. S. Sharratt (4 Indian) 1 3 50 . 12. T. S. Sharratt (4 Indian) 1 4 50 . 13. W. H. Gibb (2⁵⁴ Douglas) 1 5 5 0 . 15. J. A. Newman (7 Indians.c.) 1 5 5 0 . 16. F. J. Watson (Ariel e.) Reserver. W. H. Elee (8 Morgan c.c.) and R. B. Clarke (6 Endia).

NORFOLK M.C.C. AND LIGHT CAR CLU 1 6 0 . 21. A. Wyatt (4 Douglas) 1 6 30 . 22. C. N. Hurn (3½ Sunbeam) 1 7 0 . 23. A. S. Bagshaw (4 Triumph	
1 6 30 22. C. N. Hurn (31/ Sunbaam)	
1 7 0 23. A. S. Bagshaw (4 Triumph)
1 7 30 24. A. Adcock (7 Indian sc.)	
	cley-
Davidson sc.)	
1 8 30 26. E. M. Wood (7 Indian sc.)	
Reserves: R. A. Daniels (31/2 Rudge), G. F. (6 A.J.S.), and F. Mase (3 A.B.C.)	ope

			BL	AEN	AVON M.C.C. (MON.).
1	9	0		31	J. F. Gwillim (4 Triumph)
1	9	30		32.	G. Griffiths (4 Triumph)
1	10	0		33.	T. W. Timmips (2% Ixion)
1	10	30		34.	B. R. Evans (8 Matchless sc) /
1	11	0		35	Rees Tongs (8 Supheam co.)
1	11	30		36.	A. Williams (6 A.I.S. sc.)
	res	crvi	8:	r. Wi ott),	lliams (6 Enfield sc.), aud Ivor

		(OZFO	RD	MOTOR CLUB.			
12	0		41.	E.	Colegrove (41/4 Triumph) Pearson (41/4 Triumph)			
			142.	M.	Pearson (414 Triumph)			
13	0		43.	A.	D. Cruickshank (8 Imperial-			
					Jap)			
13	30		44.	L.	Avery (7-9 Harley-David-			
					_ son sc.)			
14	0		45.	F.	E. Wootten (6 A.J.S. sc.)			
14	30		46.	J.	Avery (7-9 Harley-David-			
					son sc.)			
Reserves: W. E. E. Anderson (3 A.B.C.), R. H.								
. Sε	arle	(31)	4 Rud	ge).	D. R. Thomas (4 Triumph),			
nd :	H. I	7. B	arge I	25%	Supheam).			
	12 13 13 14 14 Res	12 30 13 0 13 30 14 0 14 30 Reserve	12 0 12 30 13 0 13 30 14 0 14 30 Reserves: N. Searle (3)	12 0 41. 12 30 42. 13 0 43. 13 30 44. 14 0 45. 14 30 46. Reserves: W. E. Searle (3½ Rud	12 0 41. E. 12 30 42. M. 13 0 43. A. 13 30 44. L. 14 0 45. F. 14 30 46. J. Reserves: W. E. E.			

PUBLIC SCHOOLS M.C.C. PUBLIC SCHOOLS M.C.C. 1 15 0 ... 51 V. Gaydraf (5 Zenith) 1 15 30 ... 51 V. Gaydraf (5 Zenith) 1 15 30 ... 52 H. E. Symons (5 Zenith) 1 16 30 ... 53 H. B. Browning (33 Scott) 1 16 30 ... 54 E. M. P. Bollsan (4 Triumph sc.) 1 17 30 ... 55 C. D. Wright (7 Harley-David1 17 30 ... 56 P. J. Malone (7 Harley-David-

Reserve: D. Crawford (8 Zenith).

			L	UTON	A	ND	S.	BE	DS	A.C.	
	21			71.	s.	Bro	wn	(4	Tr	iumph)	
1	21	30		72.	F.	Ch	ild	123	4	Douglasi	
		0		73.	G.	S.	Day	idso	ac	(254 Dian	(baron
1	22	30.		74.	FI.	. A.	Re	vre	(5	-6 James	sc.)

1 22 30... 74. H. A. Reyre (5-6 James sc.)
1 23 0... 75. W. A. Jacobs (6-8 Rex.Blackburne sc.)
1 23 30... 76. Capt. Cooke (5-6 James sc.)
Reserres: K. Anscombe (3½, Rudge Multi), A. Walker (2½, Hobart), P. Child (Morgan c.c.), and L. Kell (6 New Hudson sc.).

Starting Time.		No.	Rider and Machine,
H. M. S.			
		LIV	ERPOOL M.C.C.
1 18 0		61.	G. S. Boston (3½ Sunbeam)
1 18 30		62.	E. L. Boston (3% Sunbeam)
1 19 0		63.	fl. Roberts (41, B.S.A.)
1 19 30		64.	V. E. Horsman (4 Norton sc.)
1 20 0		65.	N. H. Brown (7-9 Indian sc.)
1 20 30		66.	O. Wade (6 A.J.S. sc.)
Reserve	s : J.	Fox	(41, B.S.A.), and N. C. Sclater
(4 Norto	n).		

					ESSEX M.C.
1	24	0		81.	F. Roberts (3 A.B.C.)
1	24	30		82.	F. A. Applehee (4 Indian Scout)
	25	0		83.	E. H. Porter (3 A.B C.)
1	25	30		84.	W. C. Hemy (6 A.J.S. sc.)
	26			85,	C. Pearson (4 Douglas sc.)
1	26	30		86.	D. S. Parsons (5-6 Rover sc.)
	Res	crre	8:	D. S.	Kapadia (8 Acme sc.) and F.
T	hory	ne (234	Dougl	as).

								T M.C.	
1	27	0		91.	R.	G.	Spikin	s (7-9	Harley-
					_		David	son)	
	27	30						(4 Trit	
		0		93.	L. '	T. G	ilsou (8	Zenith)	
1	28	30		94.	R. 6	C. Ch	arleswo	rth (8 Z	mith sc.)
1	29	0		95.	н.	Jeps	on (8 2	cenith so	.)
1	29	30		96.	Res	· Mu	ndy (6	Martins	yde-New-
							man s		
	Res	erre	: H.	. Bull	(6	A.J.	S. sc.).		

)	BEL)FO	RD	AND	D	ISTRICT	M.C.	AND	L.C.C
		30	0		101.	S.	Crawley	(4 Tr	iumph)
:	ı	30	30		102.	в.	Hines (4	Triui	որհ)	
			0	5.	103.	J.	R. Collin	1s (4 '	Prium	nh)
1	ı	31	30		104.	J.	Cocker (4 Triu	mph s	:.) .
1	L	32	0		105.	H.	Green (4 Trii	minh	sc.)
1	ı	32	30		106.	H.	Rycroft	(4 Tr	iumph	sc.)
		Res	erre	: P	. A. H	fill	(4 Trium	inh sc.	.).	

- /		LE	(1C)	ESTE	R AND DISTRICT M.C.C.	
	33	0		111.	A. Wooding (4 Sunbeam)	
		30		112.	J. Willcox (31/2 Rudge)	
	34				W. C. Pym (4 Douglas)	
1	34	30		114.	Will Chapman (6 A.J.S. 8	c.)
1	35	0	• •	115.	R. Harris (4 Triumph sc.)	
1	35	30		116.	H. Pole (8 Morgan c.c.)	
_	Res	crve	8:	J. Si	impson (6 A.J.S.) and J.	0
R	and	le (47	riumr	ph).	

)	EAL	ING	AN	DΡ	ISTRICT	M.C.C.	
1	36	0		121.	W	. G.	Boyer (5-1	Rover	r)
1	36	30	٠	122.	Le	slie :	Pulhan (3	16 Arie	1)
							Vack (31/2		
							ongman (
1	38	0		125.	C.	E.	Temple	(7-9	Harley
							Davidso	n sc.)	
1	38	30	٠.	126,	s.	E.	Longman	(7-9	Harley
				1			Davidso	n sc.)	

Reserves: D. D. Tilt (Triumph) and F. H. Douglas (Morgan c.c.).

			W	OLV	ERHAMPTON M.C.C.	
1.	39	0		131.	A. Milner (21/2 Diamond) F. J. Price (21/2 Diamond)	
ľ	39	30		132.	F. J. Price (21/2 Diamond)	
1	40	0		133.	G. Dance (31/2 Sunbeam)	
1	40	30		134.	F. W. Giles (6 A.J.S. sc.)	
	41				Geo. Stevens (6 A.J.S. sc.)	
1	41	30		136.	J. E. Greenwood (31/4	Sut
					heam sc.)	
	Res	erne	. F	(arre	Poole (6 A.I.S. sc.)	

	SH	EF	FIE	LD A	ND HALLAMSHIRE M.C.C.
	42	0		141.	F. C. Wates (4 Triumph)
1	42	30		142.	D. Kay (4 Triumph)
	43			143.	G. W. Wilkin (4 Wilkin)
	43			144.	J. A. Stacey (8 Royal Enfield sc.)
	44			145.	S. Sawyer (4 Norton sc.)
1	44	30		146.	A. B. Chapman (5-6 Brough sc.)
	Res	erre	s. I	R. E.	Budd (3% Scott), A. C. Roberts

	н	IGH	W	LCOT	IBE AND DISTRICT M.C.C.
	48	0		161.	R. Pugh (4 Triumph)
		30		162.	E. Cutler (4 Triumph)
1	49	0		163.°	J. W. G. Pugh (4 Triumph)
1	49	30		164.	R. Newitt (7-9 Harley-David
					son sc.)
1	50	0		165.	C. F. Michell (6 A.J.S. sc.)

1 50 0 . . 165, C. F. Michell (6 A.J.S. 8c.) 1 50 30 . . 166, J. K. Flemona (7.9 Harley-Land Morgan C.C.), A. C. Bass (316 New Hudson), J. Birch (8 Morgan c.c.), A. C. Bass (316 New Hudson), J. Birch (8 Morgan c.c.), and P. Manley (312 Triumph).

		WO	RC:	ESTE	R AND DISTRICT M.C.C.
	6	0		221.	E. Williams (2% A.J.S.)
	6	30		222,	J. Westwood Wills (2% Verus-
					Blackburne
	7	0		223.	T. C. de la Hay (31/2 Sunbeam)
	7	30		224.	R. Brown (312 Sunheam sc.)
		0			E. W. Choldcroft (6 A.J.S. sc.)
	8	30		226.	J. Dudley (3½ Sunbeam sc.)
3	200	crne	9.	J. A.	Chadwick 12 ²⁴ Diamond-Jap).

C. E. Tysoe (3½ Sunbeam), and C. H. Lewis (3½ Ariel).

Starting Time.	No.	Rider and Machine.	
H. M. S.			
	BERLEY	AND DISTRICT M.C.C.	
1 45 0 .	. 151. 19	I. Whitty (4 Trimmoh)	
1 45 30 .		W. White (3% Sunbeam)	
1 46 0 .	. 153. A	C. Love (2% Donglas)	
T 46 30 .	. 154. P	. W. Baker (7 Matchless sc.	,
1 47 0 .	155. E	Langridge (7.9 Harley se.	í
1 47 30 .	. 156. W	V. Pimme (7 Ariel sc.)	
Reserves:	K. Alfor	rd (5% Scott) and Mor	rIā
ROCHEST	ED CITA	THAN AND DISTRICT M	c

ROCHESTER, CHATHAM AND DISTRICT M.C.
1 51 0 171, L. C. Rumens (25; Coulcon B.)
1 51 30 172, -, Jenner (4 Triumph)
1 52 0 173 L. Shert (4 Triumph)
1 52 30 174. G. Packman (8 Matchless sc.) .
1 53 0 175. V. Symons (6 Martinsyde sc.)
1 53 30 176, S. Smith (8 A.J.S. sc.)
Reserves: Watson (Duzmo) and Browning
(3% Scott sc.).

				S. BH	RMINGHAM M.C.C.			
1	54	0		181.	B. Kershaw (2% Verus)			
1	54				G. Denley (2½ Velocette)			
		0		183.	B. Bird (3½ B.S.A.)			
1	55	30		184.	II. Saddington (6 James sc.)			
1	56	_0		185.	H. Uzzle (31/4 B.S.A. sc.)			
1	56	30		_186,	Walker (4 Triumph sc.)			
Reserves: E. Boydell (21/4 Velocette sc.) and T. Blumfield (6 Ariel sc.).								
ы	um	helo	1 (6	Ariel	l sc.).			

		1	VA8	SPES	M.C.C. (CAMBRIDGE).
1,	57	0		191.	C. Il. Buttress (4 Triumph)
1	57	30		192.	D. M. Somerville (7-9 American
					Excelsior)
	58	0		193.	J. R. Cox (4 Triumph)
	58			194.	W. N. G. Phillips (8 Zenith sc.)
	59	- 0		195.	F. Ll. Hudson (3½ Rover sc.)
	59				F. Thoday (4 Triumph sc.)
	Res	crve	8: 1	II, R.	P. Patterson (4 Triumph), L. G.
11	ald	ock	(4	Triun	nph sc.), D. Graver (7-9 Harley-
n	avie	-on	80	l and	T Stonley (315 P and M)

			1	LKL	EY M.C. AND L.C.C.	
2	0	0		201.	J. C. Wood (3% Scott)	
2	0	30		202.	C. Moser (4 Triumph)	
2		0		203.	J. H. Holmes (3% Scott)	
2 2 2		30		204.	J. S. Duxbury (3% Scott sc.)	
2	2	0		205.	C. Clegg (4 Triumph sc.)	
2	2	30	••	206.	S. S. English (6 British Ex	
					celsior sc.)	

Reserves: R. P. Darnton (8 Sunbeam sc.) and W. Moss (3½ Sunbeam sc.).

2	3	0		211.	J.	F.	Hull	125	w	mleri		
2	3	30		211. 212. 213. 214.	H.	J.	Wil	liam:	(31	Ru	dge)	
2	4	Ó		213.	R.	11.	Baz	cter	(214	Rad	co)	
2	4	30		214.	F.	E.	Jon	es (3	1/2 1	riel:	sc.)	
2	5	0		215.	H.	L.	Coat	es (4 BI	ackbu	urne	SC.
2	5	30		216.	F.	J.	Wat	ts (5	Brc	ugh:	EC.)	
1	?cs	erve	8:	R. H.	M	av	(41)	B.S	.A.)	and	R.	11

Grea	ves	(7-9	India	n sc.).
			BIR	MINGHAM M.C.C.
2 9	0		231.	R. W. Duke (4 Triumph)
2 9			232.	II, II, Peters (4 Triumph)
2 10	0		233.	J. L. Woodcock (31/2 Ariel)
2 10	30		234.	W. H. Egginton (8 Sunbeam sc.)
	0		235.	J. L. Stocks (31 Ariel sc.)
2 11	30		236.	T. F. Watson (4 Norton sc.)

				MII	DLESEX M.C.C.				
2	12	0		241.	T. A. S. Brown (4	Triumph)			
2	12	30			W. Farmer (4 Triu				
	13	0		243.	L. S. Bolton (312 F	(ndge)			
	13	30			A. L. Huggins (8 Z				
2	14	0		245.	E. J. Pittock (7-9	Harley sc.)			
2	14	30		246.	L. V. Bolton (8 He	nderson sc.)			
	Reserves: S. A. McCarthy (8 Matchless), J. Hilger								
(5	5-6	Rov	er).	and.	A. Lloyd (4 Triumpl	h).			

KIDDERMINSTER M.C.C.

			251.			
		30	 252.	1		
2	16	0	 253.	m		
2	16	30	 254.	Leam	not	nominated
2	17	0	 255.	1		
2	12	30	256	,		

SUTTON COLDFIELD AND N. BIRMINGHAM

2	18	0	 261.	H. R. Lane (21; Levis)	
		30	 262.	L. Newey (312 Ariel)	
2	19	0	 263.	R. E. Pugh (21, Levis)	
		30	 264.	H. Poynton (James sc.)	
	20			A. W. Thrush (Triumph s	:c.}
2	20	30	 266.	E. Stobart (James sc.)	

Reserve: J. N. Roberts (A.B.C.). WOOLWICH PLENSTEAD AND DISTRICT M.C.

2	21	0		271.	T. J. Ross (4 Triumph)
2	21	30		272.	Reg Boxer (4 Triumph)
2	22	0		273.	W. Whitaker (31 Douglas)
2	22	30		274.	C. D. Hardee (7 Matchless sc.)
2	23	0		275.	H. A. Collier (7 Matchless sc.)
2	2-3	30		276.	F. J. Ellis (7 Matchless sc.)
	Res	erve	: 1	 Pete 	erson (7 Matchless sc.).

Awards in the Ilkley Open Trial.

Starters, 116; Retired, 27; First-class Certifica es, 29; Second-class, 20; Third-class, 29: Too Late for Award, 11.

THE very sporting one-day trial organ-ised by the likley M.C. and L.C.C., and fully reported in our issues of June 10th and 17th, did not cause so many retirements as might have been ex-pected. Of the 116 starters, 89 survived the course, although 11 of them were too late to qualify for a certificate. Amongst the 27 who qualified for first-class awards, 20 lost no marks at all, and from these

the winners of the awards shown in the next column have been selected ; A.B.C. Sub-Lt. Jameson. Second class. E. A. Colliver. First class. E. Porter. First class. E. Porter. First class. H. W. Merrall. No award. J. Whalley. First class. A. B. Green. Third class.

S. Raynes (sc.). No award.
G. Fletcher (sc.). Third class.
J. S. Wilson (2%). Retired.
*A. Lucas (sc.). First class.

ARIEL.
*F. H. Longman (3½). First class.

AUTOGLIDER. R. T. Cawthorn, Third class.

BAT. W. Atkinson (41/4). Second class.

BROUGH. A. B. Chapman (5). No award.

B.S.A. L. A. Runton. No award. A. Wood (3½). Third class. *H. E. Ellis (3½). First class. A. J. Haywood (sc.). Retired.

BRADBURY. W. E. Grange (6 sc.). Retired.

CAMPION. B. T. Hemsley (21/2). Third class. F. Trneman (4). Third class. S. S. Debenbam (6 sc.). No award.

COLLSON B H. Guy. Third class. J. H. Callaway. Third class. E. R. Jacobs. Retired.

COVENTRY EAGLE. E. Taylor (31/2). No award,

The ILKLEY TROPHY, with gold medal; for best individual performance.—H. Languam (3% Scott). The Scott Thophy, with gold medal, for best amateur performance.—W. Westwood (4 Triumph). The Palmer Trophy. with gold medal, for best trade performance.—C. Hill (3% Scott).

trade performance—d. Hill [3% Scott).

Gold MEDALS to next best performance in each
class—350 c.c. solo: G. W. Wilkin [2% Wilkin].

500 c.c. solo: E. Porter [3 A.B.C.]. 750 c.c. solo:
W. L. Guy [3% Scott). 750 c.c. sidecar: A. Lucas
(6 A.J.S.). 1,000 c.c. sidecar: H. Pattinson [8
New Imperial] and R. Horsley [8 New Imperial].

Of the teams entered in connection with the A.C.U. East Midland Centre Trophy, the Ilkley club's No. 1 team CLYNO.

II. Gibson (21/2). Second class. F. E. Palmer (21/2). Second class. DOT. H. Reed (8 sc.). Third class.

DOUGLAS.

ENFIELD. C. Marshall (21/4). No award. H. Mather (21/4). Retired.

HARLEY-DAVIDSON.

R. Stacey (7-9 sc.). First class. F. Watson (7-9 sc.). Third class. E. A. B. Chrich (7-9 sc.). No award. S. Ratcliffe (4). Third class.

HENDERSON

HORART

INDIAN.

F. B. Roper (7-9 sc.). Third class. T. S. Sharratt (Scout). Second class. R. E. Darnton (7-9). Second class.

LEVIS

LEA-FRANCIS. H. C. Chick, Third class.

MORGAN

MERRALL-BROWN.

A. Wilkins (234). No award.

G. Burlinson. Retired.
J. R. Sylvestar, Third class.

-. Merrall-Brown. Retired.

A. Sommervill (10). Retired.

E. Foster (21/2). No award .-

W. Wells (2%). Third class. E. Hawkes (2%). No award. H. Thomas (4). Third class.

NEW IMPERIAL.

*R. Horsley (8 Sc.). First class.

*H. Pattinson (8 Sc.). First class.
-L. A. Cawthorne (2%). Rctfred.

NORTON. C. W. S. Hartwell (4 sc.). Retired. R. J. C. Wood (3½). Retired. G. W. Stopherd (3½). First class. S. Parker (4 sc.). First class. J. Boult (3½ sc.). Second class. H. Reynolds (4 sc.). Third class.

H. M. Barton. First class. W. Pym. Second class. J. A. Newman. Third class. H. R. King. Third class.

PRECISION. W. F. Waddington (3%). Third

ROVER.
J. C. Sandford (5-6). Second class.
J. M. Parry-Jones (5-6). Second class. Second.

RECENT G. C. Ansonia (5-7). Retired. RUDGE.

J. Hall (3½). Retired. E. Johason (3½). Retired. SCOTT.

W. L. Guy. First class.
G. A. Reed. Second class.
E. Wasling. First class.
W. Mangham. Second class.
W. Mangham. Second class.
W. R. Roberts. Retired.
W. Moore. First class.
C. P. Wood. First class.
W. F. Scott. Second class.
G. Hil. First class.
G. Hil. First class.
L. W. Stanheld. First class.

lost no marks, the Ilkley No. 2 team lost thirty-two marks, Leeds and District lost fifty-five, Sheffield and Hallamshire No. 1 team lost sixty-nine, and N. Derbyshire No. 2 team lost 144.

The following are the results in alpha-betical order of make of machine, and they show the performance of each star-ter. The above mentioned recipients of special awards were selected from the first-class certificate winners who lost no marks:

J. S. Duxbury. Third class.
W. Clough. Third class.
Y. Baker. First class.
H. Langman, First class.
F. E. Washing. Retired.
B. Hill. Retired.
T. E. Oliver. Third class.
A. Douglas. First class.

SUNBEAM.
H. W. Sellers. Second class.
C. Barton. Second class.
A. T. Start. No award.
R. F. Greven. Second class.
E. L. Boston. First class.
G. S. Boston, Retired.
W. R. Eddington. Second class.

W. H. Haffield, First class, !
O. W. H. eath. Retired,
O. W. Heath. Retired,
O. C. Elbourne, Retired,
A. W. Naylor, No award,
O. W. House, Third class,
E. Searle, First class,
W. Westwood, First class,
W. M. Welle, C. J. Ret flow,
R. Elytha C. J. Ret flow,
W. M. Willey, Retired,
W. M. Willey, Retired,
A. T. Padley, Retired,
P. Padley, Retired,
P. Padley, Retired,
P. Padley, Retired,

P. Walker (4). Retired. A. Roberts (234). Retired. A. G. Robinson (234). Second class.

W. Kantlehem (3½ sc.). Third class.

*G. W. Wilkin (2¾). First class.

E. S. Speath (3½). Third class.

ZENITH J. Beat (8). Third class.
No marks lost.

Scottish Six Days Trial.

Over 100 Entries received for the Popular Edinburgh M.C. Event Next Month.

HE following is the result of the first four ballots for starting positions in the Scottish Six Days Trial, which takes place from July 5th to 10th. Well over 100 entries have been received, and subsequent ballots will take place:

Subsequent ballots will take place:

Rev. J. M. Philipott (224 Wilkin)

H. B. Denley (8 Morgan)

A. B. Farriey (3 A. B.C.)

A. B. Farriey (3 A. B.C.)

A. B. Farriey (3 A. B.C.)

Campbell McGregor (326 Brough)

W. Westwood (4 Triumph)

F. J. Huchison (8 New Imperial sc.)

B. E. Fairley (5 A.B.C.)

B. E. Fairley (5 A.B.C.)

B. W. Cholderoft (4 A.J.S.)

Huch Gibson (Clyno)

J. Beck (8 New Imperial sc.)

J. Beck (14 J. Ariel)

J. Westwood Wfils (2% Verus)

H. Mortimer Batten (3½ P. and M.)

E. A. Celliver (4 Indian Scott)

Claude Duncan (3½ Norton)

J. L. Stocks (4½ Ariel)

J. L. Stocks (4½ Ariel)

J. J. A. Dins (3½ P. and M.)

T. S. Sharratt (4 Indian Scott)

2d for the Popular Edinburgh

25. P. W. Carter (5 A.J.S.)

26. H. Alexander (8 Matchless sc.)

27. L. Newey (4½ Ariel)

28. Thomas Rutherford (3½ Sunbeam)

28. Thomas Rutherford (3½ Sunbeam)

29. F. Turvey, inn. (4½, B.S.A.)

20. James Steel (B.S.A.)

31. Wm. Buchanan (4½, B.S.A.)

32. James Steel (B.S.A.)

33. A.J. G. Lindawy (Rover)

34. A.J. G. Lindawy (Rover)

35. Stapley Parker (Rvyal Esnfeld)

36. Stapley Parker (Rvyal Esnfeld)

37. Li. Lochcad (2½ New Imperial)

38. R. M. Knowles (6 Bat)

39. Li. Lochcad (2½ New Imperial)

40. H. F. Barge (8 Morgan Grand Prix)

41. J. A. Higer (5 Rover)

42. — Chambers (4½ B.S.A.)

44. J. A. Higer (10 Richardore)

45. Robert C. M'Evan (10 Richardore)

46. Robert C. M'Evan (10 Richardore)

47. Robert C. M'Evan (10 Richardore)

48. Crompton Guthric (3½ Norton)

50. Reginald Ball (Scott)

51. Capl. H. Hay Will lackey-Davidson)

52. G. Packman (Matchless)

53. R. Packman (Matchless)

54. Roward Fellows (Triumph)

55. Allred L. Downie (Wilkin)

56. Chyno Eagineering Co., Ltd. (2½ Clyno)

1.C. Event Next Month.

57. Moir sad Baxter, Ltd. [2.5]

58. Gorge Chmaner, (Simbaran)

59. Clyno Engineering Co., Ltd. [8 Clyno)

60. John W. Motton (Blackburne)

61. David Wright, jun. (Blackburne)

62. R. B. Clark (Coulon B.)

64. J. R. Fellows (James)

65. George Grinton (Harley-Davidson)

66. Tom Morten (Blackburne)

66. Rom Morten (Blackburne)

66. R. E. Durtton (Irdeian Scott)

69. J. A. Newman (Sumbeam)

70. A. J. Shrotton (Lea-Francis)

71. Merzall-Brown (Merzall-Brown runabout)

72. Alen Douglas (Scott)

73. Merzall-Brown (Merzall-Brown runabout)

74. P. J. Batickmap (Blackburne)

75. Alan Douglas (Scott)

77. J. S. Holroyd (Blackburne)

78. J. Sheperd (Campion-Jap)

79. J. A. C. Sangster (3½ James)

81. Mrs. D. Bell (AJ. S.)

82. C. G. Dickinson (Sunbeam)

83. J. G. Goodenauth (Phelon and Moore)

84. Ellison Hawlts (Douglas

86. P. W. White (Sunbeam)

* Indicates rider in manufacturers' team.

. Indicates rider in manufacturers' team.





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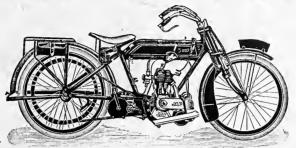
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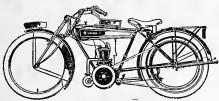
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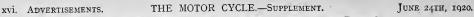
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UTO-WHEEL, B.S.A., in good condition, U.H. mag.; £12, or nearest,—Lester, Watergate St., llesmere, Salop. [8880

UTO-WIEEL and Cycle; £22, or Auto-wheel alone, £14; appointments only.—Barnett, 18, Garden d., Peckham Rye. [8798

UTO-WHEEL de Luxe, attached Allduys Onions special cycle, excellent condition; 20 Lawrence, Ollerton, Notts.

UTO-WHEELS, £27/10 crsh, or £8/5 deposit and £2 monthly; 80 page illustrated list post free— tT. Dept., The Metropelitan Machinists' Co., Ltd., 43, Bishopsgate, £.C.2.

3.S.A. Auto-Wheel, attached gent's cycle, fine condition; £20; would separate.—Wright, 15, Windus d., Stamford Hill, N.16. [9062

Bat.

JEW 8h.p. Bat-Jap in stock.—Brown's Garage, Maltby, Rotherham. [9314

BATS, 1920.—We have commenced deliveries.—The Rochester Auto and Supply Co., Rochester. [0188]
AT Model 4, 6h.p.; delivery from stock—Hewin's Garages. Ltd., the real service firm, Taul. [822]
[920] 6h.p. But, just delivered, any tni; £156, or near offer.—Boulten, Mars St., Smalldborne, affs.

AT 1920 6h.p., in stock; solo, £160; combination, £204.—Tel.: 6626 Museum.—A.S.C., 60, Mortimer ,, W.1. [8510

h.p. Bat-Jap and Sidecar, good condition, all-chain drive, new tyres, lamp, spares, including 2 chains, w tube, valves, etc.; £85.—Globe Iron Works, Thame.

w tube, valves, etc.; £85.—Globe fron Works, Thame. [8546]

D AT-J.A.P. 6h.p. Combination, clutch, Binks, 2 speed, all a-cressories, gold medal London-Edin-argh, 1919; £85.—135, Bury St., Edmonton, N.9. [8789] hp. Jap-But, 2-speed and free engine, with Mont-gomery sidecur, in exceptionally nice order, and seen well kept; £70; any trial.—A. J Young, High Newmarket

PAT 6h.p. 1920 Combination, done 600 miles, speed-ometer, Stewart horn, electric lighting, hood, mee screen, apron, perfect; £200, near offer.—Hearn, 19, St. John St., Clerkenwell.

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2 ATJ.A.P. 6-Sh.p. Twin, 2-speed countersinft gear, and indired, succept 250 for guide sale. S. Queen's Gate late Mews. Glouester Rd., S.W. 1920.
1920. Sh.p. Bat Combination, in geriett order, only only on the sale of the s

Beardmore

920 Beardmore-Precision, Lucas lamp, Cowey horn, spares, Olympia show model; £100.-19, Grange ark, Ealing, W. [9207

Blackburne

h.p. Blackburne, latest model, ready for delivery,—
J. C. Phipp, Sherston, Malmesbury, Wilts. [8-59 J. C. Phipp, Sherston, Manuesoniy, WAUCHOPE'S, 9, Shoe Lane, London, Early delivery of 4h.p. and 8h.p. Blackburne machines. (9770

LACKBURNE 3½h.p. 1920 Combination, mileage 250, all accessories, as new, insurance policy; ...70.—103a, High St., Wandsworth. [9688]

LACKBURNE Combination, Millford sidecar, Lucas lamps, horn, speedometer, late 1919, perfect condim; £165.—Paynter, Normanville, Cheltenham. [8366] PARLY Delivery of the Celebrated Blackburne manufactions from the accredited agents.—The Lenkester agineering Co., Motor Cycle Dept., 63, Brighton Rd., arthiton. [2089]

PRIL (1920) 4hp. Blackburne Combination mile-age 2,000, perfect condition, K.S., Sourmey-Ac-er 3-speed gear, all-chain drive, horn, electric light-g, Wattord speedometer, accessories; what offers; when the possible of the property of the property of the water possible of the property of the propert

OWNS 3h.p. 2-stroke, good running order, complete; £30, or nearest offer.—101, Tubbs Rd., illesden, N.W.10.

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BLACKBURNE, 1920 model, 4 h.p. Stur-mey-Archer gear box, all-chain drive, coachbuilt Sidecar, windscreen, Lucas lamps, and horu, as new £155)

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19 14 Brudbury, Binks, C.A.V., new Dundops; £38, offer.—7, Raleigh Rd., Richmond, Surrey. [911]

BRADBURY 44h.p. 3-speed, kick start, new Dun-lops, perfect; £45,-520, Old Ford Rd., E. [5551 19¹⁵ 4h.p. Bradbary Combination, conchbuilt, in excellent condition.—Barber, Sutterton, Boston. [8855]

BRADBURY.-Order now to avoid disappointment.-The Walsall Garage. Wolverlampton St., Walsall BRADBURY, 1920 models.—Agents, Bright a Hayles, 78, Church St., Camberwell, London

BRADBURY, 1915, countershaft 2-speed and clutch, kick start; £57/10.—Hole, 129, Park Lang, [9253]

4 h.p. Bradbary Combination, excellent condition, 2-speed; £65.—Lee, 3, Lexham Mews, Lexham Gar-dens, Earl's Court. [9523

BRADBURY Combination, 4h.p., cane sidecar, 3 speeds; £60, or exchange Douglas.—Medcalf Hope House, Chingford, Hatch. [8961

4 hp. Bradbury, cane sidecar, N.S.U. genr, over-hauled and perfect; seen and tried by appoint-ment,—Buxton, Emacth, Wisbech. [9526

19¹⁴ 4h.p. Bradbury, 2-speed, K.S. and clutch, with conclibnilt sidecar; £75. offets.—E. J. Ashly, Gables, Harmondsworth, Yiewsley, Middlesex. [9172]

PRADBURY, 4h.p., in sound condition, enamel and plating as new; £40, or near offer.—Burton's Cycle Works, Duncan Rd., Gillingham, Kent. [8372

BRADBURY 3½h.p., a.i.v., Bosch, B. and B., good tyres, T.T. bars, fast, ride away; bargain, £25.–
White, 62, High St., Kingston-on-Thames. [8892 1915 4h.p. Bradbury, new 3-speed hub, clutch and kick model, in splendid condition, any trial allowed.—Hutchinsons, Lancashire Rd., Millom. (X4196

BRADBURY 4h.p., 2-speed, N.S.U., Dunlop tyres and belt, all on, very good condition, any trial; 40 gns.—Smith, 23, Montpelier Rd., Peckham, S.E.15.

BRADBURY 4h.p., Dunhill's cane sidecar, N.S.U., 1958. good tyres, new belt, horn, lamps, etc., good condition; bargain, £60.—Walton, Mead Lodge, Relate.

TMMEDIATE Delivery new latest model 6h.p. twint.
Bradbury, 3-speed, kick start, hand and foot clutch, chain drive; price £155/10.—Loynds, Garage, Darwen. (9742

10 20 Bradbury 6h.p. Twin, Grindley super sidecar, electric lighting, Cameo screen, legshields, speedometer, horn, perfect; £200.—25, Threshfeld Balldon, Yorkshire.

1924
19 O Unused Sh.p. Brudbury, Grindlay spring wheel sidecar; list price, £199; willing include Easting screen.—Letters only, D., Stoutwood House, Stourwood Av., Beginnemouth

BRADBURY 1914 4h.p., F.E., Bosch, B.B., adjact able pulley, excellent running order; 50 gps.; would consider exchange for more powerful machine; after 6.30.—Taylor, 52, Dunstans Rd., East Dulwich. 9225

App. Bradhury and Sidecar. 3-speed and cluzed.

Appella start, new tyres, all accessories, new gears,

a months ago, nerfect throughout: first £50 secres.—
Woodward, Mill Lane, Freshfeld, nr. Liverpoot.

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chain drive, niuminum cases, Brachury de Luxe
sidearr, child's seat inside, ested to the control of the

Brough.

19 20 Sh.p. Brough. 500 miles, mascratched lamps, horn; £150.—Claremont, Headlands, Ketterses. [X928]
19 20 Sh.p. Brough, Henderson sidecar, not run 7, 238
miles; what offers?—V.A.R.. 21, Erith Rd., Belvedere.

BROUGH 1916 5h.p. Flat Twin, o.h.v., 3-speed, S.A., K.S., parts thoroughly renewed at works Pedley grips, knee pads, long copper exhaust, war anteed equal to new, nust sell; 110 gus.—Rectory Cestlegate, Thirsk.

31h.p. Brown and Sidecar, 2-speed, good condition. £27.—Mardon, Windhill, Bishop's Stortford. [9110]

91h.p. Brown, track model, C.A.V. lamps, etc., speed 2 mount; £38.—Job, 186 Putney Bridge Rd., Putney, S.W. [8765]

BROWN 25'4h.p., engine in perfect condition, P. and H. lamp set; £30, or offer.—13, Queen's Rd., South Norwood.

Brown 314h.p., B. and B. carpuretter, Bosch mag., adjustable pulley, new back tyre, running order; £30.—Heaton, 6. Park Rd., Cowling, via Keighley. [836]

Brown. BROWN 25/h.p., T.T., Bosch, B. and B., good run-ning order; after 6 p.m.; £19, or near offer.— 314, Plumstead Common Rd., S.E.18. [8868 [8868]

SPECIALLY Built Brown 8h.p., Gradus gears, new heavy Dualops and belt, powerful, reliable, excellent condition; 46 gas.—102, Hamilton Rd., ...in-bledon, S.W.19. B.S.A.

B.S.A. Combination, countersbatt, 1916; £105.— Mayo, 41, Wyley Rd., Coventry. [X4202

B.S.A.—The Walsall Garage, Walsall, booking orders for all models; rotation deliveries. [5761 1916 B.S.A. and twin Zenith countershaft combinations; cheap. -84, Talbot St., Southport, 19535

B.S.A. Combination 4½h.p., 3-speed, clutch, K.S.; asy trial; what offers -130, Camberwell Rd, S.E.5.

B.S.A. 1916 Combination, 3-speed, all-chain, condition good; £92.—Hassard, Ivordene; Dartmouth.

mouth.

19¹⁵ B.S.A., all chain, 3-speed countershaft, kick lightstarter, clutch; £75.-6, Grosveaor Rd., High-[8853]

19 sound, very fast; £58.—Reynolds, Waterbeach, Cambs. [9567

Cambs.

B.S.A. Combination, coscibuilt, 1914, 3-speed clutch, K.S.; £98; torpedo sidecar.—50, Victoria Park Rd.; [8400]

B.S.A. Combination, fully equipped, absolutely new; Rd., W. NEW 1920 Countershaft B.S.A. all-chain, Cowey horn, lamps, knee-grips; offers. -13, High St., Led-

horn, lamps, knobury, Herefordshire.

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19²⁰ 4½h.p. B.S.A., 3-speed, chain drive, brand new, not ridder 60 miles; £120; after 7.-2. Schubert Rd., Putney. [9135]

B.S.A. 1917 Combination, 4½h.p., 3-speed, cluech, excellent condition, lamps, horn, tools; £105.—
[X4061]

19 20 B.S.A. 3-speed Combination, mag-dynamo, special 3½h.p. eogioe, absolutely periect; £155.—16, Hesper Mews, Earl's Court. [7941

19 B.S.A. and New Sidecer, electric lights, all as new, perfect; must sell; £132/10, or nearest.—32, Ceres Rd., Plumstead, S.E.18. [8722]

B.S.A. Combination, 1916, chain-cum-belt, Lucas lamp, horn, tools, absolutely good as new, mileage under 2,000.—Parkinson, Builder, Chatteris. [8808

B.S.A. 1917 Haudsome Sidecar, sprung grid, all mechanical parts new, including cylinder carrying makers' guarantee; £120.—Foy, Wokingbam. [8623

B.S.A. Combination, delivered from makers October last, complete with 3 Lucas lamps, hou, sparebit and valve; £150.—4, St. George's Rd., Coventy.

B.S.A. Combination, late 1917, 4½h.p., 3-speed countershaft, kick, lamps, born, etc., condition perfect, any trial; £100.—16, Hoddesdon Rd., Belweders.

1916 B.S.A. Model H Millford, Easting speedometer, lamps, horn, tools, spares, new hubs, reason selling owner going abroad; £105.—Lucerna, Fording-bridge. [8617]

B.S.A. 43(h.p. Combination, K.S., 3-speed gear box, all chain, coachhuilt sidecar, excellent running order; £95, or near offer.—45, Blakehall Rd., Carshulton,

19 16 B.S.A. Combination, Model K, engine 15591, Cancelet sidecar, speedometer, new condition; offers.—Tromans, Bellows Makers, Blackheath, Birmingbam.

mingsam.

B.S.A. 1914 2-speed C.B. Combination, new belt, lamp, hore, in good reneining order, will drive 40 miles to intending purchaser; £70.-66, Devizes Ed., Seithles. [9392]

19 20 B.S.A. 4½b.p., chain-cum-belt. Lucas lighting set, Stewart mechanical, fully equipped, delivered this week; £130.-3, Watt Rd., Erdington, Birmingham. [X4065]

ATE 1915 B.S.A. 4h.p. Combination, wicker side-car, 3-speed, kick start, lamps, horn, accessories; £84, or would separate.—W. Johnson, 26, Lawa Gar-dens, Hawwell. [9484]

dens, Haawell.

B.S.A.—Early deliveries of new models, B.S.A. replacements sidecars, screens, hoods, etc., always in stock.—County Cycle and Motor Co., 307,314, Broad St., Birmingham.

B.S.A. 5ydl.p. 1912 Combination, belt drive, Mill-ford sidecar, Capac carburetter, Bosch mag., 2 speeds, pedal start; £68.—Maudes', 100, Gt. Port.

B.S.A., 1917-18, 4½h.p., coachbuilt sidecar, bood, 3-speed countershaft, kick start, all accessories, splendid rondition; £115.—32, Hambledon Rd., Southfields, S.W.18.



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1 20 E.S.A., brend new noridden all-chain, best tion, new, ridden above £115, or 4h.p. Blackburne combination, new, ridden 150 miles, £160.-73, Godwin Rd., Forest Gate, E.T.

B.S.A., 4/4h.p., 1917, Griedley super sidecar hood, screen, perfect condition throughout, complete severy detail, sparce; £130.—Marsh, Fulsbaw Cross, Wilmslow, Cheshire.

1918 B.S.A. Coachbuilt Combination, Model K., P. and H. Ismps, complete hore, screen, tools. excelent condition; £120.—Taylor, Fruit Grower, Stockwell Gate, Holbeach, Lines.

B.S.A. 1915 Model H. all-chain 3-speed countershaft, equal in appearance and mechanically to last season's machine, equipped; nearest £80.-27, Brocklehurst St., New Cross, London, S.E. (9041

B.S.A. Combination, late 1916, bulbons back coachbuilt sidecar, wind screen, etc., appearance and condition excellent, guaranteed as advertised; £105; arter 6.—20, Cauterbury Rd., Croydon. [8790]

LATE 1919 B.S.A. (Model K) and Millford Sidecar, Cameo wind screen, all accessories, carefully used, ad in very good condition; price 4150; seea by appointment. — Shaw, 3, Devonia, Courteey Perk, Newton Abbot.

B S.A., late 1919, all chair, Millford sidecar, Cowey, lamps, born, nuggage grid, complete with spares, excellent condition, triel by appointment; nearest £125.—Particulars, Hall, Leighton Flats, Wellingsborough.

B.S.A.'s, two late model all-chain 3-speed combina-tions, complete, Miliford, 2114; Swan sporting, £112; owner going abroad; letters only for appoint-ment.—Lient. Hall, Oulton, 52. Pretoria Rd., Staett-homp, S.W.I.6

B.S.A. Motor Cycle and Sidecar for sale, in first-class condition and running order, 2 speeds, new tyres, new lamps, new pillion seet, just heen overhauled, coach-built sidecar; £70; any trial.—B. Prosser, 78, Month (A., Hinckley.)

B.S.A. (Dec., 1919), Model K, and Montgomery side-car, 1920, luggage grid, Triplex wind screen, Luces lamps, Klaxon, and spares, in beautiful condi-tion, done 800 miles; price £150.—Dune, 26, Meridea St., Coventy.

Ah.D. B.S.A. and Sidecar, 1914, in excellent condition, 3-speed countershaft, chain-cum-bett drive comfortable Supreme coachbuilt sidecar, with hood and wide wind screen; £110.— Reay, 50, Balcastie Rd., Eltham, S.E.B.

B. S.A. and Millford Coachbuilt. Sidecar Combination, 1919 Model K. condition almost new, 2 head and tall lamps, hood, spare new cover, spare leggth new belting; bargain, £125; view Kensington 5.50 p.m.; 14 days only.—Box 5,349, c/o The Motor Cole.

Cycle.

B.S.A. 414h.p.. chain model (Oct. 1919), Cancelet O.B. charles wind screen, Coveral, luggage grid. horn, brand new Dunion trees, excellented throughout; any trial before party of throughout; any trial before party of the party of t mingham.

2 3h.p. Calcott. 1914, Bosch, B.B., new tyres, rings St., New Bilton, Rugby. [2653]

CALCOTT 2½,h.p., splendid condition, Bosch mag., B. and B. carbureter, lamps, etc.: £38; by ap-poletment.—Paterson, 7, Cecil Rd., Walthamstow (Nr. Billet). [8730]

Calthorpe.

19 20 Calthorpe 25/h.p., 2-speed, accessories, perfect; £50.-56, King David Lane, Stepney, E. [9639 19 17 25(h.p. Colthorpe 2-stroke, Enfield 2-speed, good condition; £48.-150, Camberwell Grove, S.E.S.

CALTHORPE Junior Precision, F.E., 2-speed, excel-lent condition; £32.—43, Clayton Rd., Peckham, S.E.15.

CALTHORPE, 2-speed, condition and appearance new; £35.—Dowell, Woodbine Cottage, Byfleet, Surrey. [9266

[9266]

CALTHORPE-J.A.P. 25th.p., 2-speed, 1916, perfectorder; £50.—1, Norwood Rd., Herne Hill. Phones: 19726

CALTHORPE 2-stroka, 2-speed, excellent conditions spare helt, tube case, lamps; £45.-9, Kehir Terrace, Gainsborough.

CALTHORPE-J.A.P., 1916, Enfield 2-speed, perfect condition: £45, or close.—Mrs. Smith, 84, Thomsfeld Rd., Sydenham.

CALTHORPE-PRECISION (engine late 1919), 2-stroke, A type, 350 c.c., 2-speed; £65.—Boker, 60, Rectory Rd., Redditch. [9270

CALTHORPE, 1920, J.A.P., Enfield 2-speed, brar new, just arrived: at makere' price,—Wilkir Simpson, opposite Olympia, London.

CALTHORPE Junior 2h.p., 2-speed, good condition throughout; ride away; £25.—Crackaell, Assurance Agent, Bakewell St., Conlville, Leicester. [8502]

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Douglas.

UGLAS 23/h.p., throughly overhauled, like new; £65.-7, Exhibition Rd., South Kensington, i.p. Douglas, 1914, thoroughly overhauled; bargain £55, or exchange.—Hurdisty, 90, Old Kent Rd., [X3992]

15-16 Poughs 25₁h.p., 2-speed, lumps, excellent condition; £55/10.—Lynton, Park Crescent, Finch-[X 4228]

UGIAS 1920 4h.p. Combination, new; £170.— Halifax Motor Exchange, Union St. South, Hali-[9019

, Douglas and Sidecur, 3 speeds, wind screen, lamps; £65; trial evenings.—58, Malvern Rd., [931]

UGLAS.—District agents for Brighton and Hove; prompt delivery.—Turpiu's, 29, Preston Rd., ton. [0201

ton: £58.—Muttock Motor Co., Matiock Lane, [8809

UGLAS Combination, 1918 4h.p., Bax sidecar, perfect condition; £135.—139, St. Michael's Hill, d. [9114 ol.
UGLAS 25th.p., 2-speed, in splendid condition and running order.—39, Woodland Rd., Wood St., Wal-

19 Donglas 4h.p. Combination, lamps and all complete, uny trial given; £138.-J. Burnett, Rowsley, shire.

UGLAS 25th.p., good tyres, footboards, etc.; bargain, £30; ride away.—Fisher, 24, Tremadoc Rd., am. [8796

UGLAS 4h.p. Combination, perfect condition; separated if required; £115.—Shailer, 61, Bedford Balham. [8414

UGLAS 23/h.p., 2-speed, 1914, Bosch, everything good condition; £56; photo.-3, Brookville Ter-UGLAS 2\(h.p., 1915, fully equipped, excellent condition; \(\xi 70; \) no offers.—35, Union Rd., Clap-S.W.4.

S.W.4. UGLAS 254h.p., 1915, makers' colours, Bosch, splendid order throughout; £55.—Maynard, 8, Silver [9538

UGLAS, late 1914, 2%h.p., just overhanled, new tyres, lamps, etc.; alter 7 p.m.; £68.-11, Ellerby tyres, 10 Fulham.

15 Douglas, 2-speed, lamp and horn; £62; seen any time.—Godfrey, 2, Milhas Rd., Bush Hill Enfield. 19061

UGLAS 234h.p., 2-speed, 1916, good tyres and apprarance, horn; £58.—M., 46, Clarendon Rd., ey, S.W.15. [9296

19290

O Donglas, 3 speeds, W model, low mileage, perfect condition: 295, lowest.—10, Grena Gardens, nond, Sarrey

UGLAS 25th.p., 2-speed, Klaxon, lumps, new tyres, inspection invited; 243.—4, North Sule, Wands-Common.

Douglas and Sidecar, 3-speed, 1918, perfect der; £125.-1, Norwood Rd., Heine Hill. 'Phone: orden; £12 on 1964.

DUCLAS, 1913, 254h.p., Amac, Bosch, good tyres, balt, lamps, sound, perfect; £40.-8, Shalimar Acton, W.3. UGLAS 1911 25th.p., 2-speed, perfect condition.— Apply Saturday arternoon, 42, Burlington Rd., Malden, Surrey. [8572

Mahden, Surrey. UGLAS 4h.p., 1916-17, 3-speed, K.S., clutch, just overhauled; £85.—Bardwell, 69, Askew Rd., Shep-[8455]

20 Douglas Combination, brand new and naregis-tered, list price, plus accessories. -2, Nightingale Lower Clapton. [9612

Douglas Combination, 1918, very little used, lamps, horn, etc.; £115; after 6.-36, Pendle Rd., e Rd., Streatham.

20 Brand New 254h.p. Douglas, clutch: list price, £105.-V. Doree, Oakleigh, Edgware, Middlesex. ae: 8 Edgware. [9539

.—1915 2¼h.p. Douglas, 2-speed, thoroughly over-hauled, excellent tyres, fine appearance.—King, re Farm, Oxford. [X4250

UGLAS 254h.p., 1912, 2-speed, perfect running order, accessories; £48.—57, Grosvenor Park Rd., St., Walthamstow.

UGLAS 2³ d.p. Light Combination, 2-speed, 1916, reliable, fast, all accessories; £65.—Ruddock, 5, t Lane, Stratford. [8942] 19 234h.p. Douglas, exceptionally good condition, very carefully used; £70.—Capt. Whitworth, ang College, Sussex. [8537

12 Douglas 25(h.p., countershaft, perfect running order, quite last; bargain, £35.—Dawson, 60, at St., Cambridge. [X4224

OUGLAS 4b.p. Combination, brand new, just arrived; at makers price.—Wilkins, Simpson, op-b Olympia, London. [8692

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1 9 19 25 th.p. Doughas, 2 speed, beautiful condition; 575, offer; buying combination.—Charles 10xon, 9, The Croscent, Surbiton. [9051

9, The Greenett, Shiroton.

DOIRGLAS 27(h.p., 1915 model, uncrated 1919, very 115 model, wolumn 1916, w.C.I. 115 model, worth, 115 model, worth, 115 model, worth, 115 model, worth 115 model, which 115 model, which worth 115 model, which 115 model, which worth 115 model, whi

DOUGLAS 1915 254h.p., 2-speed, with light coach sidecar; £70; accept half down.-Bunting's Exchange, Wealdstone, Harrow.

19¹⁶ W.D. Doughas, 2-speed, first-chass condition throughout; genuine bargain, £65,—December, Palace, Polesworth, Tamworth. [8484

19¹⁷ 25₄h.p. T.T. Douglas, not W.D., good condition, tyres and belt excellent, lamps; £68; atter 7.30. -92, Rountord Rd., Stratford. [8720 19 15-16 Donglas 2%h.p., 2-speed, lamps, iootboards, horn, splendid innning order; £57.—Long, 13, Kihaarsh Rd., Hammersmith.

Anidata Rad, Tomatesandon, 1998.

1919 Doughas 25th.p., 2-speed, mileage about 300, lingford Av., North Kensugton.

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1919 4h.p. Donglis Combination, lamps, horn, spares; 2140, or near. Before 6.50, or 'phone appointment.-Tracy, 44, Shacklewell Lane, Dalston. [9402] 19²⁰ Douglas, 23₂h.p., 3-speeds, clutch, kick-statter, brand new and unregistered, knee-grips and hom; £110.-2, Nightingale Rd., Lower Clapton. [9613

DOUGLAS 25th.p., 1916, buffer springs, W.D. model, good running order, complete; 50 gns.—50, Crystal Palace Park Rd., Sydenbam, S.E.26. [9307 DOUGLAS, 25th.p., exceptionally fast, and in perfect condition, will do 55 m.p.h.; nearest £60.—Fairview, Thorkhills Rd., Thames Ditton. [9177]

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Douglas.

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bet offer accepted,—41, Cowley Rd., Brixton, Sg.
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DOUGLASES—23th.p., completely overhauled a reenamelled makers colours, new tyres, 48 pletely overhauled and enamelled makers colours, between the pletely overhauled and enamelled makers colours, but equipped, good tyres, £115.—3, Courtlands Av. 15 S.E.12.

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1 20 27, h.p. Douglas, 3 speeds, T.T., small milese heavy fine the still respectively. The still respectively in the still respectively in the still respectively. The still respectively in the still respectively. The still respectively and huit, new quarking the still respectively. The still respectively still respectively. The still respectively. The still respectively still respectively. The still respectively still respectively. The still respecti

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DOUGLISES.—We are in a position to supply with rebuilt Douglases, guaranteed as new, cas new, tanks, wheels, frame, toolbags, carriers, handbars, and tyres. We give a full guarantee to replace as defective parts found. Terms 210 with order, a mainder when marine is ready for dispatch. Our pit is 270.—RL Moliton of the College of the Colleg

Communications to Offices.

DOUGLAS, 22;h.p., engine No. 37712, left maker
2-speeds, Amac, Thomson-Benneth macroto for the September of the Se

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O 18 7-9h.p. Harley, new bulbous tandem sidecar, Cameo screen, the lot, unscritched; £175.— codecte, Notlington Rd., Leyton, £.10. [8987] 920 Harley 4h.p. Flat Twin, perfect, unscratched, lamp, generator, horu, speedometer, as new; 150.—Dawson, 60, Regent St., Cambridge. [X4220]

HARLEX-DAVIDSON, 1919, Gloria C.B. sidecar, electric lights, unleage under 3,000, perfect contion; £180.—Box 5,322, c/o The Motor Cycle. [9006]

[4] T. B. C. Box. of the Continuation of th

(19 19 7-9h.n. Harber-Davidson and Sidecan, new June, lamps, Klaxon, wind screen, toolboxes, rfect; £165.—Aldersley, Centes, Barnoidswick, Yurks, 1865.

HARLEY-DAVIDSON, late 1918, overhanded, complete, wants tyres and tubes put on; £90; must 1.—Howard, Forge Cettage, Union Rd., Tottenham.

HARLEY-DAVIDSON 1918-1920, Mills-Fulford de Luxe, Cameo serien, electic lights and hora; rgain, £165, no offers.—45, Duke St., Heuley-en-tumes.

TARLEY-DAVIDSON Combination (sporting sideou), 1919, not rudden till February, 1920, electric hting and hotn, as new, not W.D.; £185.—1, Cawley L. Chichester, (3501

ARLEYDÁVIDSON 1916 Electric Mood Com-bination; will accept best offer.—Moore's Presto tar Works, Tamworth Rd., West Croydon; Phono: 45 Croydon; Phono:

RARLEY-DAVIDSON 1920 Flat Twin, complete with lighting set and speedometer, unscratched, leage under 1,300; £145.—79, Military Rd., Colster, Tel.; 111,

| TARLEY-DAVIDSON Combination, electric model.

2 Swam spotting siderar; £175, or near offer; guarteed.—County Motor Works, 17, Gloucester Place
ighten. Phone; 5991.

20 Harley-Davidson 7-9h.p. De Luxe Combination, fully equipped, absolutely perfect, indistinguishle from new; accept £230, or near offer—226. istol St., Birmingham.

JARLEY-DAVIDSON, Swan sidecar, been thoroughly overhauled by Harley, many spares; a bargain, 40; seen any mortain between 9-10.—L. Haegeli, 67, rk Rd., Waterloo, S.E.1.

15 Harley-Davidson Combination, overhauled, re-enamelled, plated, wind screen, hood, Tan-Sad, feet condition; £130.—Cornelius, 34, Vicarage Park, uthorpe Rd., Plumstend, S.E. [875.

nthorpe Rd., Primistend, S.E.

[ARLEY-IJATIDSON Single, 1915, roomy conchuludit sideon, Pillion, Bosch mug, speedomete, write lights and acetylene, perrer condition; £140; rf 6.—32. Brunswick Place, Hove. [9027]

19 Harley-Davidson 7-9h.p., appearance and condition almost as new, solo, £105; brand new bous backed laxurious sidecar and chassis optional, 5.—J.B., 34, Bloomsbury Sq., W.C.1.

ARLEY - DAVIDSON 1915 Combination, new chassis, lamps, horn, tyres, and chains new, good dition, mechanically perfect; £130.—Collett, Churcler, Warwickshine. £X4108

[ARLEY-DAVIDSON 1919 7-9h.p., electric model speedometer, accessories, perfect condition, very spare retreaded tyre; price £135; owner on foreign rice,—Armour, Parkside, Corsham, Wilts. [8729

ARLEY-DAVIDSON Combination, 1916, 6-9h.p.,
dynamo lighting, electric horn, Easting wind
en, speedometer, excellent condition; £135, or near
r.—King Edward Garage, Church End, Finchley.

ARLEY DAVIDSON, 1915, electric model, Signature of the Pullord chassis and sidecar, Stewart speedometer spares, splendid running order; seen and tried appointment; £125.—H., 47, Mcadway, Gelders, N.W.4.

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19 7-9hp. Heder-Davidson Combination Condenses to the first state of t

ARLEY DAVIDSON Combination, 1920 [9220] sideon, completely eventuated in 1920 special bed and plated throughout, Easting wind screen, Klexon, lamps, exceptionally fine turnout, would ider lower power in part exchange; £180.—10, 6ff. ch. Lane, Hammersmith, 2000 [9516]

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HOBART-VILLIERS 2) th.p., 1916, 2-speed, in perfect condition; £47, lowest.-25, The Carshalton, Surrey.

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11. Humber, 2 speeds, H.B. clutch, T.T. bar. discs, a fast and sporty mount; any trial; offers.—Read, Watergate, Grantham.

H UMBER Combination, 3½h.p., handle start, B mag., engine recently overhauled; what offer Medcali, 39, Ware Rd., Hertford. Bosch

2 1h.p. Humber, 3-speed, S.A. clutch, lamps; £45 2 evenings after 7.—Sutherland House, Palme ston Rd., Buckhurst Hill, Essex. [881] £45;

19 13 Humber 3½h.p., new Dunlops and belt, splen-did condition, little used; £45.—Harvey, Cosy-nook, Churchfields, Cheshunt, Herts. [9276 LIGHTWEIGHT 1914 Humber for sale, top-hole condition; expert examination invited; what offers -B., 1, Humber Rd., Stoke, Coventry. [9533

19 19 31/h.p. Humber, 5-speed, Montgomery tandem sidecar, Easting screen, mileage 2,000; any trial; £130.—Denbigh, Evington, Earlsdon Av., Coventry.

19 3 1/2h.p. Humber, 3-speed, with Montgomery side-for, luggage carrier, Easting wind screen, lamps, horn, complete; £120.—Jockson, 19, Hunter Rd., Shef-[X4100]

EARLY Delivery of the Celebrated Humber machines from the accredited agents.—The Lankester Engineering Co., Motor Cycle Dept., 63, Brighton Rd., Surbiton.

HUMBER 4h.p. Combination, 1914, Sturmey-Archer, K.S., Millford S.C., smart and powerful outfit-cheap, £70.—Railway Arch Gerage, Denmark Rd., Camberwell.

155B. Hnmber Coachbnilt Combination, 2-speed, D2 handle start, sound condition, good heavy tyres, lamps; £40; after 7.30 or week-end.—108, Raleigh Ed., Hornsey.

21h.p. Humber Lightweight, Grado gear, Duclor Mag., Binks carburetter; 227.—C. Friend, 8, Church Rd., Aldershot. hurch [8713

H UMBER Combination, 3½h.p., 2-speeds, clutch, handle-start, engine perfect, new tyre, belt, needs slight adjustments, good condition; 38 gns.—102, Hamilton Rd., Wimbledon, S.W.19.

19 14 3½h.p. Humber Combination, Sturmey-Archer 3-speed, kick start, Bosch, B. and B. good tyres, lamp set, horn, splendid condition; 48 gns-Ogden, 11, Thomas St., King's Lynn. [9279

Ogden, 11, Thomas St., King's Lynn.

HUMBER, 2/4hp., 2-speed gear box, Millers Iorks, new Dunlops, mechanical valves, etc., guaranteed good running order; first £28 secures.—J. Collins, 82, Queen's RA., Nuneaton.

Queen's Rd., Nuneston.

H UMBER 4h.p., 1914, with coachbuilt Hercules sidear, upholstered Bedford cord, wind screen, 5-speed Sunuep-Archer Indusers, with clutch end kick speed Sunuep-Archer Indusers, with clutch end kick tyres, ecamelling and plating exceptionally good; only tyres, cornings paid per passenger train if hecessary to any station in England.—Marsden, Sunray, Worster Rd., Malvero Link.

Indian.

I NDIAN and Sidecar, 1915, excellent condition; £150.—Apply, J. Geare, Ripple Vale, Walmer,

INDIAN 1914 5-7h.p. and coachbuilt sidecer, order; £95.—Murland, Badly House, Davent 1916 7-9h.p. 3-speed Indian and Indian sidecar, running order; £88.—Box 5,360, c/o The Motor Cycle.

Cycle, Po-9h, Indian, only done 5,000, electric lighting and hore, in perfect condition; £150.—Coombe, Henry Rath. [X3818

LATE 1913 Indian, T.T. clutch model, in good condi-tion, recently overhauled; £65.—Boorer and Roberts, Horsham. [8789

7-9h.p. Indian Combination, 3-speed, spring frame, good condition; £85.—Rimington, 95, Lloyd St. South. Manchester. [9190 NDIAN 1915 Clutch Model, 7-9h.p., perfect condi-tion: best offer.-Write or call, Louis Durham, Churton St., Victoria. [8398

TNDIAN 7-9h.p., 1914, clutch, speedometer, accessories; \$50; call any evening and week-ends.—45, Mayfair Av., Ilford. [8574

REX G. MUNDY.—1915 Indian 5-6h.p., 3 speeds, kick starter clutch, just overhauled; £77/10.—1, Duke St., Richmond. [9653

NDIAN, 1914, 7-9h.p., clutch, really excellent condition; £48; privately owned.—Seen, Hedley's Garage, Gunnersbury, W. [9176]

1914 Indian 7-9h.p., clutch model, exceptionally good condition: 265, or offer; after 6 p.m.-55, Leighton Rd., West Ealing. [8933]

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MOTOR CYCLES FOR SALE. Indian.

INDIAN 7-9h.p., 2 speeds, K.S., spring frame, O.B. combination; £85.—53, Russell Rd., South Tetter-

INDIAN 5-6h.p., clutch model, lamps, speedor discs, fast, sporty 'bus: £62.—Huntley, 78, St., St. John'e, London, S.E.8.

19 20 Powerplus Indian Combination, electric coment, full equipment, mileage 850; £195.5,326, c/o The Motor Cycle. 19¹⁶ Indian Millford Combination, 5-6h.p., 3-speed accessories, splendid condition; £92/10.—Howgil Colney Hatch Lane, Maswell Hill. [971]

INDIAN Milliord Combination, 7-9h.p., chitch, speed. K.S., good condition; £130.-81, Berkst Gardens, Bowes Rd., Green Lanes.

WAUCHOPE'S, 9, Shoe Lane, London, E.C.—
h.p. Indian combination, 1914, disc wheels, 21
also 5-6h.p. Indian and sidecar, 1914, £80.

19 15 Indian Combination, 5-6h.p., 3-speed, tyres, just overhanded, ride away; £90.—1

1.916 7-9h.p. Indian, 3-speed, spring frame, mechanically perfect, tyres and appearance as new; 210 for quick sele.—69, Elms Rd., Clapham Commoc. [9716] INDIAN Super Model, special large valved engine Henderson Elite sidecar, discs all wheels, top-hol new turnout; £235.—Peart, Woodhall, Hatfield,

19 15 Indian 7-9h.p., 2-speed, clutch, tyres good dition, engine just overhouled; any test; of over £65.—Goodhouse, Goose Greec, E. Dulwich; S.E.

INDIAN Late 1915 31/2h.p., 3-speed gear, Henderson featherweight sidecar, spare tyre, in good running order; price £90.—Armour, Parkside, Corsham, Wilts.

1916 Indian Powerplus Combination, electrically aguipped, overhauled and enamelled, any trial £135.—3. Cemetery Rd., New Breemby, Scunthorpe.

1915-16 7b.p. clutch Indian, fitted Mills-16132 Indian sidecay, needs adjusting, otherwise training order; 275.—26x 5,559, c/o The Motor of 185.

1970 cally equipped, speedometer, rear drive, just divered, perfect; offers.—Beechleigh, Abbey Rd., Grimby.

INDIAN (bargain), 7-9h.p., brand new never been ridden, Powerplus, 3-speed, K.S., lamps, Klaxon, £150.—Railway Arch Garage, Denmark Rd., Camber well.

1920 7-9h.p. Indian Combination, big value mode dynamo, speedometer, etc., electric sidecar lam mooth old; £7 off list.—R. Harrison, Queen's Place Kendal.

Kendal.

T NDIAN Late 1919 7-9b.p. Combination, electric T lighting, absolutely perfect, as new, with Easting wind screen and legshields; £200.—Guyver, Stratford [8888]

on-Avon.

I NDIAN.—For early delivery of the famous Powerplin motor cycle, with electrical equipment, write to P. J. Evans, Indian Agent, 83-91, John Bright St., 10173

NDIAN 7-9h.p. Clutch Model, engine overhauled good tyres, machine in splendid condition, al accessories; £65.—G. Lutz, 43, Oxford Rd. Educ London, W.

LATE 1915 5-6h.p. Indian, 3-speed counterbuf chutch, kick starter, T.T., very feet; \$85, or offer sidecar if required.—5. Stanley Terrace, Castlefields Shrewsbury.

INDIAN, 7-9h.p., T.T., clutch model, 1916, milesga 1,500, mainly stored since new mechanically getect, very fast, 80 m.p.g.; £80.—Balley, Sherbourd Hill, Warwick.

INDLAN 7-9h.p., 1913, 2-speed clutch, just thoroughly overhauled at cost of \$8; will necest \$55 for quie sele.—Whitehead, 1, Montague Mews North, Crewford \$8, Baker St., W.l. [6962]

TNDIAN 5-6h.p. Combination, 1916, Millford sideous wind screen, electric lighting, 3-speed; K.S. to splendid order; £110.—Bardwell, 69, Askew Rd., Shepherd's Bush, W.12.

19 19 7-9h.p. Indian, magneto model, 3-speed and clutch, with kick-storter, enamel and plating equal to new, spleodid tyres, a bargain; £115.—Olphert, 65. Church Rd., Bernes, S.W.

Millord sidecar brand new Dunley and tube on back, electric light splendid condition; £115, or exchange 2-senter.—A Mitchell, 21, Kiog's Sq., E.C.1.

TNDIAN 7-9h. p. Combination. sprung frame, clutch, K.S., electric light, speedoneter, Millford sidest, hood, etc., new condition, perfect; £125, or nearest-W., 352, High St., East Ham.

N. 352, fight st., East Lam.

INDIAN 7-9h.p. Powerplus, dynamo lighting, completely equipped, first-class condition.—Full particulars, Blake, 4, Park Creecent Mews (East), Growth of the Control of the

TNDIAN 6h.p. twin Combination, Swan sideoar, Lucus Lemps and horn, perfect running order; 68 gusGco. Smith, 268, Lavender Hill (opposite Arding, 360)
Hobbs), Clapham Junction, S.W.

MOTOR CYCLES FOR SALE. Matchless.

9 20 Matchless Model H, dynamo lighting, hood, leg guards, in splendid order; £235.-2, Nightgale Rd., Lower Clapton. [9615

MATCHLESS, Model H, excellent condition, acety-lene lighting; £220, bargain.-7, Exhibition d., South Kensington, S.W.7.

9194 Matchle's Combination, guaranteed, little used, 4 interchangeable wheels, lumps, horn-od, tools; £185.—113, Rodney Rd., Walworth, S.E. 19004

ATCHLESS, Model H, almost new, Lucas acctylene lighting, horn, tools, unscratched; £230, ao ters.—7, Exhibition Rd., South Kensington, S.W.7.

tion, spare wheel, kick starter, lamp set; any trial; 40, lowest.—Apply, 335, Bethnal Green Rd., London.

1920 Model H Matchless Combination, M.A.G. engine, new and unregistered; best offer.—626, a Bridge Rd., Leyton. 'Phone: Walthamstow 800.

ATCHLESS Combination 7-9h.p., 2 speeds, com-plete with lamps, tools, ctc., splendid condition, ial; £90; after 6 p.n.-43, Russell Av., Wood Green,

913-14 Matchless Combination, all-chain, 2-speed countershaft, just overhauled and repainted, per-et order; £92.—Laurence, High School House, Chi-[9128]

MATCHLESS, 1920, Model H, D.A. lighting, Lucas lamps, hood, screen, etc., as new, ridden few lies; only offers.—W., 64, Homecrott Rd., Sydenham. [8379]

920 Model H Matchless, electrically equipped, screen, mudshields, tools, spares, perfect, unratched, any trial; £235.—21, Ashworth Mansions, gift Valle.

ATCHLESS-J.A.P. 8h.p., 1914 C.B. Cembination, 2-speed countershaft, clutch, all-chain, lamps, mn, wind screen; £95.—Lindley, Soho Hall, Hands util, Birmingham. (X4229

ATCHLESS Model H. M.A.G. engine, Magdyoo lighting, speedometer, sidecar, step, leg shields, stellverd; \$260.-F. C. Gorman, 70, Omistan d., Shepherd's Bush.

MATCHLESS Combination, M.A.G. engine, 3 speed, chain drive, disc wheels, hood, screen, lamps, eedometer, etc., splendid condition; £135.—36, Genesta d., Plunstead, S.E.18.

MATCHLESS 1920 Model H Combination, spring MATCHLESS 1920 Model H Combination, spring frame, Lucas lamps, nearly new; before I Thurstein, Lucas lamps, nearly new; before I Thurstein, Lucas model has been springed by the spring of the spring spring

ook, 582, Hainton Ar., Grimshy.

MATCHLESS 7-8hp. MA.G. 8B Model Combination of the combi

15 Matchless 7-9h.p. M.A.G. Combination, 3 speeds countershaft, kick starter, chitch, hugange and strol carriers, Easting wind screen, tools, etc.; genuine frgain, £115.-8a, George Lane, Lewisham. [9717]

O 20 Matchless Combination, dynamo lighting, sprung frame, speedometer, screen, Cowey, arranteed perfect; any trial; £225,— Watson, oresters Λrms, Brady St., Whitechapel, London. [9407]

MATCHLESS 6h.p. J.A.P., sporting model, disc wheels, long plated exhaust, hand controlled clutch, ating, enamel, and mechanical condition like new, my fast; 95 gns.. or offer.—Gurry, Ditton, Combridge,

Hy last; 50 gHz. of School H Spring Frame [1570]

L ATCHLESS Latest Model H Spring Frame [1670]

MA.G. eugine Lucas agdyno, spare wheel and trye lucaspace grid; only done w hundred miles.—Parker's, Bradshawgate [Relicon.]

ATCHLESS Combination, 8h.p. J.A.P., 2-speed, kick start, clutch, chain drive, lamps, hooter, ecdometer, petrol carrier, heautiful turnout; £120.7, Kenbury St., Coldharbour Lane, Camberwell. ATCHLESS 1920 Model H Combination, 8h.p.

b. Jap, dynamo, speedometer, spare wheel, screen, p., etc., as new, delivered May, trial after 6, all esseries.—P., 8, Amhleside Gardens, Streatham, 1779. orn.

ATCHLESS New Spring Frame Model.—Orders booked for rotational delivery. Demonstration odel on view. Replacements for Matchless models of l dates in stock.—Tassell, 1a, Bloomfield Rd., Plum.

"MATCHLESS Combination.—Book your orders with ame 8h.p. Matchless combination. A model always a view at abova address. Deliveries guaranteen rietly as per order received. Retail price as ruling at ma of delivery. A lorge assortment of second-hann folor cycles of all makes always in stock. [5842]



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Our wider circle of friends can have de on application by postcard. Machines may in every case be had on approval To these who are new to us, we beg to point out that business by pist is a special feature with us, and that their letters will in each case be treated as a call in person. Here are a lew examples taken at random from our June list-

IND'AN 1920 Powerplus Combination, complete with usual Equipment. New March, 1920. Frice £205.

ENFIELD 1920 Two-stroke, 2-speed Lightweight, £67.

7 RIUMPH 4 h.p. 1919 (late) Counter-sheft with Grindlay Sidecar. Price £ 130 P. & M. 1919 (late) Combination, 33 h.p. (P. & M. Sidecar), Head Lamp, Horn, etc. Price £125.

A.B.C. SKOOTAMOTA, 1920. List price £55, plus carriage. Offered at £51. ALLON 1920, 2-speed, cost £87 10 0, rice £76.

Price #76.

IVY 1920 Lightweight, Single-speed model. Cost #59. 48 Guinea?.

OUR JUNE LIST sives details of ketween 30 & 40 MACHINES.

I. IV. TOLLADY.







MOTOR CYCLES FOR SALE, Matchless.

Matchiess, apperatched, Lucas Magdyno, electric lighting, Lucas horn, rear driven special control of the contro

Wolvermannton. [X4208]

J9 19'; Mattelhess Victory Model Combination, war finish, 3 now trues and 3 now tubes, in od, sercen, Klayon, Fan-Saul lumps and all necessories, very little used, good as new; £180; seen Kensington.—Box 5,227; Clo The Motor Cycle.

MATCHLESS 1920 Model II Combination, the best passenger outfit, just delivered, M.A.G. engine, 8b.p., complete Lucas lump set; £215. Geo. Smith, 268, Lavender Hill (opposite Arding and Hebbs), Clap-ham Junction, S.W.

Metro.

METRO, 1919 (Aug.1, 2-speed, disca, splendid c dition; £55.-5, Rosedew Rd., Hammersmith

NEW 25/h.p. Metro-Taylor 2-stroke, 2-speed, chain-cum-belt drive, maker's list price.—Day, Oke-hampton. [878]

METRO-TYLER, 1919, practically new, disc accessories; after 6; £45.-131, Louisville Balham.

EGERTONS, Northgate, Ipswich, Ipswich as Metro-Tyler, immediate delivery from sto

METRO-TYLER, 1920 model; deliveries from stock. Hewin's Garages, Ltd., the real service firm, Taunton and Totnes.

METRO-TYLER, 1919, run few miles only, all accessories; £57 cash; seen evenings after 6, or weel-ends.—67. Vineyard Hill Rd., Wimbledon Park. METRO-TYLER 2-stroke 25th.p. 2-speed, all sories, ready to ride away, very fast mac \$40.—Phone: New Cross 990.—152, High St.,

ham, S.F. just r £50.—Late Metro-Tyler, 2-speed, 2-stroke, just enamelled, plated, and rebushed, perfect splendid hill-climber: after 7.—51, Queen Elizal Walk, Stoke Newington, N.16.

METRO-TYLER 1920 Models in Stock, 2-speed, long exhaust pipe, £74/12/5r disc wheels £5/5 extra; extended terms if degred—City agents, Elce and Co., 15-16, Bishopsgate Av., Camomile St., E.C.3. [0068]

Minerva.

23h.p. Minerva Lightweight, mag., new Amac, r 4 away, £25; sidecar, £5.—Platts, 602, Kin Rd., Fulham, S.W.6.

31h.p. Minerva, clutch model, 2 speeds, U.H. mag., 22 new carburetter, belt, and tyres, climb anything: nearest £40.—Old Porch House, Southover, Lewes. [9517]

MINERVA 51/h.p., watertight mag., nearly new car-huretter, new helt, good tyres, spring forks, re-hushed, and guaranteed in good running order; £15. -Reynolds, Waterbeach, Cambs.

Monarch

MONARCH-PRECISTON 1914 4½h.p. Coachbuilt Combination, 2-speed, Bosch, Senspray, perfect condition, 465; also 5-6h.p. Rex twin coachbuilt com-bination, Bosch, B. and B., £40; trial after 8 p.m.-20, Tyrtell Rd., Peckham Rye. London.

Moto-Reve.

MOTO-REVE Twin Lightweight, needs slight atten-tion; £20.-25, Ashmead Rd., St. Johu's, S.E.8.

MOTO-REVE 23/h.p. Twin, recent model, good ready for the road; £32.—Job. 186, Putney I Motosacoche.

MOTOSACOCHE 1½h.p., Drnid forks, in good running order, £16; also Binks carburetter, 6 jets, £2/5.—Apply, 254, Dokinfield Rd., Hyde, Chesbire.

New Hudson

19 20 New Hudson 2-stroke, 2 speeds, unused; what offers?—'Phone: Hamp. 7822.

NEW HUDSON De Luxe, touring model, 2-stroke, new: £75.—Knight, 51, High St., Reignte. [8715 19 13-14 234h.p. T.T. New Hudson-Jap, any approval; £34.-Gibbs, 58, Ashdown Rd., W

NEW HUDSON, 2!4h.p., 2-stroke, in splendid condition; £36.—Lewis, Otford Rd., Sevenosks, Kent

19²⁰ New Hudson 2-speed Lightweight, in stock; \$275.—Shepherd and Co., Enfield Highway. Waltham Cross 31.

NEW HÚDSON 214h.p., 2-speed, lamps, spares, ex-cellent condition; £45.—Hicks, 40, Drakefell Rd., New Cross, S.E. [9070

NEW HUDSON. 7 HUDSON.—Delivery of 2-stroke model from stock at Blackhurn and Sons, Station Garage ng. Tel.: 41. [848] Spalding.

NEW HUDSON 1920 2-stroke, unused; owner bought combination; accept £70 for quick sale.—Holden, 70, Lythau Rd., Fulwood, Preston. [9424

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MOTOR CYCLES FOR SALE.

New Hudson. 6 hg. New Endson Combination, Septed hab year: 35 grs.: seen saturday, after 4 p.m. of Sunday, Stewart, 42, Kimberly Gardens, Harringay. 19745

19¹³ (August New Hadson Coachbuilt Cambination. Serged countershort lamps, accessories, condition periest: 2725.—Laries, Willington, Bedfortshire. [2622 NEW HUDSON, 1814-15, Ching, excellent com-mon, splendid hill-directer, amps, horn: 25 of mass offer. Volan, 7, Haldon Rd., Wandsvort S. Wils.

NEW EUDSON 5-5.5. C.B. Combination. 5-speed. cirtich had screen speedometen sto. outless. gears, and everywhing that wears replaced 1900; 885.— 896, Britann R.L. S.A.

NEW HUDSON, Staby. E-perf year, free cagine. Tosen mag. B. and B. Carb., speedameter, etc., ready to tide away: 255.—W. Chamberlain. S40. High Bill, Bradesbury, N.W.

REX G. MINDY -1910 New Endson, 2-geed, 1-state. Cower horn, specialmeter lamps, discs. tods, etc., milence 500 as new: 275, complete, or near offer.-1. Duke St., Richmond. 9556

61.1 Frin New Hidson Combination. 3-speed, not such chund, speedmeter, lumps, luggaze and its spent 215 on overhard, gazanteed: bargain. 2105.—Powell, d. Les St. Kidderminster. X2123. 1920 New Horison, fin p. twin, Served counterphase, kick start, coach combination, kills equipped only fone 550 miles, tyrus unpunctured, any final private; 2165-25. Charlord Rie, Beckton Bl., Canolin Twan, E.I.S.

New Imperial.

1920 New Imperial 25, h.c., unused; what offers?—Phone: Hamp. 7822. CROW Bros. Gulldford-New Imperial-Jup agents and expert repairers since 1914.

L ATE Model New Imperial 2-speed perfect condition. equipped; 250.—Stainer's Dairy, Byde. 19291

1920 New Imperial Jan. 2-freed, all accessories: 5.75.-Kren. 61, Jephson RA. Forest Gate. [385]
NPW IMPERIAL JA. P. 1928. 272.D., 2-speeds. 2006 scinition: 5-3.-Stevens, 52, Wore St. Basingstone.

NEW IMPERIAL-I.R.P. 1915 27th.p. 2-speed, new tyres and tyrices, lamps, etc.; £15.—15, Carlisle Rd., Dartford. 19083

NEW IMPERIAL Zighth. 2-speed new, at his nife.
-Agent for Bath and district, Coumbe's Motor
Cycle Garage, Eath. [X3226]

19 16 25, h.g. New Imperial-Jap. 2-speed, Mch. cimpo. lamps. spares.—H. Johnson, 74, Wallington, Surrey.

YEW IMPERIAL-JAP. 1917. 2-speed church kick start, lamps, tools, good running order; 55 gas.— 72, Belmout R.I., Maidenhead.

YEW IMPERIAL-J.A.P. 24h.p., 2-speed practically new: 50 grs.: accept half down.—Bunning's Exchange, Wealdstone, Harrow.

3 3 h.p. New Engerial March 1933, 24geed counter 4 shart perfect: 264.—Manning, 4, Howell St., Nantymoel, nr. Bridgend, Glam.

NEW Imperial 27thm. 2-speed 1918, overhauled, enamelied, placed lamps, form, radis, new Dru-lop, semi-T.T.'s: 255.—2. Martin, Lindholms, Leves

NEW IMPERIAL-J.A.P. 2%h.g. Capeed lamps shields, good grees ride awar: 45 ans. titer: o 7 80 weekings, except Sauring.—Oakrides, near W Tower, Explan

YEW IMPRIEIAL Sup, entra Barge Charelet S.C.

"misone under 1.000, new Oot, 1919; bargain
1930; trial by appointment—Lews, St. Wivening Bit
treations Hill.

NEW MPARIAL J.A.P. 27/Aut. 1915. 2 speeds a ressories, beautiful tendition, types nearly new: £41.—6. Hrde. Muttingham, S.E.S. Phone Lee Green 500.

19 is New Imperial China. 1-reed, in peries con-dition, lamps I consenters, speciameter, mechan-cul born, source best, thank, ever 255.—17, Myddeton Ed., Bornes Prof. 2886

19 20 New Impaint Clark, Caspeed, distribution of immediate deliver from stock—Call to Thomas Deenwin Til—Chapter Motors, Cash St. Greenwin F. 20

1913 Palag. New Imperial Dunlogs, Gover, langs hard, numerous states, in extellent condition 50 grap, exchange C.S. Triumph and cash—150. Thur leigh P.R. Clapdam, S.Will.

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Gas. New Imperial Scio, 1930 model, mileage a SSG, lamps, horn, yellow fisc wheels, wide and in perfect condition, yety overful, take anywhere; \$137 10.-W. P. Marth, 136, Harley Edysaston, Birmingham,



MOTOR CYCLES FOR SALE.

New Imperial.

19 20 New Imperiat. Ship, J.S.P., and Mills-Pall sidecar, mileaps under 700; Lucas horn-lamps, hord and screen, all accessories, fully insuspicional surnous, in excelent condition; best of Carr. Stonegate, Halverhistle.

Sair Stoffgillo Harvaisse.

6 h.p. New Limparial 12300 model, not W.D. in

6 speed hand chront, enclosed chains, 28/3
core, spring wheel, Grindlay de laws chicers,

cross, lamps, when so that 2177, 230 under

point strandards to best enginises. ABP. 6

Lat. 18 Sections, 19, Marray Merry, Marray Se

handlands, act North London Halvay, Se

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New Ryder.

New RYDER 1813 25th.n. Jestonic 2-speed P. a H. head ight. Cowey speedometer. complete accrise. ine machine. any print: 265.—Thorne, 34 El. Ealing Northfields Station;

Norton.

YORTON Big Four. 1913, harle used, lamps, see Charlett, Tonbuidge.

NORTON Big Four Sporting Combination, unchant; trial or examination.—Parker's chawgare, Bolton. 1920 Norton Thy. Combination, ridden since 24th, being overhauled Norton works, sell on pletton; 2185.—187, Maldon Rd., Colchester.

NORTON 1912, 5-speed, clutch, lamps, horn, a condition throughout, just overhauled, semi-bars, discs; 275.—Treland, 20, Westminster R.L.

ORTON Late 1513 Big 2, and Norton de hesidecar, Lacas lamps, horn, Cower specialmeters, nigroup condition; Midlands.—Box 3, etc. 1 Motor Cycle,

VORTON Stohn, B.R.S., Philipson pulley, excendition, just thoroughly overhauled, very all on, 90 gas, seen after 6 Saturday, -R.F.W., tham house, Snarsbrock

19 20 Norton 5-a.n. T.T. model, ordered from I don agent, delivery any day, £5 deposit pa vill transfer for £5 extra; first cheque secures. So Greenloaning Farm, Braco, Pernashme.

VORTON Combination 1915 Big Four, chain dr hand clutch, 5-speed counsershaft, kick sta Norton sidevar, outlie in good condition, lamps, how 2:40.—Turnil Norton, Petersough.

2140.—Turnill Novah, Peterborough.

214E 1915 Sishin, Broklands Special Norton.

215 To 1915 Sishin, Broklands Special Norton.

215 To 1916 B.S., full T.T. handle-bars, rat

215 To 1916 Sishing P.E.S. 7in. Major head in

215 Section 3 to 1916 Sishing P.E.S. 7in. Major head in

215 Section 3 to 1916 Sishing P.E.S. 7in. Major head in

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218

3 1 h.p. N.S.U., 2-speed, F.E.; \$23-158, Lordship 9151

Y.S.C., 3h.p., B.B. mag., Whittle; £18.—68. Rd., Forest Gate, E.7. 3 thy. N.S.U., rear spring. Bosch, rinning 2 228.—54. Dundonald Rd., Wimbledon,

N.C. 5-ch.p. Twin, overhauled byres good, ride away.—Cole, 25, Clovelly Rd., Acton.

N.S.U. 31-h.y. 2-speed, free engine, Bosch, B. B., good condition; fine away; 226,-15, Ash Rd. Foeting.

S.U. Motor Cycle, complete except pulley, mar., princier; price 28:20. — Dransfield, Dodw Ed., Barnsley.

1914 N.S.C. Thin. Twin Combination. 3-speed tershals, K.S.: nearest £90; good order. Stonhouse St., Clapham Common.

19 Motor Co., 1942, Finchley Rd., N.W.

Motor Co. 1984 raintney man A.W.
2 Lh., N.S.C., Caped, rice enciles, mag. in running
22 crier; 202 10 and coal receives; no delenaponties 82 in furmion Rel, Grimby.

App. Semi-I.T. N.S.C., fast and powerful, new heavy
Chinches, excelent appearance; 250; go carteens—
Encintle, Wood 82, Church Gready. X4248

N.U.T. Ahp. Twin-Jig, very firsts £70,-4. The Square, Carshalton. JUST Delivered from Works, N.U.T., 1 cheque secures.—Orton and Co., Blyth,

1916 Nationary twin Jap. 3-speed. K.S., chr appearance, prossories: £78: particulars. Lockwood, Haddersfield.

N.U.T. Meder Croles from Stack.—Sele ages Campungshire, A. J. Fourn and Co., Ltd., Garage, Newmarket. "Phone: 212.

C46 All letters relating to advertisements should quote the number at the end of each advertisement, and the date of the issue

Rover.

ROVER Combination, 313-hp., Sept., 1919, complete accessories, wind serieen, several special features, approximate mileage 2,000, careful and expert driving, nupunctured; £140,—Woodbastwick, Green Walk, Chiagford, E.4. Tel.; 51 Chiagford.

Chingford, E.4. Tel.: 51 Chingford. [9521]

£ 200.—1919 fb.p. Rover combination, delivered March
this year, only done 500 miles, tyses all 6a nw,
this year, only done 500 miles, tyses all 6a nw,
the state of the s

Royal Ruby.

ROYAL RUBY, 214h.p. J.A.P., splendid condition; £30.-4, York Rd., Maidenhead. [9203

ROYAL RUBY 2-stroke, 1915, long copper exhaust, T.T., sound; £35.—J. Jarvis, Circacester. [X4226

EGERTONS, Northgate, Ipswich, can give early de-livery Royal Ruby if ordered now.—Phoce: 962.

1917 25/h.p. 2-speed Royal Rubr, good condition, generally overhauled.—Skipsey, Thirsk, Yorksek, Cyrksek, Carlon ROYAL RUBY 3h.p., 2-speed, spring frame model, new last week; what offers?—Myers, Ravenchass, Cumberland.

ROYAL RUBY, W.D., 8h.p. outfit, equals new, com-pletely equipped, hood, screen, heavy tyres.— Wessex Garage, Exeter. [8876]

ROYAL RUBY 3h.p., 1920, spring frame, latest model, not yet unpacked; £120.—Bunting's Exchange, Wealdstone, Harrow. [9659]

19 19 Royal Ruby, 8h.p. J.A.P., 3-speed, large Canoelet sidecar fully equipped, excellent condition; £175; appointment.—14, Meadway, Gidea Park. [9705]

R 1916, aluminium footrests, Druid forks, appearance as new, complete minus power unit, fit TD.C. or Villiers engine.—34, Ampthill Rd, Bedford. [8777]

R OYAL RUBY 1920 5hp., spring frame, lamps, form, done 500 miles; £105, inspection by arrangement.—Bellwood, 4, Colosseum Terrace, Albany St., London. [8603]

8t., London.

1918. Roral Ruby Conchbuilt Combination, 4hr., 1918. Roral Ruby Conchbuilt Combination, 4hr., 5kg, 1919. Specific, 1919. Specifi

Rudge.

5 -6h.p. Rudge Multi, 1915, good order; £68/10.— 42, Perran Rd., Tulse Hill, S.W. [9155

WAUCHOPE'S, 9, Shoe Lane, London, E.C.4-314h.p. I.O.M. Rudge, 1919; £105. [9780

RUDGE Multi, 1920 (I.O.M.), mileage 400, as new; £105.-3, Brookville Terrace, Coventry. [X4176 19 ²⁰ I.O.M. 3½h.p. Rudge Multi, accessories; £120, —45, Bracewell Rd., North Keasington. [9153

RUDGE 316h.p., 1913, clutch; any trial; £44.—1, Norwood Rd., Herne Hill. 'Phoce: Brixton 1964.

RUDGE Muiti, 1914, fast, sporty, overhauled, per fect; £62, or near offer.—Bourne, e/o Dabby, Wicklord.

RUDGE Multi, 31/2h.p. 1914-15, equipped, fast, any trial; £55.—Rossi, 72, Regina Rd., Southall, Middlesex. [838]

R UDGE 1913 51th.p., clutch, new cylinder and tyres; £40, or nearest offer.—Goldie, 8, Park Rd., Hampton Hill, Middlesex. [6942]

R UDGE 3½b.p., free engine, T.T. bars, excellent condition; 245.—Scattergood, Beech Lane, Stretton, Burton-on-Trent. (XS819
5-5b.p. Rudge 1914 T.T., ideal solo monat, fast, reliable, ener tyres; £50.—Joh, 186, Putcey Bridge Rd., Putcey, S.W.

£45.—1914 Rudge Multi, good tyres, lamps, any trial.—St. Margaret's, Tadworth, Surrey. Tel.: Burgh Heath 246. [9146

RUDGE Multi 1919 Roadster, perfect condition, new belt. 3in. tyre on back; £95; lamps, etc.—Walker, Abbey Cottage, Malvern. [X4211

19¹⁴ Rudge, clutch, good order,; exchange for 2-stroke 2-speed; Levis preferred.—Meadows, 10, Corporation St., Stafford. [X4234]

1920 Brand New Rudge Multi, T.T. I.O.M., condington, Malpas, Cheshire. (X425)

31h.p. Rudge, 1914, stored 3 years, pedal start, clutch, free engine: £46, or offers.—103, Warwick St., Victoria Station.

"All machines quoted below for immediate delivery and at fixed prices. Do not be disappointed at the prices going up. We can quote you the machine you require, for immediate delivery, at a price that will suit

COMBINATIONS.

COMBINATIONS.

20 MATCHLESS Combination, M.A.G. engine, Lucas magdyno, hood, windscren, Watford trip speedometer, rear drive.

1920 4 b.p. DDUGLAS Combination, brand new, never been ridde.

1920 3 h.p. SUMERAM Combination, composite the combination of the comb

Lucas Magdyno, complete with norn, as new. 1920 and MATCHLESS Combination, Lucas acetylene lumps, Lucas hora, been ridden to miles. 1920 A.J.S. Combination, complete with hood, windscreen, 3 lamp sets, and horn; all ready for the road; never been ridden. 1920 6 h.p. A.J.S. Combination, screen, no accessories, as new. 1920 b.p. EMPIELD Combination, Lucas 1920 b.p. EMPIELD Combination, Lucas 1920 AMERICAN EXCELSIOR, fitted Henderson Elite Sidecar, dvamou lightling, electric son EWE Sidecar, dvamou lightling, electric

son Elite Sidecar, dynamo lighting, electric born. Brand new.

porn. Brand new.

Joe INDIAN Combination, fitted with Swan
sporting Sidecar, disc wheels all round,
T.T. bars, dynamo lighting, indistinguishable from new. Very smart lot.

1920 44 h.p. B.S.A. Combination, all-chain
drive, not registered.

1920 6 h.p. ENFIELD Combination, Lucas

1920 6 h.p. ENFIELD Combination, Lucas

Magdyno, fitted with bood, windscreen, as new.
1920 A.J.S. Combination, spare wheel, wind screen, never been ridden.

SOLO MACHINES,

SOLO MACHINES,

1904 d.b.p. TRUMPH, countershaft model,
T.T. bars, disc wheels, large Lacas lamp
set, Stewart car horn, only ridden 60 miles.

1920 brand new I.O.M. RUDGE-MULTI,

1917 2\(^1\) h.p. overhead valve N.U.T., 3-speed,

Sturmey-Archer gear, band clutch, kick
start, Lucas lamps, speedometer, excep
tionally fast 'bus, only wants seeing,

1920 3\(^1\) h.p. LEA-FRANCIS, J.A.P. engine,

2020 4\(^1\) h.p. B.S.A., complete, as received from

makers.

1920 44 h.p. B.S.A., complete, as received from makers. 1920 33 h.p. SUNBEAM, not been ridden. 1973 34 h.p. SUNBEAM, just been theroughly overhauled by makers, complete with lamps and born, spleadid condition. 1920 5016 A.G., rspeed, braud new, im-1920 61 h.p. countershaft ZENITH. Sidecar for same if required.

CARS

Aero Mcdel MORGAN. Brand New. For immediate Delivery.

HENDERSON ELITE SIDECARS IN STOCK FOR IMMEDIATE DELIVERY.

We are Agents for the famous DINKY SIDE-CAR. All models in stock.

We are London Agents for CASTLE 3-wheelers.
Deliveries commence soon.

First-class Combinations Wanted for spot cash. High prices paid for good machines.

J. SMITH & CO., 16. Hampstead Rd., LONDON, N.W.1

MOTOR CYCLES FOR SALE.

Rudge.

RUDGE 1914 31/h.p., Multi grat, Light Watsonian sidecar; £60; seen any time,—Smith, 167, Bathurst Gardens, Kensal Risc. [8633

R UDGE Multi, 1920, only a month old, faultless and complete; £110.—Hewin's Garages, Ltd., the real service firm, Totnes.

1913 514h.p. Rudge Combination, speedometer, hungs, horn, tools, perfect running order; £145.—Agate, 10, The Gables, Muswell Hill. [9023]

To, the Games, Marwein Hai.

R UDGE Multi 33,h.p., clutch, engine No. 12755, lamps, etc., perfect condition; £68.—14, Halliford Rd., Sunbaryen-Thames.

1920 Rudge 5-5h.p. Multi Combination in stock; make price.—Shepherd and Co., Enfeld Rudge, Ttl.: Waltham Cross 31.

RUDGE Multi 1915 5-6h.p. Combination, cover-hauled, very reliable outfit, lamps, horn; £85.— Turnill, North, Peterborough. 19²⁰ Twin Rudge Combination, 7-9h.p., as new, Bonniksen, Klaxon; £170; will separate.—Bencathra, Maidstone Rd., Chatham. [8797]

1920 Rudge I.O.M., T.T. bars, complete lamps and horn, brand new; £120.—Winston Heaney, 63, South End, Croydon. 'Phone: 2431. [9600

FOR Sale, brand new Rudge Multi, T.T., I.O.M.; price, £110.—Frank Valender, Post Office, lun-pigton, near Alcester, Warwickshire. [X4024]

R UDGE Multi Combination, 1919, 314h.p., lamps, tools, new belt, etc., sidecar new April last; £135.—Mrs. Cuthbert, c/o Mr. Selsby, Selsey. [8815]

19²⁰ I.O.M. Rudge Multi, pedal-starter, lamps, horo, knee-grips, handle-grips, and tools, very fast; £110.—J. Byrd, Littlehales Manor, Newport, Salop. (8864

1914 35/h.p. Rudgo Multi, T.T. handles, long exhaust tyres, belt, engue, in first-class condition, an trial; £50, or near offer,—Robarts, Codicote, Herts 1882

19 (Nov.) Rudge Multi Combination, guaranteed perfect order, complete, all accessories; £118.

-C.S., Whellock, Cleeve, High St., Sonthgate, N.14. [8883]

19 19 31/h.p. Rudge Multi, with or without sporting sidecar, perfect condition, spares; £22, or £98 respectively.—Maltby, 305, Weedsteck Rd., Oxford.

10 20 I.O.M. Rudge Malti 3/Ab.p., all accessories, new insurance policy; cao be seen at any times. £120.—Apply, J. Turner, Cockshott Hill Rejeate, 68626

1914 Rudge Combination, stored war, just over-hauled, perfect condition, lamps, speedometer, any examination; £85, or near.—Layron, High St., [X3990]

5 6h.p. Rudge Multi Combination, excellent condi-tion, fully equipped; price £25, or single £70.— Williams, Reliance Engineering Works, Bradley Rd., Wrexbam. [9249]

SPECIAL 1920 I.O.M. 515h.p. Rudge Multi, delivered 15th May, mileage under 250, very fast, easy starter; £105.—115, Rosebery Rd., Muswell Hill, London, N.10.

broken; £108 Motor Cycle.

19620 (April) 1.O.M. Rudge, doze about 500 miles, very fast, Lucas lamps, mechanical horn, koke grips, etc., fully insured; offers.—Eversleigh, Wellington, Salop.

1933 asupi. 1933 asupi. 1933 asupi. 1933 asupi. 1933 asupi. 1934 a

RUDGE Multi Combination, 312h.p., 1914-15, C.B. underslung sidecar, new lamps, good tyres, very good order; 274.—Johostoo, 216, Rodney Hut, Crayford, Kent.

tord, Ment. [8647]

5 6h.p. Rudge Multi Combination, splendid condition, superstance, including extra cylinder; bargain, £100.—Sharp, 53, Cleveland Park Ar., [8363]

RUDGE 31/hp. Brooklands Racer, overhanded and first-class condition, new belt and tyres, head lamp and generator; nearest to £45.—146, Southfield Rd., Chiswick.

TO.M. Rudge Multi, late model, enamelled red by Rudges, overlap cgm, straight through flexible exhaust, knee grips, very jast; £78.—30, Riggindale Rd., Streatham, S.W.16.

19 16 5-6h.p. Rudge Multi Combination, wind screen, lamps, speedometer, spring pillion with footrests, cuntanteed excellent order throughout; £100,-10, Cobbett Rd., Southampton.

R UDGE Multi. 1916. Canoelet sidecar, good condi-tion, just overhauled, climbs like a giant, lamps, horn, tools, etc.; \$32. Hewin's Garages, Ltd., the real service firm, Totnes.

wick St., Victoria Station.

19.175

RUDGE 545h.p., lnte 1912, overhauled, relumbed, new regions fast, rowerful; necreat 258.—11. Lafor St., Falham Tolnee Rd., Falham.

Rudge.

19 20 Rudge Multi, L.O.M. T.T., delivered early May, lamps, horn, tools, condition new; £115; seen by appointment, Liverpool or Manchester.—Box 5,248, c/c The Motor Cycle.

RUDGE Multi Combination, underslung coachbuilt sideen, multi gears, hand-controlled clutch, kick start (starts first kick), excellent condition and order; 68 gns.-74, Arundel Rd., Croydon. [9518

19 20 7-9h.p. Rudge Multwin, with Rudge sidecar, Eastling wind screen, Klaxon horn, bought new May 13th, not done 500 miles, perfect; price 1955, cash.—C. R. Durraut, Watton, Noriolk. [8390

5 -6h.p. Rudge Multi, 1914, with 1919 Montgomery C.B. sideon, Easting, sprung grid, good tyres, spares, leather belt, etc., just overhauled, enamelled; ony trial.—J., 4, Pierropoint Rd., Acton, W.3. [8998

R UDGE Multi 1916 Combination, new tyres, belt, large head and rear lamps, sidecar roomy, 1919, wind screen, cover, electric light, ready for torr. 286/10.—Bargete, 185, Fulwich Rd., Dartiord. [9092]

R UDGE Multi 1917 31/h.p., clutch and starter, lamp set, horn, etc., specification identical with 1920 model, in perfect condition throughout; 265.—R. Watson, 132, High St., Aldeburgh, Suffolk. [9154] Watson, 102, High 56, Auctuages, Subsective Co. O.C.H., have a Rudge Multi, fully equipped, ready for the road.—Fair Offer Car House, 5, Heath Hampstead (near Hampstead Tube Station), hone: Hampstead 3752. Hours 9-7, including furdars,

Saturdays.

Luce 31/h.p. Malti Model, new Sept., 1919, with same, horn, speedometer, new belt, mleige only 2700, owner taken delivery of 7-8-hp., combination; 4:95.—Blackburn and Sons, Station Garage, Spalding, [a482]

F.O.C.H. have a 1919 Rudge Multi and Coachbuilt Sidecar, fully equipped, ready for the road,—Fair Offer Car House, 5, Heath St., Hampstead (near Hamp-stead Tube Station), Phone: Hampstead 3752. Hours 9-7, Including Suturdays.

RUDGE Multi 7.9h.p. Combination, fitted with Cameo scieen, Wattord speedometer, Cower horn, electric lighting, spare tyre and bett, delivered Easter, as good as new, owner bought car; can be seen by appointment at Coventry.—Box 10, clo The Motor Cycle.

1020 Rudge Multi T.T., I.O.M., lamps, mechanical horn, knee grips, all accessories, as new, done less than 20 nuiles, 115 gas; also 354,bn. Rudge, free engine clutch, lamps, horn, new tyres, recently overhanical, £40, or nearest offer.—Box 5,241, c/o The Motor Cycle.

RUDGE 1913 Clutch Model, pedal start, just fitted with new cyl., piston, piston rings, and consecting rod, adjustable pulley, mechanical horn, back tyre and beit nearly new; it may seem old, but will average 50 apparently indefinitely, and steers hards off with two up; £50.—Mallet, Balliol, Oxford.

[9520]

Saltley.

TMMEDIATE delivery of Saltley-Villiers 2-stroke, single-epeed £56, 2-speed £56.—London concessionnaires, Lancaster Motor Co., West Norwood. A few ageocies avoilable. [4242 Scale.

19 20 31/h.p. Scale, 2-speed, clutch, kick starter, coachbuilt combination, only 3 weeks old; £115.—76, Western Rd., Southall, W. [8830]

10 20 New Scale, 3½hp. Precision engine, 2-stroke, 2-speed, clutch, kick start; £85; immediate deliveries.—The Rochester Auto and Supply Co., Rochester.

Scott.

NEW Scott Combination in stock.—Brown's Garag

SCOTT 1915 Combination, overhauled; £95.—Cooper, 163, Moorside Rd., Flixton. (X4231 19 19 Scott, Lucas lamps, horn; £110.-89, Oak Lane, Bradford. Tel.: 2190. [9369

19 20 Scott Touring Model, new; accept list price.—
[9757]
Box 5,357, c/o The Motor Cycle.

19 20 Scott Sporting car, solo gears, unridden; £145.

Box 5,356, c/o The Motor Cycle. [9756]

SCOTT, ready to drive away, good tyres, lamps, speed-ometer, sidecar; £45.—Greenwood, 15, Toller Drive,

SCOTT Combination, in splendid condition, lamps, horn, etc.; £90; complete.—Turnill, North, Peterborough, [8770

SCOTT Combination, 1914-15, speedometer, mechanically perfect; £86, nearest.—72, Hungerhill Rd., Nottingham. [X4025] SCOTT.—Delivery from stock of standard combina-tions at Blackburn and Sons, Station Garage, Spalding. Tel.: 41. [8479]

SCOTT 1915 Combination, lamps, horn, tools, etc., tyres good, whole as new.—Tel.: 6626 Museum.— A.S.C., 60, Mortimer St., W.1. [8511

SCOTT 34h.p., 1913, 2-speed, clutch, lamps, horn; \$275; with coachbuilt sidecar, £85,-5, Park Av., Riverdale Rd., Endcliffe, Sheffield. [9489]

COTT 1917-18 Combination, equipped, excellent mechanical condition; £110 or exchange.-12, Connwall Mews, Gloucester Rd., S.W.7. [9704]



Will Ustikon

a pair ?

an ideal fitting for



DEPT. A 2 ELITE RUBBER COLP 264-66, VAUXHALL BRIDGE R.S.W.1.

MOTOR CYCLES FOR SALE.

Scott

19²⁰ 3%h.p. Scott, semi-T.T. bars, Binks, very smileage, in perfect running order and first-condition; £130, lowest.—Perry, Penvale, St. Aust SCOTT 1914 334h.p., with wicker sidecar; Bosch, Amack, Stewart, horn, good running trial, Cheltenham.—Box 5,298, c/o The Motor

1920 Soot, and Sporting Sidecar, delivered month, not driven 100 miles, lamps, horn; -Fletcher, Carlton Grange, Stockton-on-Forest,

COTT Combination, 1915. splendid condition, overhauled, new Dunlops, mechanical horn, etc.; £90, bargain.—71. Coronation Rd., Cleethe Lines.

19²⁰ Scott Purple Combination, Stewart speedom Cowey horn, acetylene, low mileage; £185. Boorman, Mount Hermon Garage, Guildford

19¹⁵ Scott, C.B. sidecar, K.S., new tyres, charelectric light, Klaxon, wind screen; triol willing £75, or offer.—Oall after 6 o'clock, 58, Kingsgate 1 Kilburn, N.W.

SCOTT Coachbuilt Combination, 2-speed, kick st Bosch mag., B. and B., lamps, horn, excellent c dition: a real snip, 285, no offers; seen Sunday, Barnard, Cock Tavern, Ongar. Essex.

19 15 Super Scott Combination, stored 3 yes economical running, Scott-Myers sidecar, electric lig Klaxon; £120.—Harris, 51, Upton Lane, Forest G. London, E. 7. London, E.f.

SOOTT Combination, 1915, 2-cyl., 2-stroke, 2-spec
K.S., lamps and horn just been overhauled, rings, chains, tadiator, new Palmer tyres, excellention, and spare parts; £90,—Clark, 589, Y.

Rd., Wandsworth. Thurday or Sunday.

SCOTT, genuine 1915, 3½h.p., special model, 2-spe C.A.V., Palmer cord, new piston rings, clis spare racing sprocket, flat handle-bars, all accessori last, climh 1 in 4, overheuted, spicodid machine Audrey, Plymouth House, Loughton. [88

Singer.

23h.p. Singer, 2-speed, K.S., lamps, horn, genui bargain; best over £40.—Bland, Bank, Cind ford, Glos. [93]

SINGER 41/h.p. Combination, 2-speed, clutch overhauled; £85.—Robinson, 36, Tudor Rd., ney, E.9.

SINGER 4 valve 31/h.p., single, m.c.h.v. cylinder her w.c., and detachable, adjustable pulley, good or ditton; £45, lowest.-Florendine, 50, Albert St., Rur [X42]

1914 234h.p. Singer, Bosch, lamps, horn, etc., per lect running order; seen by appointment; 24 district Colchester.—Box 5,335, c/o The Motor Cyc [56]

SINGER 3½0.p., Armstrong 3-speed, hub clutch, pet start, ready to ride away; £55; accept lightweig or typewriter part exchange—Culters, Tatoloch, Leiest Clubert and the start, and the start are start as the start are start as

Sparkbrook.

SPARKBROOK, with latest Villiers flywheel magnet £75.—Frank Whitworth, Ltd., 139, New St. B 19 20 Sparkbrook 21/h.p., 2 speeds, done 200 m £62/10, or near offer.—Minns, 14, Stert Abingdon, Berks.

Abingdon, Berks.

SPARKBROOK 1919 234h.p., 2-speed, 2-stroke,
new condition; £55, no offers.—Spowart, Sturto
by-Stow, Lincoln.

[935]

SPARKBROOK 1920 Model, nearly new, noregistere lamps, horn, tools; £67/10; apply after 6.-E.F. 14, St. Andrew's Rd., Willesden. [830]

2 1 h.p. Sparkhrook 2-stroke, single and 2-spec models in stock, at makers' list price for cas or on extended payments 4% extrn.—Harrods Mot Showrooms, 116-118, Brompton Rd. (opposite Ma Building), London, S.W.1.

SUN-VILLIERS 21/h.p., good condition, new tyre 38 gns.-53, Parrock St., Gravesend. [926

SUN-VILLIERS, 1917, 2-speed, little used, spare, 45 gps.—After 6, 52, Gresham Rd., Brixton. [905] NEW 2½h.p. Sun 2-stroke, chain-cum-belt drive Sturmey 2-speed, maker's list price.—Day, Ok hampton. [878]

19 19 Sun, 2-speed, 2-stroke, 234h.p., lamps, horr good tyres, tools; £50, or offer.—Miller, East Harling, Norfolk.

SUN-VILLIERS, 25th.p., 2-speed, good runnin order; first £35 secures, no offers.—Gibbs, Hig St., Burnham, Bucks.

19 20 Sun Vitesse, Sturmey-Archer gear box, haudle ber controlled clutch, brand new; £70.—Jane and Adams, Muswell Hill.

SUN-VILLIERS 2-stroke, 2-speed, with hand controlled clutch, 1916, footboards, lamp, etc., fast £38.—5, Glengall Rd., Kilburo. [955]

Triumph.

19 (Oct.) 4h.p. Thumpn. tion, lamps, Klaxon, in perfect condition, littused; £139; bargain.—Rhodes, Queen St., Romfor

TRIUMPH, 1914, 4h.p., with large lamps, horn, watch, fully equipped, in fine condition, nearly new tyres; £63. — Rhosha Motor Garage, Romlord. Tel.: 95.

TRIUMPH 1918 Countershaft Model, unscratched, disc wheels, hears of spaces, perfect solo mount; any trial; bargain, £95, offers.—41, Cowley Rd., Birkton, S.W.9.

TRIUMPII Combination, 3-speed, countershaft, K.S., luxurious hulhous back sidecar, new 1919, equipped, perfect; £130.—Dentist, 216, Portobello Rd., W.10. countershaft,

TRIUMPH and C.B. Sidecar, 1913, 3-speed, clutch, stored most of war, excellent condition, P. and H. lamp, horn, Bosch; £75.—Tuke, 25, Linkfield Lane, Redhill. [8450

21h.p. Triumph, 1912, perlect, original Triumph 2 carburetter, Bosch watertight mag., tools, etc., fine looking machine; £38; after 6.-55, Fairfield Rd., Bow, E. [8453

1918-19 Triumph Countershaft Combination, latest 1920 bulbons back sideen, band new condition; 2125.-72, Longridge Rd., Earl's Count. 'Phone: Western 1344. [9525]

TRIUMPH, countershalt, plating and enamel as new, 3 lamps, and accessories, new underslung C.B. sidecar, any trial; £120.—Bray, 1a, Larkhall Lane, Stockwell. [9345]

TRIUMPH, 1913, clutch, Philipson, genrs, K.S., equipped C.B. sidecar, perfect throughout, smart appearance, stored during war; sacrifice.—W. Pritchett, Allorook, Eastleigh. [921]

TRIUMPH Combination, 1917-18-4h.p. countershaft, store enamelled, splendid condition, brand new coach sidecar; £120.-30, Crystal Palace Park Rd., Sydenham, S.E.26.

TRIUMPH, pre-war, C.B. sidecar, 2-speeds, F.E. lamps, speedometer, good going order; offers exchange lightweight.—25, Burlington Rd., Lansdowne Rd., Tottenham. [9378]

TRIUMPH and Sidecar, 4h.p., 1914, 3-speed, Lucas lamps, Easting screen just fitted, fauitless con-dition; £80; nccept half down.—Bunting's Exchange, Wealdstone, Harrow. [9662

1902 1913 Triumph, 3-speed, clutch, lizhting set, horn, complete eneine overhaul just finished, incurence, excellent imming order; £60.—Husbands, 26, Bremeed Av., Streatham.

TRIUMPH 31/3h.p., free engine, model 1912, new tyres, piston, valves, etc., completely overhauled and perfect with lamps, horn, etc.; £60.—Kimberley, Walmer, Keat. (D) [8923] [8923]

TRIUMPH, 1919, late model, 4h.p., 3-speed, Gloria sidecar chassis, coachbuilt hody, complete with a sidecar chassis, coachbuilt hody, complete with Av., Camomile St., E.C.3.

L ATE 1918 Countershaft Triumph and Sporting Sidecar, Lucas lamps, Klaxon, knee grips, also full insurance, in nice condition; £125.—L. Hodge, 89, Brock St., Macclesfield.

89. Brock St., Macclesfield. [896]
TRIUMPH 31/sh.p., 3-speed, F.E., stored duning war, engine rebushed, new tyres, inner tubes, and lamp set, tools, etc., spleadid running order; £60, or near, -Knowles, Park Farm, Bewdley.

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—Dr. Beaumont, Aldbro', Darlington.

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1019 Triumph, 4b.p., countershaft, and sidecar, spare engine sprocket, 2 new chains, belt and carrier, langs, Klaxon, kneegrips, 5 plus, long exhaust; £125.—Spencer, Driftway, Farnham, Surrey,

TRIUMPH, delivered March, 1920, 4h.p., countershaft model, F.R.S. head lamp, Miller tail, and generator, Lucas horn, and 'knee grips, guaranteed perfect; £120.—L. Truman, 52, High St., Sidong



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19329

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Greenwich, S.E. [9589
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Williamson.

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well, nr. Barnsley.

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ZENITH Twin, 90×77V₂, perfect tune. Klaxo, Steve art, F.R.S. lamps, D.A. cylinder, 2V₄ top gear, sporting sidecar; £125.—Cape, Street Cobbam, Surrey, [9710]

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at list price	£42
stock	£70
New MATCHLESS Combination, in stock. New A.J.S. Combination, in stock.	

New	MATCHLESS Combination, in stock.
	A.J.S. Combination, in stock.
	SUNBEAM Combination, in stock.
	B.S.A. Combination, in stock.
	JAMES Combination, in stock.
	ROVER Combination, in stock.
New	HAZLEWOOD Combination, in stock.
New	ROYAL RUBY Combination, in stock,
New	ZENITH Combination, in stock,
New	TRIUMPH Combination, in stock.
New	LEA-FRANCIS Combination, in stock.
New	RUDGE-MULTI Combination, in stock.
New	DOUGLAS Combination, in stock.

New	CROUCH (in stock)	£280
New	DOUGLAS, 27 h.p., in stock. T.T. TRIUMPH, in stock.	2000
New New	TRIUMPH, 4 h.p., in stock. T.T. ROVER, in stock. T.T. R.S.A. in stock.	

New T.T. B.S.A., in stock.

New ROYAL RUBY, 8 h.p., in stock.

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New A.B.G., in stock, lightweight, in stock.

New METO-TYLER, lightweight, in stock.

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DOUGLAS 1916 Combination

 DUUGLAS 1916 Combination
 290

 A.J.S. 1915 (Combination
 6120

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 6140

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 6140

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 245

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SIDECAR, C.B., light, good condition; £11.— Gregory, 57a, Glasford, St., Tooting. [9068 CAMBER Tandem Model: £27/10.—Makers, Bright and Hayles, 78, Church St., Camberwell. [9250]

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and gold; 220.—84, Greenside Rd., Uroycon. [9228]

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W.2.
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COMFORTABLE Wicker Sidecar, door, new mad-guard, 26in; £7/5.-323, Portland Rd., South Norwood.

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MILLS-FULFORD Sidecars.—All models in stock, Corvette £28/17/6, Skiff £25/5.—P. J. Evans, 5-91, John Bright St., Birmingham. [0176] HOENIX Coachbuilt Sidecar, 2-seater, complete; £22; suit heavy machine; also 3 bodies, cheap— bb, 186, Putney Bridge Rd., S.W. [8762]

NANOELET Sidecar, 26in. wheel, touring model, C.B..

new January this year; bargain, £20.—Wilkinson,
Branch St., Paddock, Huddersfield. [9435]

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Triumph and spring frame Iudian, from stockalifax Motor Exchange, Union St. South, Halifax.

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.C. Sociable, like new, insurance and spares.—131, Beckett Rd., Doncaster. [9371

ORGAN, 1918, M.A.O. Binks perfect order; £190. Fisher, 39, Penny St., Lancaster. [5457

VAUCHOPE'S, 9, Shoe Lane. London, E.C.4.—8-10h.p. Morgan runabout, 1916; £195. [9785

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V. Mouocar, late 1919, perfect condition, very little used; offers.—Camperdown, Crowborough, [8616]
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Union st. South, Halifax.

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WANTED, B.S.A. cylinder and piston.—106, Chatham St., Walworth, S.E. PHILIPSON Pulley; must be in first-class condition —Orr, Hall, Mildenhall, Suffolk. [8576 TRIUMPH Cylinder and Piston, & Alister, 206, Darnby Rd., Glasgow. N.S.U. Gear, any condition, any fit or any parts Box 5,330, c/o The Motor Cycle. [96 NORTON Engine or Parts, or efficient racing engine,
-Box 5,339, c/o The Motor Cycle. [9651 WANTED, 1912 25th.p. Douglas piston.-M. Anscombe, Broad St., Cuckfield, Sussex. [9200] B^{1G} Twin J.A.P. Engine, any condition or incomplete.-36, Winchester St., Coventry. [X4313 VINDEC Special Half Crank Case, pulley side; 6h.p. Pengeot.—Hillier, Colonnade, Sunbury. [9088 WANTED, cylinder for 31/th.p. Triumph.—Monck, Waltham St. Lawrence, Twylord, Berks. [9054 100 Motor Cycles wanted, bring or send; for spot cash.—Palmer's Garage, Tooting. [0010]
WANTED, cylinder for 3/jh.p. Rover, bore 85mm.—
Manning, 66, Seaford Rd., West Ealing. [8583] SCOTT Sidecar, genuine, wanted.—Two-stroke Engineering Co., 32, Hustler St., Brodford. [0163 WANTED, heavy spring lorks, 8in. head; full par-ticulars.—Stapley, Brandon, Suffolk. [8841 SMALL Lathe, also bench drill, vice, garage tools.— Particulars, Box 5,331, c/o The Motor Cycle. [9643 GRADO Gear, condition immaterial if cheap; also magneto.—Box 5,332, c/o The Motor Cycle. [9644 MODERN Sidecar Machine; reasonable price,—H. Cattell, 31a, Compton Rd., Kensel Green. [8719 HARLEY or Enfield Wanted, at once; also Triumph. 51, Maplethorpe Rd., Thornton Heath. [9083 WANTED, automatic inlet valve, for Wolf 1083, A.J.S. engine.—Frank Holden, Rochdale. [9297 WANTED, motor cycle, good solo mount; state full particulars.—Beacon, Brancaster, Norfolk. [8742 COMBINATION Wanted, will pay money immediately if suitable.-20a, Pitshanger Lane, Ealing. [X3822] 19 16 2%h.p. 2 or 3-speed Douglas, must be excel-lent condition.—Box 5,362, c/o The Motor Cycle. [9762

WANTED, rear cylinder for 1914 Williamson cooled.—Talbot, Stubley, Dronfield, Sheffield. WANTED, saddles, any make, spot cash.-Wands worth Motor Exchange, Ebner St., Wandsworth WANTED, combination, 41/h.p., good make, recent dute, or bike.—Bowen, Hawthorns, Eden Bridge. [8497] WANTED, Triumph, complete less engine and mag., not earlier 1912.—Norman, St. John's, Worcester.

WANTED, frame with accessories for 4h.p. Doi -Box 676, c/o Smith's, 21, Bush Lane, E. W -Box 676, cto Smiths, a., June 18476

B.S.A. Combination, countershaft; lowest price, particulars.-Wright, 145, Cemetary Rd., Ipswitch [644]

I NDIAN Sidecar Wanted, must be in good condition and cheap.-Bailey, Sherbourne Hill, Warwick [X4260]

WANTED, sports Zenith, 1919, good condition, and when the particular the price.-Bomiord, Beeley, Redditch, [X4280]

INDIAN T.T. Bars, complete controls and ster 1915 5-6h.p.—Barrett, Cockayne Hatley, P Rode clock.

MAGNETO, 180°, to suit 4h.p. Donglas, anti char must be good.—262, Blackhorse Lane, Walthan stow. 200 Sound Page 1 Blackhorse Lane, Walth [SPRING Forks, suit Calthorpe 71/4in. stee column. — Osman Bros., 188, Gt. Tichfield W.1. [9401

MABON Clutch (chain), Fhilipson pulley, any condition, %in.—Lumb, grocer, Oakenshaw, Brad-[9185] WANTED, high-power machines or good single combination.—Bunting's Motor Exchange, Weald.

stone. WANTED, Triumph piston and cylinder, 1912
prompt delivery.—Kitching, Hanmer, Whitchurch 1912 Salon.

Nation.

19¹⁵ 5.6h.p. Indian Front Forks, must be perfect; also kick start quadrant.—Coombe, Henry St.
[X3817]

M.O.V. Twin Cycle, about 8h.p., old crock would if real; cheap. -22, Somerset Rd., Meadval Surrey. ould do [87.68 fetch if

WANTED, Donglas or Triumph; will reasonable.-51, Maplethorpe Rd., WANTED, Scott engine and frame parts, not earlier than 1914.-H. Davies, 6, Tennant St., Bradford, [8543]

All letters relating to advertisements should anote the number at the end of each advertisement, and the date of the Issue.

WANTED.

WANTED, 90×771/2 8h.p. o.h.v. Bat-Jap, not earlier than 1913.—Fairview, Thorkhills Rd., Thames Ditton. [9178]

WANTED, Sturmey-Archer gear box; 4h.p. Dong gear box, it incomplete not objected.—20, Val St., Tooting. [8 Donglas [8507 WANTED, brand new 1920 countershaft Triumph

W good premium for immediate delivery.-15, South St. Louth. 19126 St., Louth.

WANTED, 1914 or 1915 12h.p. Rover or CleggDarracq 4-seater.—Ash Leigh, 43, Eltisley, Av.,
Darracq 4-seater.—St. (1976)

Cambridge. 19 16 Clyno Chassis, less wheel and springs, condition.—Weeden, 235, Stanstead Rd., F.

Hill, S.E. WANTED, 4-cyl. F.N.'s, T.A.C.'s, T.M.C.'s, Hander-Wandsworth Motor Exchange, Ehner St. [6185] Wandsworth.

GOOD Lightweight, 2-speed, and clutch essential.— Price and particulars, 2, Southwood Terrace, New Elthan, S.E.9.

DOUGLAS 23/h.p., all parts for same or incomplete machine; about 1916.—Culverwell, 93, Montague Rd., Leicester. [X4125 INDIAN Combination or Solo; full particulars, in-cluding engine number.—Cranleigh, College Slip, Bromley, Kent. [8744]

TRIUMPH Carburetter late pattern, complete; also 1912 tank, all nttings; deposit.—Robertson, Newsagent, Glencraig. [8518 also

WANTED, Sturmey-Archer gear box, gears, clutch, pulley, and parts, any condition.-33, Hackford Rd., Brixton. [9339

WANTED, back cylinder for 5-6h.p. Rex. a.i.v., 1908 model.-H. Hewitt, No. 4, Birks St., Middles VV model.—H. brough, Yorkshire, 18878

WANTED, F.N. gear, 1910-1914 model, condition must be good.—Church, 2, Woburn Place, Russell Sq., London, W.C.1. [9120 WANTED, Sturmey-Archer, Douglas, or Albior gears, also magneto and speedometer,—Sinclair

Walton-on-Thames. WANTED, old Clement Gerrard carburetter, round petrol tank, also a round coil.—Brown, Warren House, Parkstone. [8568

House, Parkstone.

ENFIELD Spring Forks, 6h.p., 1912, or 1914 type complete.—52, Watson St., Matthews Lane, Long-Rabet Manchester. [8362]

WANTED, Triumph, Bradbury, B.S.A., or P. M., any condition; cheap for cash.—Box c/o The Motor Cycle.

WANTED, 51/h.p. Triumph or J.A.P. engine preferred, Bosch mag., and 22in, sloping tank.—The George, Beaconsfield. 19678

WANTED, set of Harcourt radiators, also contact breaker, Bosch, for 1910 Triumph.—Armstrong, Waterbeck, Lockerbie. [9180

WANTED, pedalling gear and front brake, 1914 Triumph, 3-speed clutch hub.—Box 5,242, c/o The Motor Cycle. (D)

WANTED, Alldays 1914 Matchless cylinder, pand connecting rod, 4h.p.-R. A. Roberts, Cross, Bromborough.

FRONT Forks, mudguard, and back carrier wanted for 2%h.p. Douglas; state price.—Livingstone, 7, Clark St., Edinburgh. [8405]

Clark St., Edinburgh.

COUNTERSHAFT Triumph, Norton, Scott, Zenith;
full particulars.—Brockbank, 28, Rosebery St.,
[8396]

WANTED, second-hand Morgan or A.S. Sociable; state price, year, condition.—Write, Mr. S Yates, 84, Wood St., Elton, Bury. [7576

V-TWIN Engine or Flat Twin Wanted, about 10h.p., water-cooled. — State particulars to Philipps, Myrtle Bank, Alexandria, N.B. [9597

WANTED, 25/h.p. Douglas or other good light-weight; also 3½ or 4h.p., good make.—John Gel-den. Long Marton, Carlisle. [X4132 W weight; also 31/2 or 4h.p den, Long Marton, Carlisle.

WANTED Immediately, new or second-hand coln-Elk cam and engine timing wheels.-5,238, c/o The Motor Cycle. second-hand Lin-

SOLO Wanted, any good make, 1914 or later, must be perfect running order; reasonable price.—Francis, Wood's Library, Westgate-on-Sea. [8991 WANTED, good up-to-date second-hand accessories.

- State particulars and prices, Service Co., 292,
High Holborn, London, W.C.I. [0172]

WANTED, Triumph and other good lightweights hest prices given; distance immaterial.—Bunting's Motor Exchange, Wealdstone. [4793

L EA-FRANCIS, any model, with or without sidecar; good prices paid; also combinations of first-class makes.—198, Gt. Portland St., W.I. [0098]

WANTED, cylinder or complete engine, in good condition, for 1912 Premier.—Burkinshaw, Grove Inn, Skelmanthorpe, Huddersfield. [8391

WANTED, pair flywheels and two connecting rods for Rex twin 5h.p. 1912 eague, oir-cooled.—Ball, 48, Broadway, Maidenhead, Berks. [8869

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3h.p. 2-speed Douglas, Levis, or J.A.P. enging dightweight, first-class condition.—E.G.B., 26 Winchester Rd., Higham's Park, E.4.

WANTED, countershaft Triumph or B.S.A., private purchase, Midlands; state yellowest price.—Box 11, c/o The Motor Cycle.

WANTED, latest type Sturmey-Archer 3-spe hox, will give good price for new one.— son, 4, Devonshire St., Dalton-in-Furness. WANTED, good combination or solo, 1918, or later countershaft Triumph or Zenith preferred. Dickinson, 54, Riverview Grove, Chiswick. [923]

100 Motor Cycles Wanted; spot cesh paid; or send.—Palmer's Garage, Tooting. WANTED, 1907 or 1908 good Triumph crank ca or pulley side half, or late Triumph engin approval.—Inspector Templeman, Mansfield. [X42]

WANTED, N.S.U. cylinder and piston, overhea inlet, bore 3½ia., new or second-hand.—O. Claytor 54, Saasom St., Camberwell, London, S.E.5. (D) [857

WANTED, Douglas Combination, cash, or exchang engineer's screw-cutting lathe or milling machine hash adjustment.—174, Vicarage Rd., Leyton. [751] TEAR Box, clutch, kick starter, suitable lor 4kh.p. Calthorpe-Precision; state lowest price.—Law cence, 4, Red Cottages, Wilmington, Dartford, Kent.

WANTED, for 4h.p. Douglas, clutch, kick start chain, latest forks, and exhaust pipes; good pricior any quantity.—Hole, 129, Park Lane, Carshalton

A RMSTRONG or Sturmey-Archer 3-speed Hub, or wheel complete with controls, or parts, any condition, not earlier 1914.—Box 5,245, c/o The Motor Cycle. [8472

WANTED, at once, 2 Royal Enfield motor 3½h.p., without sidecar, type 1920 or 1 Forward all particulars to Box 4,775, c/o The

TRIUMPH parts may year, new or second-hand, or complete machines; out of order or incomplete not objected to.—Ward, Gewer House, 11, Radford Rd. Leamington Spn. [X4189 TIDECAR Chassis, underslung, wanted, 4b,p. Douglas, or to suit 4b,p. Triumph; state make and price.—D.M., 53, Cheltenham Terrace, Heaton Newcastle-on-Tyne.

WANTED, by disabled soldier, strong cycle or continuous on easy payments for country busing appearance immaterial; payments guarantee 915,325, c/o The Motor Cycle.

appearance immession type.

WANTED, 1920 Morgan Grand Prix de luxe, mag.

WANTED, 1920 Morgan Grand Prix de luxe, mag.

engine preferred; state lowest price, milesge,
fittings, condition tyres, colour; cash waiting; wanted
for holiday early July-Box 5447, c/o The Motor Cycle.

Washev and bulbous back side. WANTED, 7.9h.p. Harley and bulbous back scar, late 1919 or 1920, or bike only, no models wanted, must be first-class appearance condition.—A.P., 12, Newcombe Rd., Northampto

3h.p. Donglas Engine, not later the 1914, [8]
4 price given for sound engine; also 2%h.p. tr and any other Donglas parts; cash sent right away the right goods.—R.L., c/o Martin, 36, Fregmore Bristol.

WANTED, first-class combinations, also good solo machines; price paid for good combinations up to £225; solo £140; cash waiting for right machines.

–J. Smith and Co., 16, Hampstead Rd., London, N.W. Those Museum 5419.

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8 h.p. 2-seater Car, 2-speed; £50; exchange.-50, Ballsford Rd., Dalston. [9077

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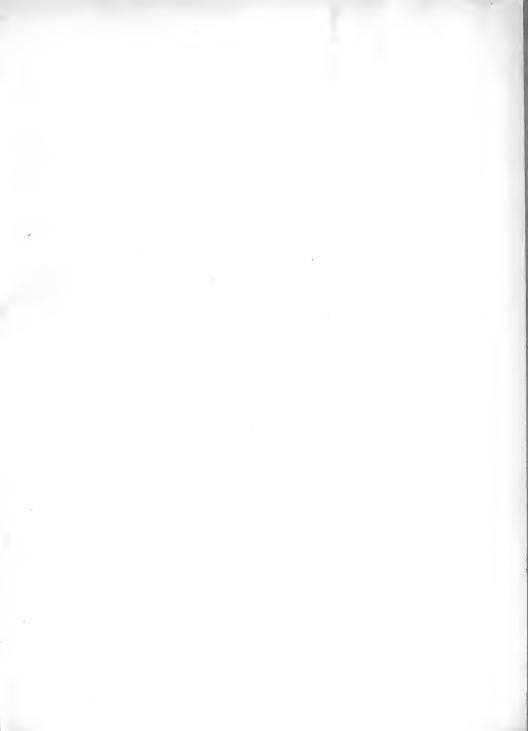
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Telephone: Mayfair 552.
Museum 557.

100, Paris St., Exeter. 'Grams: "Combustion, Exeter."











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